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Significant Changes in the Business Tourism in the Context of Globalization and the Globalization of Markets

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Abstract

Transforming the social environment of firms, social responsibility and increasing mobility of human resources, psychology is changing significant aspects that highlights the importance of human resources of a company. In the context of globalization and the globalization of touristic markets, they continue to place significant changes in touristic business environment, with influences on leadership and organizations causing mutations in the qualification of human resources and their management. With the integration into European structures, our trade with the European Union has turned into an intra-European trade, involving difficulties in marketing support to European markets of Romania. These difficulties are related to lack of implementation of top-level technologies, lack of European standards etc.

Keywords: globalization, touristic market, business travel

JEL Code: M20

The trade is an important barometer, and the main objective pursued by firms trading in the new Member States of the Union, is to resist the pressure forces increased competition on the European touristic market. At EU level¹, market studies have shown that the existence of a single European market have benefited to a greater extent the smaller size but from the perspective of firms, large companies appear to be those who perceive a positive impact.

Regarding the entry of Romania into the European Union, we noticed two major changes to trade companies:

- ✚ First trade with the European Union has turned into one intra-European;
- ✚ Eliminate trade barriers in the European Union makes the maintenance requirements on the market and the deployment of a high level of trade for businesses current Romanian trade to be changed significantly.

In the present period, the trade broke relatively large firms, companies or subsidiaries of the newly established economic units of the European Union, non-resident in Romania. The initial stimulation may be accompanied by a departure of the profits in other areas of the Union if the local purchasing power will not increase. It is necessary therefore and observation technology by increasing the efficiency of the wage offer, which gives content increased wage income, the income in any country.

¹ European Union 2003, European Commission Staff Working Paper, Internal Market Scoreboard 2002, Brussels, p.p. 19-20

In the vision, Farhard Analoui professor in international management of human resources (Bradford University, UK) Romanian management system is traditionally based on the old centralized system, and this style of management does not favor the development of human resources, even if some progress is visible. According to the same author, Romanian and Romanian managers would carry out a personnel management similar to that practiced by Western firms, forgetting that this step be followed, made investment strategies followed by long-term effects. Human resources management is performed at the poor, managers do not read as priority investments for development and personnel reasons, the employer Romanian mentality is far to be linked to a performance and efficiency of staff leaving desirable. Representation of women in the business environment in Romania is significant and at odds over the EU average.

Also, many women entrepreneurs are found, mainly in the trade companies and services, and if the look and quality management, we see that in trade and tourism companies, large share is represented at same rate. For example, the management of large retailers in most cases, women manager either missing or are in a ratio of 1 to 5 from the manager of the masculine gender. In Romania, only 10% of active female population (about 370,000 women) working as an administrator of a company or in a liberal profession. Latest studies² have shown that women are superior to those managerial capacities of men, particularly in terms of increased productivity and inventiveness. Given the experience the most advanced companies in the world, a result that continuing education of human resources will become a component, and training will take up to 10-15% of working time. Improving economic relations between firms trade can not be achieved without a qualification, appropriate training of human resources

If winning minimum wage is one of the competitive advantages of our country (Table 1: The minimum gain in the EU Europe - euro/month, Figure 1: Evolution of the minimum earnings in the EU Member States), are attractive for potential investors for firms trading reduced earnings and can hide a lack of motivation of employees, as a consequence of a payment can not ensure. Companies in trade and tourism, low wages, approximately 1,400 gross lei on average, make an offer with several dozen lei greater competition, to be sufficient to abandon the current employer. Staff migration rate is inversely proportional to the level of qualification.

Table. 1
Minimum Income in the EU Europe-euro/month

Years /Country	2002	2003	2004	2005	2006	2007	2008
Belgium	1163	1163	1186	1210	1234	1259	1336
Bulgaria	51	56	61	77	82	92	112
Estonia	118	138	159	172	192	230	278
France	1126	1154	1173	1197	1218	1280	1321
Greece	552	605	631	668	668	658	681
Ireland	1009	1073	1073	1183	1293	1462	1462
Latvia	107	116	121	116	129	172	228
Lithuania	120	125	125	145	159	203	232
Luxembourg	1290	1369	1403	1467	1503	1570	1610
Malta	552	534	542	557	580	585	612
United Kingdom	1118	1106	1083	1197	1269	1356	1148
Netherlands	1207	1249	1265	1265	1273	1317	1357
Poland	212	201	177	205	234	246	334
Portugal	406	416	426	437	450	470	497
Czech Republic	-	199	207	235	261	280	329
Romania	62	73	69	72	90	121	137

² <http://www.zf.ro/profesii/romania-are-370-000-de-manageri-de-genul-feminin-2981343/>

Years /Country	2002	2003	2004	2005	2006	2007	2008
Slovakia	114	133	148	167	183	-	267
Slovenia	-	451	471	490	512	522	567
Spain	516	526	537	599	631	666	700
Hungary	202	212	189	232	247	262	285

Fit source: Eurostat, Population and social conditions Statistics in focus, 105/208

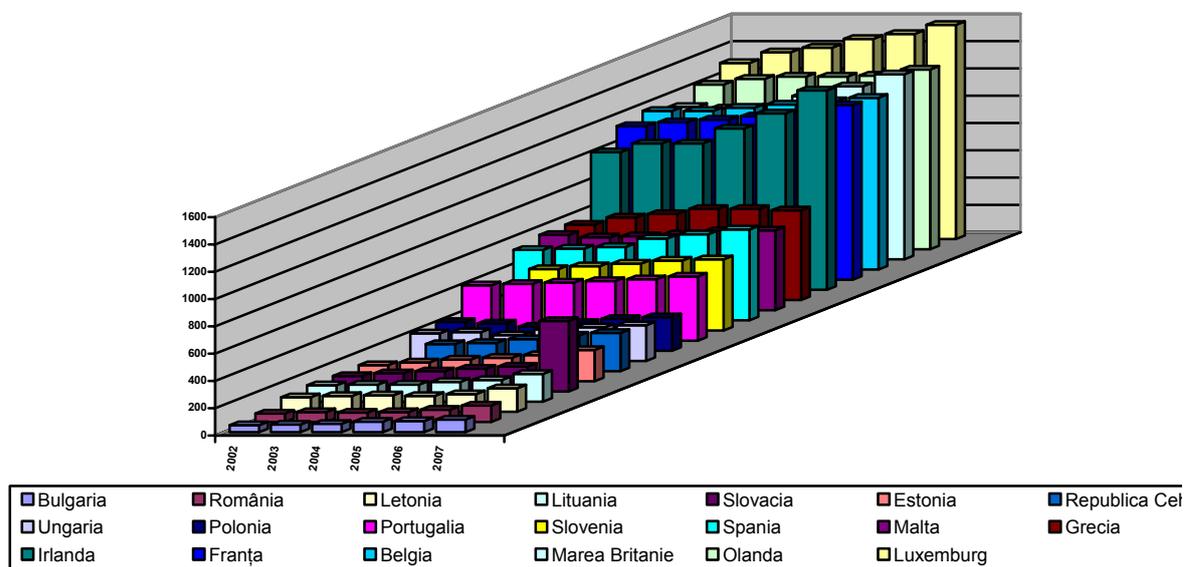


Fig. no. 1. Evolution of minimum earnings in the Member States European Union

The rapid progress of science and contemporary technology, enhance knowledge in all areas of activity are factors of pressure for structural changes in the organization of firms and their management, structure and quality of human resources, and management of these resources (the Figure 2: The main defining features of human resource management based on knowledge).

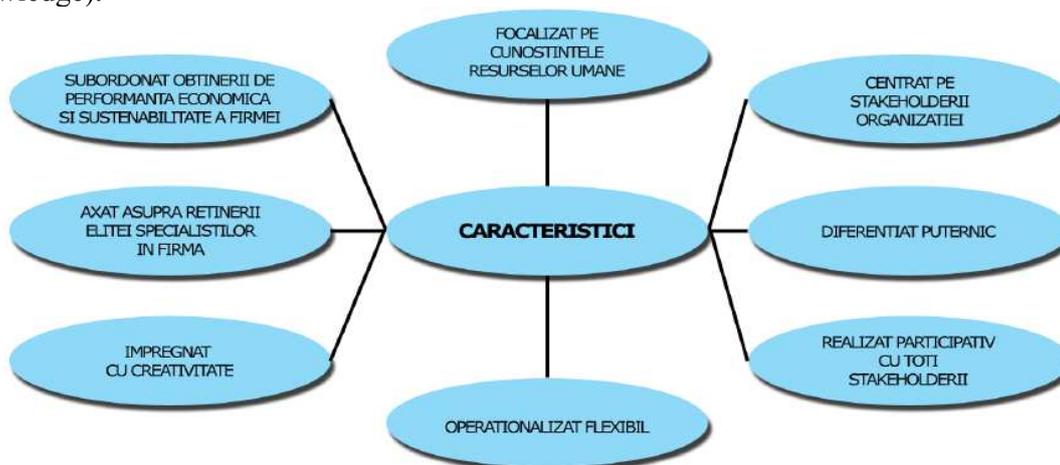


Fig.2 The main defining features of human resource management based on knowledge

Source: O. Nicolescu - Human Resources Management based on knowledge, employment relationships, No.1, January 2005

Regarding trade firms in Romania, one can see a multitude of mutații in a relatively short time: better management, moving the focus from quantity to quality. All these changes have

contributed to the achievement of competitive products, the expansion of market outlets and thus increasing the volume of resources committed.

Along with these developments in the occupational structure have a number of major mutations in the sphere of attitudes and skills as a result of processing worker worker processor operator. It is about movement skills to share the sensory and motor skills to the world. According to the findings of specialist studies, there is a gap that increases continuously between technology development and the qualification of human resources. Nowadays skills training is necessary to think and analyze critically the value of their reward systems.

Today, more than ever, science is science that wins leadership - management. Intensive high technology development or those in hostile environments will lead to the proliferation of flexible automation by the widespread use of industrial robots. Motivating employees is becoming more complex and dominated by a high level of psychological needs. An essential role in foreshadowing the career you have individual initiative and creative spirit. Employees and groups must work together with their superiors for developing control systems and assessing the performance or to develop their own systems. Use of electronic means of tracking and obtaining information facilitates limiting distortion information. The results of any organization are the quality management process and it depends to a large extent on the organization manager.

Important changes in the economic and social policy, both domestic and international economic relations system, involve increasing complexity of managerial responsibilities and the changing relationship between them, meaning that some responsibilities will lose the benefit of important new ones. Responsibilities incumbent on top managers will change the meaning of adaptation and relationships between them increasing complexity and broadening the management problems. Is a radical change in the individual functions necessary to meet these responsibilities. Responsibilities of managers classic supply, production, sales, research and development, the administration will remain, but will change the relations between them, meaning that some will lose importance and new ones will appear, with greater importance, such as: quality assurance and maintenance, environmental safety, logistics, etc. Tracking the business firm will be based on the principle of "cybernetic control circuit, with competent employees in adopting decisions. Will improve the information system of feedback control and planned changes to adapt in time according to changes foreseeable socio-economic environment.

The results of any organization are subject to quality management, and it depends to an appreciable extent by the head (manager) organization. In appreciation of Peter Drucker companies with no good or bad, but good or bad run. Important changes in the economic and social policy, both domestic and international economic relations system, entailing increasing complexity managerial responsibilities, and of the ratio between them, meaning that some responsibilities will lose the benefit of important new ones. For example, the responsibilities of managers classic supply, sale and development will remain, but will change the relations between them, meaning that some will lose importance and new ones will appear, with greater importance, such as quality assurance and maintenance, environmental safety, logistics, etc. Simultaneously, there is a tendency flatten of organizational structures and the formation of autonomous work groups, and applying the principle of organizing firms decentralized unit profit (organization of the divisions).

The main advantages of this system consist operativity increase in decision-making and senior managers close to the staff directly responsible for execution. Also, by reducing the share of managers in line to succeed means better stimulate creativity and potential employees.

Communication between front line managers and heads of hierarchical will expand on delivering results and development organization.

The trend is that, in future, first line manager to become animators execution, he must be a man with technical, economic and technological skills in the field of human relations, able to harmonize the interests of the various functional departments of the enterprise and ensure the achievement objectives. First line manager will hear operational shortcomings and conflicts of jobs.

In order to achieve expected performance, the first line manager it is essential knowledge of work psychology, interpersonal communication, work motivation, conflict resolution, measuring and tracking the costs and productivity, quality control and inventory management etc.

Trade and touristic Company of the future may be similar to a nucleus with an electronic link people who are different professions, hierarchy fenced computer, and interpersonal relationships will be less intense and more depersonalized. Encouraging intelligence and creative spirit of its employees, and proper motivation will be the future engine business organization.

In trade and touristic firms, managers will need to be a factor in personality development through the new opening, through flexibility and participation. This involves the ability of identifying and bringing transformation needs, and action rather than contemplation. Dominant side of the business future managers will be an orientation towards excellence.

Orientation towards excellence in management involves:

- ✚ A dedicated, totally, service and fulfillment of responsibilities, to meet customer needs;
- ✚ Listen to customers, suppliers and retailers;
- ✚ Put on front pay, and distribution services;
- ✚ To make the innovative spirit of reason of the existence of each employee;
- ✚ To invest time in recruiting and human resources to ensure staff responsible for all items;
- ✚ To foster teamwork;
- ✚ Cutting speed as incompetent or those resistant to change;
- ✚ To simplify bureaucratic procedures;
- ✚ To lead by personal example, using the visible and management using methods as simple as to foster understanding and participation of others;
- ✚ Require employees to be as loyal company of commerce and integrated into all actions they initiate for the benefit of the company;
- ✚ Precision-guidance on what should be changed and deadlines necessary to achieve these changes;
- ✚ To revolutionize quality.

Particular attention should be given training (training and development) staff within. In Romanian, training is far from that practiced by Western companies, where he became so important in recent decades that have passed special laws. For example, in France, since 1971 was developed a special law, 1% law, which states that every company should use 1% of annual pay for the mass training of their employees, otherwise, this amount will be paid as tax to the state. Thus, it was like in 80 years some companies to exceed the 10% rate of pay for the mass training of employees. In regard to new employees, some experts are of the opinion that it is necessary to adopt a marketing-type approach, where the customer is the new employee, is the post and especially, the integration and training, the promotion etc. Pursuit of good business is subject and the level of employment, involvement of business personnel, leading to

a conscious and sustained participation of staff in service fulfillment. In this regard, an important motivation rests staff that supports commercial activity. Own motivational structure of trade workers is a complex variable, influenced, first by the, general politico-economic society. Without denying the importance of winning cash in the commercial involvement of staff, only to remain at this size motivational means to understand things in a simplistic and unilateral. In reality it is a complex motivational reflecting multiple links between various aspects of business and personality of trade workers.

In-depth analysis finds that the involvement of marketing personnel, the attitude shown towards buyers etc., explains to a large extent not only by reason of the present activity of the staff, but also on grounds concerning the period prior to his employment such activity. Interest in commercial activity should be due pleasure to work with people and to communicate etc.. (item with the potential positive value) and not those that were directed to this sector because they considered it an easy or were unable to engage in other sectors, etc.

Company trade and touristic may face changes required for competitiveness and development efforts by targeting only managers to employee motivation and satisfaction. Also, firms must meet the trade needs of employees in the same way that meets customer needs. For this purpose companies must develop strategies that meet personal needs and subject to the overall strategy of the company.

Psychological studies have shown that motivating employees within a company to obtain the results contribute to improved efficiency of work, but the performance increase is not always directly proportional to the intensity of motivation.

Researchers in psychology have concluded the following (currently known under the name of "law Y.Erkes-D.Odson"): the intensity of the relationship between motivation and performance depends on the complexity of the task that an individual has achieved: when complex tasks increase the intensity of motivation increase performance only to a point, after which begins a stagnation and even decline.

Under this law, there is a very strong motivation leads to some excitement, which in turn entail a degree of disorganization, which impedes progress, leading to even recourse. When the decline begins depends on the complexity of pregnancy: a heavy burden hurry emergence point inflexible and hence the appearance of decline, while in case of simple tasks, repetitive, routine, this occurs much later or even at all. Appears in this way, the concept of optimal motivation, namely the intensity of motivation to enable the achievement of high performance. Motivational optimum is achieved by action on two variables: usually individuals to perceive as fairly difficult task, manipulating the intensity of motivation in the sense of increasing or decrease them, depending on the situation. To achieve optimum motivational should be considered a permanent combination of positive extrinsic motivation intrinsic motivation in order to obtain not only enhance performance but also the development of human potential.

Reality exists in renowned companies in the world shows that a company remain competitive only if it has an efficient management of human resources in use (Fig. no. 3: Human Resources Management and financial performance of the company).

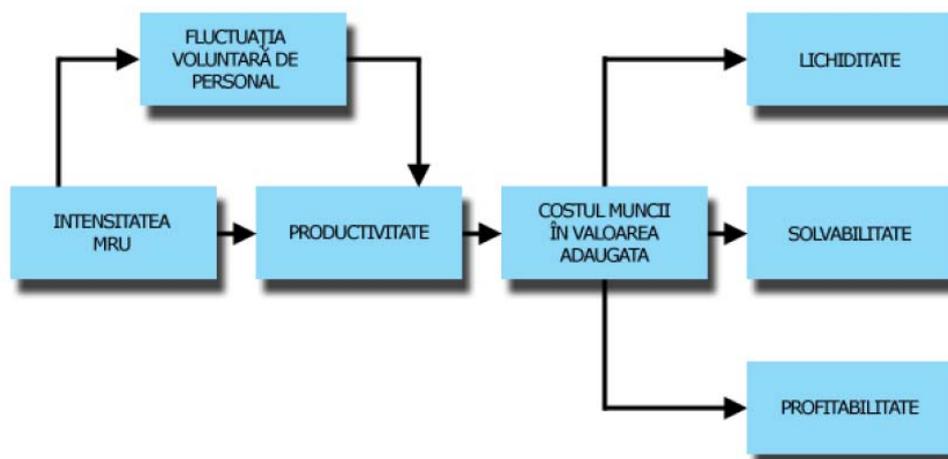


Fig. no. 3: Human Resources Management and financial performance of the company

In these resources, individual performance must be sufficiently high for the organization to achieve excellence. Individual performance depends on the motivation, the desire of employees to do the work effort required for development and training of employees and their ability to execute what is required.

Company staff is the most important category of intangible assets that can benefit the company name, especially since it is one that has direct contact with producers or distributors and customers, so improving economic relations with other partners is determined directly by this intangible asset - human resource.

Design management focus on human resources, the only effect creator, is a prerequisite in achieving performance, regardless of field of activity. Because trade Romanian firms to cope with the demands imposed by existing laws and competition in the European Union, the managers of these firms should change their mentality regarding human resources and the contribution they can make to achieving performance and business success. Employees in the future the company will be faced with new requirements. In addition to current tasks in the workplace, each employee will be involved in specific forms to improve efficiency of their activities.

Fluctuations labor SC Tourism Romania SA. Case Study

Economic efficiency of firms trade can not be achieved without the qualification of human resources. Staff of a company fluctuates, due to the existence of labor market wages higher. To leave the company by a key employee can cause losses on the one hand due to the lack of this intangible asset, and the other expenses involved in training a new employee. Fluctuations in employment occur when employees of **SC Tourism Romania SA** Tg-Jiu decide to leave work today, for various reasons. Leaving the workplace lead to business costs (eg training costs), because they are obliged to hire other employees. Where the rate of fluctuation of the workforce at **SC Tourism Romania SA** Tg-Jiu decreases, it means that productivity has increased due to increased salaries. We can deduce that there is a positive relationship between wages and productivity.

We use the model formulated by Carmichael and Picard that builds the relationship between wage rate fluctuation and productivity. In analyzing this model start from the premise that labor relations are conducted in two stages. In the first phase new employees are properly trained workplace that will occupy, and the end of training, each employee has the right to

leave the company if not satisfied. Those who remain will be integrated in the company corresponding skills acquired in training.

During this process, employees may appreciate "satisfaction" that you will receive if they remain in the company. This "satisfaction" with a note, "s" and the company offers employees a real wage equal to „w". In this case, the utility obtained by employees is equal to: $w + s$.

Noted, "q" the utility that employees can get if you leave the company. Because they do not leave the company at the end of the training should be that the utility you get, if you remain to be greater than the utility that should be so if they leave the workplace in question, namely: $w + s > q$. Satisfaction that each worker to get a job is really subjective. We therefore consider, "s" as a random variable and its distribution function will note, "R".

At the level of a company should not be confused likelihood employees to leave work with the current output. For this reason, the output is determined according to the following formula: $p(w) = R(qw)$ and $p'(w) < 0$, this means an increase in the wage rate decreases the fluctuation of labor. If the company analyzed the production function with a note, "F" and it decides to undertake, "L" workers, it will ultimately only $(1-p(w))L$ workers, because the rest will leave firm trade. For each person employed company will pay a cost equal to the training, "c".

$$\Pi = F[(1-p(w))L] - cL - w(1-p(w))L$$

In this situation, the profit received by the firm is equal to: and quantity of effective work in this case becomes:

$$L_e = (1-p(w))L$$

If you take into account, the relationship above can play the return by the formula:

$$\Pi = F(L_e) - c \frac{L_e}{(1-p(w))} - wL_e \rightarrow \Pi = F(L_e) - L_e \left[\frac{c}{1-p(w)} + w \right]$$

To "total cost of the related unit of labor must be a'obtain optimal wage, w CTL and' minimum: $= \min CT_L$

$$CT_L = \frac{c}{1-p(w)} + w$$

The level of employment corresponds to effective equality between marginal productivity and marginal cost of labor. Starting from the efficient employment level can be calculated for employment, which is equal to the ratio between the level of employment that leads effectively to a company for maximum profit and the rate of "maintenance" of the workplace (employees who wish to work in the company after the trial). SC Tourism Romania SA Tg-Jiu has 40 employees, and by replacing the data collected from the company shows the following:

- ✚ The rate of output is $p(w) = R(qw) = R(715-880) = Rx165$. Since the output $p(w)$ is subunitară, determine the proportion in relation to the unit (the unit is equivalent to the average salary of 880 lei and 165 lei is 0.19);
- ✚ The $(1-p(w))$ reflects the proportion of staff retained the firm, respectively $1-0,19 = 0.81$ (or 81%). So the company will ultimately only $(1-p(w))L$ workers, and $0.81 \times 40 = 32$ workers.
- ✚ The profit is equal to $1031.2 (0.81 \times 40) - 55 \times 40 - 880 \times (0.81 \times 40) = 2640$ USD / month;
- ✚ Optimal wage (w^*), taking into account the total cost associated unit labor is equal to $55 / 0.81 + 880 = 947.9$ ron;
- ✚ Level of employment (which is equal to the ratio between the employment effectively, leading to a maximum profit for the firm and the rate of "maintenance" of the workplace). To calculate the occupancy rate is determined by the new exit (715-947,9) in relation to the

unit (the unit is 947.9, and 232.9 difference ron-0, 23). Therefore, the stability is 0.75 and the number of workers $32 / 0.75 = 43$ people.

They took into account the following data supplied by SC Tourism Romania SA:

c - the monthly cost to each firm (training, retraining);

s - the level of satisfaction if the employee remains in SC Tourism Romania SA, Ron quantified at 110, comprising prime, meal vouchers, etc. increases.;

q - the utility company from leaving (take into account the average of competing companies, respectively, 715 ron);

p (w) - the rate of exit (leaving the company staff).

This model of analysis of the labor market based conclusions of Solow because salary is not fixed by comparing the demand for labor with job offers, but depends on productivity. Salary efficiency can be approached from sociological point of view, since labor productivity depends on how the workers are treated by employers.

Productivity of an employee may increase if it induces the feeling that is well treated by the employer. In these circumstances, if the firm shall provide the worker a wage higher than the reserve (salary it can receive from another company), productivity will increase. It starts from the premise that, in general, employees make an effort similar to his colleagues. There is therefore the existence of "rules of effort" in the company. The latter, in turn, set for each level of a standard wage effort that requires an employee.

Under this model, the company SC Tourism Romania SA met two types of workers: those who make a greater effort than normal group and those who felt that an effort des-utility and tend to offer a lower level of effort. The proportion of the two groups in the total number of employees enables the calculation of average efficiency of labor.

Conclusions

The conclusion is that the company SC Tourism Romania SA interest to fix a standard lower than that adopted by each group, and in this way they induce workers feel they are well treated. The effect of such rewards, workers make a greater effort and productivity will increase. Efficiency wage can be explained on the basis that the business manager can not see all the skills of individuals they employ, and in this case there is adverse selection.

Each potential employee has certain skills that can not be known by the employer to a simple job interview. This could, for example, to obtain information from former employers or submit it to the candidate for various tests, but would lose a lot of time and cost of employment would be very high. In this case those who wish to hold a job should be to inform the employer of the amount of money (pay back) which they wish to receive. For employer SC Tourism Romania SA this salary is a "signal" that illustrate the knowledge that the candidate owns. In other words, the reserve announced wage is a function increasing in relation to skills which they possess each prospective employee. At the firm level wage was set at 880 USD, this means that it will carefully review employees who agreed that the salary reserve an amount less than or equal to 880 ron. Employers get the premise that those who have established a salary of 880 lei, the knowledge and skills that the company seeks. If the firm sets wages at 990 EUR, it will examine only those who have decided that the salary reserve an amount less than or equal to 990 ron. Salary increases from 880-990 ron, the company expects that people who rated their knowledge to 990 ron have a labor productivity higher than those who set the salary at 880 ron. The salary offered by the firm plays in this way, the role of selection in terms of quality workers. A salary increase proposed by SC Tourism Romania SA, will increase the direct cost

of labor and productivity. Salary optimal resulting in these conditions shall be called the efficiency wage.

SC Tourism Romania SA will not have an interest to reduce this level of salary, because labor productivity would decrease and, ultimately, profits and business.

Existence salary reserve, ie the salary requested by the worker presents some interesting issues:

- ✚ The company refuses to hire a worker announcing a salary reserve less than the salary fixed by it, because it considers that the person has a low labor productivity. There is however a possibility that the worker intended to seek a lower salary because he was hired. In this case we are dealing with adverse selection;
- ✚ Pay back is a selection criterion for the employer;
- ✚ If the efficiency wage is set at a level higher than equilibrium, this will result in involuntary unemployment. Because wage growth, employment will decrease, and those who would like to engage with a lower salary no longer have that possibility. Those in turn will require a salary reserve higher than the efficiency will be found also in a position to be unemployed because they comply "signal theory".

References

1. Pop N. Al. et al, 2000, *Marketing strategic*, Editura Economică, București, p.82
2. Someșan and Cosma, 2001 *Bazele marketingului*, Editura Efes, Cluj Napoca, p. 52
3. http://www.transparency.org.ro/politici_si_studii/indici/ipc/2008/index.htm
4. <http://www.pwc.com/extweb/pwcpublications.nsf>
5. <http://www.insead.edu/v1/gitr/wef/main/analysis/showcountrydetails.cfm>

Total Quality Management and Professional Performances

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Abstract

At organizational level, total quality management is based on a holistic approach of the social – economical reality and on an integrative outlook which includes all significant factors for increasing the organizational efficiency, both from the material point of view and human point of view. Modern society is centered upon maximizing and maintaining companies' profit, by revaluation of the resources, human and material. Under the circumstances of markets global perspective, products/services complexity, economic exigencies, total quality management is oriented towards the discovery and use of the most effective solutions to increase the professional performances level, by thinking of improved organization strategies and especially, to increase the quality of goods and services in an organization.

Keywords: total quality management, professional performances, organizational group

1. Introduction

The present paper is structured in three chapters. In the first part I presented a few of the principles on which T.Q.M. (total quality management) stands. In the second part I highlighted the importance of understanding the dynamic character of the professional performances, and the performances global assessing, from the total quality management perspective. Chapter three presents conclusions of this paper.

2. Total Quality Management Principles

Total quality management represents a coherent assembly of organizational strategies, on long term, which aim at the continuous improving of the products/services quality for an organization. The preliminary condition for the successful transformation of an organization into a competitive and efficient one, is to possess a long term development plan, which must prepare not only the project modalities but also the effective implementation of the "total quality". The difference between the organizations centered only upon the quality ensuring system and those oriented towards the total quality management is given by the existence and compliance of a complex and realist organizational developing plan, which includes the following components:

- ✚ permanent surveillance (monitoring) of the goods and services quality;
- ✚ focus on the permanent services and goods quality improvement processes; existence of high quality standards;
- ✚ stimulating employees' creativity, looking for new goods and services improving modalities; reward systems for new and creative ideas;
- ✚ anticipating the consequences of some new investment strategies and evaluating the economic risk;

- ✚ identifying potential malfunctions and reducing the economic risk factors; analyzing and reducing the unwanted effects of the production processes;
- ✚ focus on the psychological component of the product delivery towards the buyer; evaluating the clients' satisfaction level (for example, by polls);
- ✚ emotions management in the relations among employees and clients (ensuring positive relations leading to the fact that clients increase their trust in the organization);
- ✚ involving all employees in the organizational developing processes, feedback from all hierarchic level;
- ✚ human role recognition in the organizational change process: make use of all knowledge in the organizational psychology field in order to improve the organizational communication techniques, emotions management in organizations, etc.

Production process quality and the finite product is assured by obeying general principles applied in three important directions: a) *organization as a whole* (for instance, establish clearly the organizational objectives, improving the production processes, leadership style, improving the organization communication); b) *clients, goods and services beneficiaries* (satisfying clients needs, rise of their trust level in the organization); c) *organization members* (personnel motivational strategies, interest for the emotional experience which the employees have, personnel training, stimulating the creativity, etc.).

As on the T.Q.M. principles there is a rich speciality literature, we will discuss, in the following pages, only to a few of its defying elements, focusing on the psychological component of the total quality management strategies, centered on the human factor.

Organization objectives clearly established. Total quality management aims at establishing long term objectives, centered not only on obtaining immediate profit, but especially on maintaining it. Organizational objectives are mental constructions or plans which guide the activities development. Reaching the goals aimed at needs creating a plan, reasoning and improving the actions. Operating the plan involves the analysis of the situation in fact, of the means, resources, exploring and evaluating the action strategies, in terms of advantages and disadvantages.

Organization objectives must be presented to the employees, no matter their hierarchy level, so they take part actively and involve in accomplishing them. Personnel involvement degree in the organizational activities grows by becoming aware of the benefits of a well done activity. Such benefits can be represented by: the existence of a reward system, creating work teams where employees' ideas and suggestions are known and recognised, possibility of valuing their creative potential, participating in the decisions taking process. TQM is a management system which focuses on improving the relations among leaders and employees, among the superior hierarchic levels (decision) and inferior levels of the organization, establishing co-operational relations necessary to direct the efforts towards reaching the proposed objectives.

Permanent improving the production processes. TQM involves a sustained and continuous process to monitor the production process. Total quality management focuses the control of the entire production process, leaving from the supplying sources until the goods delivery. Avoiding the apparition of some errors in the incipient phase of goods production or services is made by the systematic and correct analysis of the internal processes, by identifying the problems and the modalities to solve the problems fast.

Interest for satisfying the clients needs. Transformation and organizational dynamics process described by TQM involves interest in the final product, but for the client as well. Competitive and efficient organizations maintain good relations with the clients, being interested in the

increasing the clients' level of trust in the goods and services quality. Organizations that have an efficient activity own the capacity to face competition, test the market, follow the identification of the clients needs and try to discover modalities by which the services they offer adapt to these demands.

A necessary condition to improve the quality of the production process is to identify the clients needs in order to project the production process so that the final products satisfy their needs. A quality product is defined by a few characteristics which consumers know to appreciate under the circumstances of a social investigation. Although people's perceptions on quality are different, however it is clear that they have the ability to differentiate among inferior and excellent things. Clients are the quality final judges. From this perspective, products must not be reported only to the technical standards of the organization, but to answer the real exigencies which the consumers have. This way the profit maximizing is assured and maintaining it as well, because, on one hand, clients are ready to pay more for a quality product, and on the other hand, products quality makes the number of loyal clients grow, the clients trust those products and their producers. TQM aims at improving products/services quality, by including consumers expectations and needs in the process of projecting the activities.

At the level of TQM, the *interest for the human factor* is oriented towards two directions: to the organization members (employees motivational strategies, emotions management, stimulating creativity) and to the clients (clients satisfaction and rising their degree of trust in the organization).

TQM involve the participation of all the employees in the continuous improving quality activities for products and services, at every level of hierarchy and at all the organization components. The main psychological target aspects are: employees' motivation, increase of the professional commitment, level of involvement in the activity; stimulating personnel creativity; preoccupation for emotional experience and the employees state of feeling well and the increase in the level of professional performances.

Employees motivation. TQM starts from the premise that maintaining high quality standards of the process of production are accomplished by involving all personnel, by high levels of individual performances of organization members. Motivating and training personnel aims at increasing employees responsibility by being aware of the benefits of a labour well done.

Organizational development and change is based upon strategies, techniques and clearly established objectives, which are centered on human problems, both of personnel and clients. At the basis of the organization activity there are people's needs, this is, a significant factor which influences TQM, is the motivational system. Motivation includes the assembly of dynamic forces (pulses, needs, motifs, interest, beliefs, ideals, etc.) which direct behaviour, energetically support and release activity (Neveanu, 1976, Zlate, 2000).

The needs pyramid elaborated by Maslow (1962) is a model of present psychic motivational reality as a level organization: at the base there are physiology motifs (deficit), to the top, development, self-accomplishment motifs.

1. *Physiology needs* are primary inborn, common to all people (need of food, rest, pulses satisfaction etc.)
2. *Security needs* include the need of stability at the labour place, property instinct, need of work instruments within the activity.

Within the organization environment, factors as salary, financial rewards, good work conditions, total of coherent and realist norms, job safety, etc. come to meet the first two categories.

3. *Social contacts needs* include the need to affiliation, belonging, integration into a group, communication needs, cooperation needs, sharing ideas, experiences.

Knowing the group dynamic, formal and informal relations which are established among employees create a premise to form active and enthusiast teams.

4. *Needs of esteem and status* include the need to obtain a certain position in the social hierarchy, need of social recognition for the professional success, need to be capable etc. Interaction with the others determines the apparition of a set of needs connected to obtaining and keeping self respect and trust.

5. *Needs of self accomplishment.* In this category there are the autonomy, freedom needs, initiative, risk, independence, cognitive needs, spiritual needs, esthetic, belief about world and life, need to fulfill one's potential.

At the base of the organization behaviour we find all these types of needs. Financial rewards answer the basal employees needs and represent an efficient modality to motivate the personnel, but, as the fundamental needs are satisfied, other necessities except the economic ones are to be looked for. From the efficiency perspective and attaining a high level of performance, stimulation of self accomplishment needs is benefic for the employees, by motivational practices which aim at: including into work teams within which they establish positive relations, revaluation of the people's creative potential, involving in the decision taking process, job autonomy, employees possibility to deal with tasks which lead to accomplishment feelings, appreciation and professional recognition.

Possibility to develop an activity which allows updating the resources and employees skills revaluation make an important motivational factor. Material stimuli, although signify a powerful motivational source for the organization behaviour, are not the only sources of the professional satisfaction. Researches demonstrated that satisfying the needs which belong to the social contacts (pleasant labour climate, open organizational communication, positive feedback) represent a significant stimulus which can compensate a lower remuneration.

TQM is centered on a modality of organizational activities organization meant to stimulate employees behaviour. Actions efficiency and obtaining economic success are conditioned both by the cognitive abilities and the work skills system, and by the motivational system, the affective processes and personality traits. Efficient leaders, interested in improving organizational processes quality, give more attention to the psychological components of the leadership activity: emotions management (preoccupation for organization members emotional life quality), improving conflict negotiation strategies, communication effectiveness increases among the work teams, valuation and recognition of the professional merits, etc.

Organizational behaviour and professional activity are, in equal measure, supported, released and goal oriented, both by the professional motivation, and by affective motivation. Professional motivation (need to accomplish and have professional recognition) is doubled by emotions, desires, goals (affective motivation). Depending on the satisfaction of emotional needs (need of positive consideration and socially recognized, need to be appreciated, valued, in others agreement, etc) patterns of different emotional answers are created, be they open, flexible, be they rigid, closed, which further influence organizational communication. Positive emotional experience at the job place, satisfaction and the employees state of well being, positive feed backs received by the employees under the circumstances of accomplishing activity at a high level of performance, are important factors for the organizational efficiency increase.

Emotional processes inter-react with all the other processes and psychic activities, and influence their dynamic. In the centre of theoretic approaches on the relation between emotions and motivations in organizations, there is the concept of "satisfaction" of the motifs. There is an agreement between specialists on the significance of the interaction among affective processes and motivational processes: satisfying the needs generates pleasant affective states (joy, pleasure, enthusiasm, etc), while un-satisfying them produces negative emotions (frustration, sadness, unpleasant feelings, etc).

Maslow (1962) underlines that social factors condition satisfying human needs: the environment in which the individual lives and works can answer to his needs and can gratify them rather much, facilitating the apparition of superiour needs, or on the contrary, by disturbing influences and repeated frustrations, it can maintain personality at the level of primary needs. The evolution of the system of needs and the development of affectivity can be stimulated or inhibited by the person's reaction with the others, by the influences produced by the social environment. At the level of decisional process, relations between emotions and motifs are activated especially under the circumstances in which more motifs appear simultaneously and more action opportunities. Multiple motifs, in conflict, generate intense emotional feelings and deliberations based at the same time on emotional cognitive evaluations. Decisional process involves evaluating the alternatives and the option for the best action variant. Behaviour options are appreciated in terms of potential final results and depending on the level of difficulty, that is the possibility of accomplishment. Brehm (1999) places the conflict at cognitive level. Conflict is generated by the difficulties in judgements/assessments on the alternatives and imagining their consequences. Alternatives evaluation implies to focus the attention on the possible variants and activates positive and negative emotional states. The person's tendency is to select the most attractive alternative (anticipated as source of benefits) and to guide depending on the potential final results of an action. The complex relation between emotions and cognition represents the object of study of many researches, especially those in the domain of cognitive psychology. From a cognitive perspective, it is not the very object that is important, but especially the modality in which the person interprets the external conditions, the rational significance which he assigns to them. Usually, the distinction between rational cognition and irrational cognition is made, as well as between functional emotions, positive, with adapting value and dysfunctional, disturbing emotions. Emotions and cognition influence one another: irrational cognition or dysfunctional cognitive patterns can generate negative, disturbing emotions. In their turn, painful emotional experiences, undesirable, unpleasant for the subject influence in a negative manner cognitive abilities: decrease of mental productivity, reducing the flexibility of cognitive processes, diminishing adapting capacities.

Interest for employers' emotional experience. Emotions, positive or negative influence the quality of the professional activity. Depending on their emotional competences/skills, employers succeed in administrating differently the emotional resources and adapt to their work activities demand, as well as the demands of the organizational environment, in general. Total Quality Management includes the emotions administration component with the employees, being oriented towards ensuring an emotional climate adequate for the professional activity. In the speciality literature, on TOM, "total quality" aims at the emotional life quality of the organization members, diminishing the tensions in the work groups, dismissing fear of authority, encouraging the expression of emotional life, etc. Emotions management in organizations reffers to maintaining the employers' state of well being, to encourage the emotions expression, to maintain a proper level of emotional activation (where extremes would be, for example, apathy, boredom or exagperate enthusiasm). The more intense emotions are, the more motivated the cognitive contents are and give impulses to reach the goal. Emotion intensity maintains attention focused on the goal followed, influence cognitive information

processing and releases purpose oriented behaviour. However, very intense emotions disturb activity and information processing. A proper level of activation facilitates concentration on the labour activity: "minimizing the intensity of emotion permits the cognitive system to continue to monitor and process situational information that could be useful to the individual" (Brehm, 1999, p.5).

Emotions management at individual level is influenced by the person's emotional abilities, by his/her autonomous capacity of emotional self-control but of the affective climate of the organization as well (interpersonal relations, relation with the organization leaders, relation with the clients, etc). Emotions, positive or negative, influence a wide range of behaviour manifestations with the employees: style of labour, communication and relations skills, decisional behaviour, efficiency of the activity. As a consequence, improving the organization members emotional condition, represent a decisive factor for organization efficiency growth.

3. Dynamic character of the professional performances

In modern society, highly competitive individual performances evaluation, the degree of success in the professional activity, represent a basic component of organizational management. Every manager knows that organization success is dependent of the professional training and employees skills. Preoccupation for assuring and improving professional efficiency is present at all levels of the organization, starting from the selection and recruiting personnel methods, to organizing training programmes for developing professional skills. Connected to the measure of the performances level, the most relevant questions would be: "how do we evaluate professional success?"; "which are the assessment criteria?"; "what evaluation instruments do we use?" At a superficial analysis level, evaluation criteria are represented by the speed (rapidity) and by correct accomplished tasks in the professional activity. In fact, appreciation criteria of the professional efficiency are multidimensional and vary depending on the work activity specificity. Generally, in creating the performances evaluation instruments, it is taken into consideration two criteria categories: subjective factors which assure activity efficiency (skills necessary to develop an activity, personality traits, etc) and the objective factors (work activity characteristics, performances appreciation depending on accomplishing the tasks contained in the job position card). Among the subjective factors which influence the professional performances level we can count: cognitive abilities, intelligence as general skill, work experience, practise skills system necessary to unfold the activity, personality traits (Pitariu, 2000). Pitariu (2000) underlines that professional performances assessment is an important component of the organization management, with multiple involvements, both personal (feedback received stimulating self-perfection), and connected undoubtedly of production. The obtained grade at the end of an activity period is a source of information, on which decisions with individual and organizational character are taken. The level of performances reflect the degree in which the established objectives in the professional activity were reached as well as the organization competence level as reported to other organizations. Thoresen, Bradley, Bliese & Thoresen (2004) show that the studies on the relations among the personality traits and the professional performances started from the premise that performance is a stable construct, despite the empiric proofs which support the dynamic character of the performances. Evaluation systems efficiency and credibility and personnel selection -recruiting which are based on the idea that performance is static, are compromised: "incorrect assumptions about the stability of performance might result in erroneous conclusions about personality-performance relationships. These assumptions could be quite costly to organizations that rely on such research findings to make selection and training decisions" (Thoresen et. al., 2004, p. 835). Professional activity passes successively, through stability periods and transition stages. Labour performance, conceptualized as a dynamic construct, registers fluctuations and modifications along time (systematic increases,

stability or stagnation, diminishing) depending on the dynamic and characteristics of the labour activity (novelty, degree of complexity, level of difficulty etc).

In Thoresen et.al. (2004) maintaining stages for the level of performance at a proper level (performance stability along time) are associated with the existence of some labour skills already created: employees developed labour activity a period of time sufficiently long in order to get used with the demands of the work tasks and have the necessary capacities to accomplish them at a superior qualitative level. During the transition periods, professional activity and labour performances register fluctuations: either uniform growth, or drastic decrease of the level of performance. Transition periods (changes in the dynamic and performance level) appear in the initial phases of the development of the professional activity (new hired personnel) as well as in the other situations in which labour activities characteristics are modified (for example, when the activity profile is promoted or changed).

Transition phases and performances line transformations correspond to the modifications appeared at the level of the professional activity: whenever an employee changes his job place or the specific and objectives of his activities, he must make an effort to adjust to the new demands and the different characteristics of the professional tasks, to study how to accomplish new tasks, to assume new responsibilities. During the transition periods, the employee improves his style of work, assimilates new information connected to the modality in which he can unfold his activity efficiently. According to Murphy (1989, p.190) apud Thoresen et. al. (2004, p.836), during the transition period, characterized by fluctuations at the professional performances level, "methods of operation are undefined; the workers must learn new skills and tasks and make decisions about unfamiliar topics" and in the stability period (maintaining the performance level at a proper level) "the worker has learned to perform all major job tasks and is no longer confronted with situations that present novel or unpredictable demands". Following the same line of ideas, Pitariu (2005), p16) underlines that "only after a certain period of time, of professional practice, a person can be considered competent or efficient in labour." One of the defining elements of TQM is the accent put both on the growth of professional performance level, and the chances given to the employees to improve their performances. It is because it is taken into account the dynamic character of the professional performance, in the total quality management the strict annual evaluation of the performances is not accounted for, but rather the encouraging spirit of the competition, the job autonomy and creative thinking. T.Q.M. is more oriented towards the direction of discovery, pro-active, flexible, creative employees promotion and reward, who come with new and original ideas. In order to obtain a real growth of the performances level it is necessary to ensure a proper climate to accomplish the work activity, to continue employees training. The higher the level of employees' professional competence, the richer the quality of the organizational activity. Financing some training, specialization and instruction programmes for the employees is considered a long term investment. The members of the organization must be informed and trained, to have the necessary instruments to develop their activities under good circumstances. Specialization programmes aim to develop the employees abilities and acquiring information connected to the improvement of organizational activities; free talks are efficient as well, held within seminars centered not upon transmitting the necessary knowledge for an effective management, but upon solving the practical problems the organization is confronted with. The use of creativity stimulating methods in the employees (brainstorming sessions, sinectics, etc) leads to the discovery of new modalities of solving the problems. Generating new ideas is facilitated by visualizing processes, by graphic exposure: use of histogrammes, listing the demands of the potential clients, of the existent resources, the demands towards the suppliers, presenting the successful firms models and results. Reporting to certain models has the advantage to discover the best methods and to adapt them to the firm's specific (competitive benchmarking). TQM

watches the organizational development process by assimilating the best methods, by receptivity towards everything that is new and efficient.

4. Conclusions

In modern society, the impressive growth of the number of organizations, of products and services, but the existent competition between organizations imposes, in almost every domain, improving the quality of goods and services and orientation to the clients needs. Total quality management is a development organizational strategy on long term, which puts in the centre of its objectives the goods and services quality and values the role of the human factor in the organizational efficiency growth. The equation for the success of an organization which applies the principles of the TQM includes three important factors: optimizing the organization orientation and development processes, organization members and clients. Optimizing organizing processes and organizational development deals with the aspects connected to a clear establishing of the organizational objectives, improving the production processes, permanent monitoring the goods and services quality, efficiency of the leadership style, facilitating organizational communication. Interest for clients is materialized in establishing and maintaining some good relations with the clients, knowing and accomplishing the clients needs, increase their trust level in the organization by supplying some goods and services maintained at high quality standards. Interest for the organization members is manifested in a few more important directions: strategies for the motivation of the personnel, modalities to administrate the emotions at the labour place, stimulating creativity, increase the level of professional performances by employees training. Organizational efficiency is conditioned by the employees training level and professional competence. As professional performance has a dynamic character, in order to obtain a real growth of the level of employees performances, the total quality management is centered upon ensuring a proper climate for creating labour activity and it invests in training programmes, specialization and continuous training of the organization members.

References

1. Brehm, J.W. (1999). *The Intensity of Emotion. Personality and Social Psychology Review*, 3, 2-22.
2. Constantin, T. (2004). *Evaluarea psihologică a personalului. Iași: Editura Polirom.*
3. Garvin, D.A. (1988). *Managing Quality: The Strategic and Competitive Edge. New York: Free Press*
4. Johns, G. (1998). *Comportament organizațional. București: Editura Economică.*
5. Maslow, A.H. (1954). *Motivation and personality. New York: Harper & Brothers Publishers.*
6. Maslow, A.H. (1962). *Toward a Psychology of Being. New York, Cincinnati, Toronto: Van Nostrand Reinhold.*
7. Maslow, A.H. (2007). *Motivație și personalitate. București: Editura Trei.*
8. Neveanu, P.P. (1976). *Curs de psihologie generală. București: Editura Universitară.*
9. Pitariu, H.D. (1983). *Psihologia selecției și formării profesionale. Cluj-Napoca: Editura Dacia.*
10. Pitariu, H.D. (2000). *Managementul resurselor umane: Evaluarea performanțelor profesionale. București: Editura All Beck.*
11. Stanciu I. (2003). *Managementul calității totale. București: Editura Cartea Universitară.*
12. Thoresen, C.J., Bradley, J.C., Bliese, P.D., & Thoresen, J.D. (2004). *The Big Five Personality Traits and Individual Job Performance Growth Trajectories in Maintenance and Transitional Job Stages. Journal of Applied Psychology*, 89, 5, 835–853.
13. Vlăsceanu, M. (1993). *Psihosociologia organizațiilor și a conducerii. București: Editura Paideia.*
14. Zlate, M. (2000). *Fundamentele psihologiei. București: Editura Pro Humanitate.*
15. Zlate, M. (2004). *Tratat de psihologie organizațional-managerială. Iași: Editura Polirom*
16. Wright, T. A., & Cropanzano, R. (2000). *Psychological well-being and job satisfaction as predictors of job performance. Journal of Occupational Health Psychology*, 5, 84–89.

Self-Employment Approach in Terms of Guidance and Career Counseling Services – Some European Cases

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Abstract

The paper is based on the results of a LdV project focused on the self-employment aspects in some European countries: Austria, Finland, Poland and Romania. The state of the art of self-employment in each country is presented in the first part of the paper. The second part of the paper deals with the strengths and weaknesses of existing guidance and career counseling services provided to self-employment in the related countries. This part contains data about the self-employed persons' experiences regarding the training and counseling available for them, and also their assessment of how these support measures met their needs. In the third part, the Romanian case of counseling training aspects is presented.

Key words: self-employment, entrepreneurship, career counseling

Jel classification: L26, I23, M53

1. Introduction

Self-employment was found to be a very important research topic. Micro, small and medium-sized enterprises are socially and economically very important, as they represent 99 % of all enterprises in the EU and provide more than 70 million jobs. A fundamental need referring to additional research in the field of one-person companies is to complete statistical inquiry by data about one-person-companies and persons in self-employment without employees. This approach would be necessary in the European Union, in order to evaluate all the forms of entrepreneurship. The self-employment situation is the first topic of the present approach and one of the research questions was: What is the state of the art of self-employment in each country? This research question was divided into the following two sub-questions: How is self-employment defined? What kind of national support for and actions on self-employment are there?

2. Stat of the art of self-employment in related European countries

A standardized questionnaire was used to investigate the needs of people interested in self-employment to improve their ability to succeed, in Austria, Finland, Poland and Romania. Sample for each country was defined as 400 persons who are already self-employed for

maximum 1 year and considered such occupation as the main employment. The research aimed to identify:

- ✚ the real needs of the self-employed and of the people considering self-employment;
- ✚ if supporting services available are suited to their needs;
- ✚ good solutions in guidance and career counseling to suit the self-employed needs.

Before the true attitude research, pilot studies were carried out on a group of 40 self-employed in each country (10% quota sample). It allowed testing adequacy of the questionnaire and to include any necessary changes and corrections to the research instruments.

2.1. Polish case

The Polish law does not offer an unequivocal, universal definition of self-employment, although the phenomenon itself has been existing for many years³. Nevertheless, as indicated by the authors of the report "Self-employment in Poland in the context of accession to the European Union"⁴, this concept is used mainly in the context of activities performed for businesses on a basis other than an employment contract. In practice it essentially means "being employed by oneself".

There are three situations/groups of persons that contribute to the decision of taking up self-employed activity:

- ✚ persons entering the labor market and functioning outside of it, e.g. graduates or unemployed persons, for whom the decision to become self-employed results from the desire/need to create a work place for themselves – "self-employment as a chance"
- ✚ persons already operating on the labor market who come to the conclusion that self-employment will be a more beneficial form of employment for them – "self-employment as a conscious and free choice"
- ✚ persons already operating on the labor market who decided to take up self-employment under the influence of pressure from their employer – "forced self-employment"

In Poland, registration of one's own business is one of the first problems that newcomers to self-employment must face. Because the business registration is too time-consuming, the most desirable solution would be to create one point for entrepreneurs and popularize online registration. Such option is made available to a limited extent by 4 centers in Poland only: Warsaw, Poznań, Opole and Kraków. It is also important to standardize the Business Activity Register entry forms. The key principle of registration procedure should consist in simplifying the forms as much as possible, avoiding replication of the same information in documents submitted to different institutions, and establishing a closer collaboration between these institutions in order to minimize the time of registration.

2.2. Finish case

Actually, in Finland there are about 140.000 self-employed persons. The preconditions for entrepreneurship are estimated favorable. The number has been on the increase since 1995. Still, the number of enterprises per capita is lower in Finland than in other countries with a very important entrepreneurial activity. The number has increased most in real estate and

³ An accelerated growth of enterprising, including self-employment, occurred particularly during the years of the so called "government and economic transformation", i.e. after 1989.

⁴ Tokaj-Krzewicka A. Sołnierski A. (Edit.), "Raport on condition of SME's sector In 2002-2003". Warsaw, PARP, 2004. The report is a part of a bigger study from a research project commissioned by Polish Agency for Enterprise Development and conducted in October 2003.

business services, social and health care services and in other personal services.

The variety of enterprise needs in the different stages of its life cycle is usually taken into account in the measures undertaken by the Finnish public administration to support entrepreneurship. The public administration and various organizations in different sectors of industry provide support and advisory services for those considering starting up their own business. There is hardly any support, actions, or services tailor-made for one-person-companies. They are all more or less addressed to all small and medium enterprises (SMEs)

The available *public business advisory services* are targeted to all firms but particularly SMEs. The usage rate of business advisory services among certain customer segments such as individuals with low level of vocational training, firms operating in the service sector and firms having difficulties to cope is low and these groups need to be stimulated by the public business advisory service schemes.

In Finland there are ten steps that one has to take to become self-employed. There are only two forms to be filled in Finland, so the bureaucracy is quite minimal and most of the services are also free of charge. So, in Finland it is very easy to start a business, being easy to gather information on the actions and the bureaucracy. The different forms and other information can be accessed easily through the Internet or via the different support service providers.

2.3. Austrian case

In Austria there are more than 400.000 persons involved in the self-employment area, about 50% working in the field of services, 30% in agriculture and the rest in the field of production. Also, more than 50 % of persons in self-employment are one-person-companies without employees. The support services in Austria are designed for growing foundations that create additional jobs while the fact that a self-employed person has already created a job for its founder seems to be neglected in many statements related to labor market policy.

Self-employed persons in Austria could be classified as follows:

- a) one-person-companies that enter into the labor market as first economic experience
- b) self-employed persons with certain professional experience and motivated to a foundation due to unemployment
- c) founders who wish directly to change from employees into self-employment.
- d) freelancers that do not assign to classical professions like lawyers, architects etc.

Becoming self-employed in Austria seems to be the easier the more one is related to the Austrian Chamber of Commerce (one-person-company with a trading license) or to other professional chambers (first and third groups mentioned above). Even if there are less steps for persons in "new self-employment", information and counseling is broadly missing in Austria, especially in the field of new professions. Nevertheless the overall effort to be registered as a one-person-company can be regarded as quite easily comprehensible.

2.4. Romanian case

In Romania, self-employment is at the same time one of the oldest forms of labor and a very modern one. Its existence is connected to well-established sectors like agriculture, as well as to newly developing high-tech sectors involving information and communication technologies and tele-work. It includes established occupational forms like the sole trader and the independent professional, as well as new occupations that arise from the use of new

technologies and the growing flexibility of labor forms and contracts. The self-employed can view themselves as entrepreneurs, as workers bearing a heavy load of economical and social risks, or as something in-between. The self-employed are an increasingly diverse and heterogeneous group, who cannot easily be brought under one definition.

So, under self-employment, two types of unincorporated agents, without legal personality, are grouped: on the one hand, so-called own-account workers, and, on the other hand, family associations and other small-scale unincorporated businesses. The common feature of these entities is that their capital is not distinguished from the personal assets of their owners, therefore the income they draw from operations is included in the gross operating surplus (GOS) of the household sector.

From the economic point of view, there are also two types of individual or family businesses from which the GOS of households takes its source: one is rural and agricultural, the other is urban and mainly geared on services. The most numerous and also the most traditional ones are family agricultural farms, which may be of a very small size (like from less than one hectare to two or three hectares) and appear as the "heritage" of what the communist system was always obliged to let to rural households so that these may get their foodstuff. These farms are mainly oriented towards the self-consumption of their owners.

In Romania, the introduction of one stop shop, both in Trade Register for companies and for authorized individuals and family associations in Town Halls simplified the procedure for registering a business.

2.5. Intermediate conclusions

In the tables below we try to present the main conclusions concerning:

- the one-person companies main field of work (figure 1)
- the place of work for self-employment persons (figure 2)
- the main advantages of being self-employed (figure 3)
- the main obstacles for self-employed persons (figure 4)

figure 1.

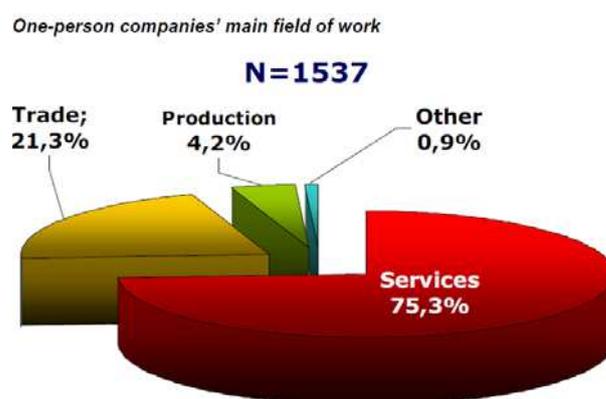


Figure 2. Self-employed persons participating in the survey are more active in services sector than trade. They address both private persons and institutional clients.

Place of work

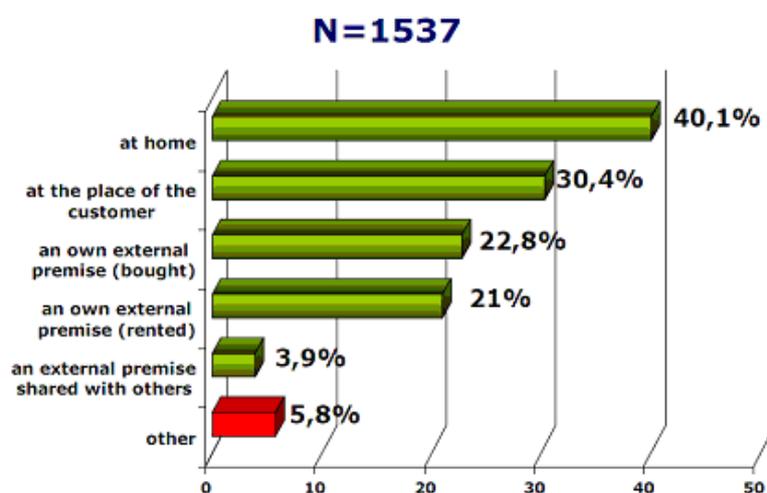


Figure 3.

e 12. Main advantages of being self-employed

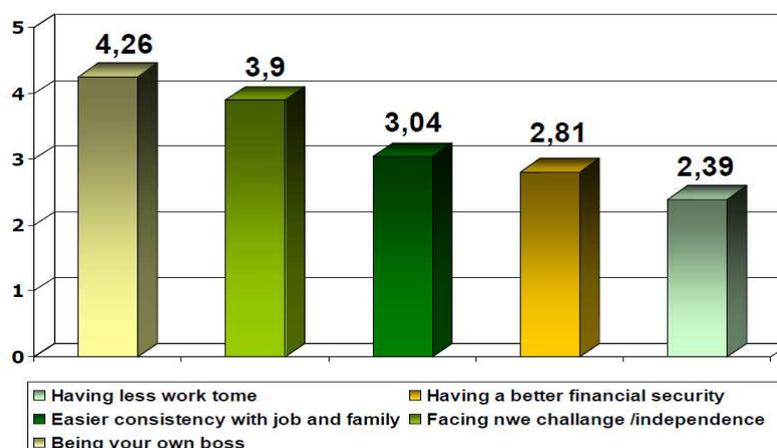
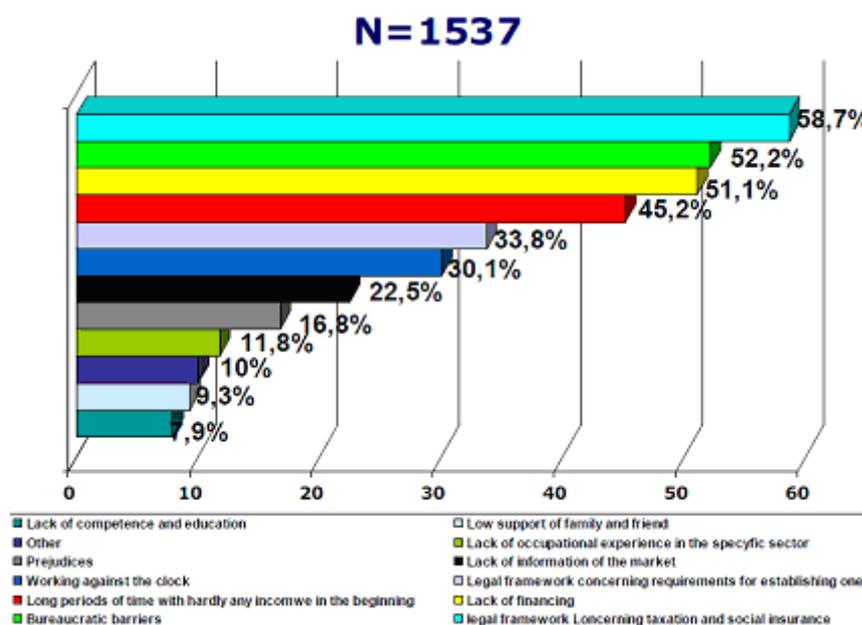


Figure 4. The greatest advantages of being self-employed are considered to be: being one's own boss followed by facing new challenges.

Main obstacles for self-employed



The main obstacles for being self-employed are considered to be: legal framework, bureaucratic barriers and lack of financing, all these answers registering over 50% answers, and they were close followed by long periods with hardly any income in the beginning with 45.2%.

3. Support services received by the self-employed persons in related countries

Enhancing support measures for one-person-companies are the main concern of the EU project "Self-Employment" under which a survey has been conducted. We can provide detailed information about experiences self-employed persons have made with institutions offering training and counseling. The information gained also demonstrates demands in advancing existing forms of support for one-person-companies.

3.1. Self-employed perceptions on institutions

When planning to start their business, 35.8% of the respondents were not interested in finding information regarding support measures available, more than half (51.4%) looked for information superficially. Only 12.3% searched extensively information on training and guidance for self-employment. This can be seen as a significant potential of such institutions for building up more awareness on the side of their target groups. As only 12.3% of self-employed interviewed is informed very actively, it can be supposed that knowledge about available institutions and the range of their support services can be broadened even by the most known institutions in this field.

In Austria, there are only three institutions known for dealing with self-employment. Two are leading institutions: Wirtschaftskammer /Economic Chamber - mentioned by 42.1% of the respondents, and WIFI / Training centre of the chamber, with 37%. Both have a common information policy. The third best known institution, mentioned by 13.4% of the respondents, is the Labor Market Service / AMS of the Austrian state. There is a variety of services available, nevertheless none of them is known by at least every tenth one-person-company asked in the survey.

Polish persons who did search for the above mentioned information most frequently inquired at the Employment Office (66.3%), the Town/City Hall (or administration of the commune or district) (25%), and Enterprise Development Agencies/Centers/Incubators (including Polish Agency for Enterprise Development) (15.4%). The Romanian interviewees addressed the following institutions: County Employment Agencies (50.3%), Town Hall (13.7%), Chamber of Commerce (20%), but also some non-profit foundations and associations (usually the last category of organizations implement various projects, as beneficiary of non refundable financing).

In Poland 82.5%, in Finland 67.8%, in Austria 56% and Romania 26.3% (but an additionally 29% did not answer the question) of the respondents said they did not use services such as guidance, training, financial support.

3.2. Type of support - measures available

The self-employed who availed themselves of guidance and training services were usually treated adequately to their situation: as a one-person company and were given appropriate assistance. This answer was given by 71.4% respondents in Au, 84.5% in Finland, 88.6% in Poland and 89% in Romania. Nevertheless, about one in 15 respondents in this group was treated as an owner of a company with employees, which means that he was given completely irrelevant information.

The interviewees who made use of training/courses aimed at preparing for becoming self-employed (N=298, about 20% of total respondents) were also asked to evaluate the knowledge they obtained during the course (or courses) concerning the management of a one-person company. A half of the respondents (50.7%) deemed it to be very useful.

The respondents who attended counseling sessions for self-employment (N=335, about 22% of total respondents) were asked to evaluate the usefulness of these sessions. A little bit over half of respondents (55.5%) considered counseling to be very useful. ((see Figure 5)

Respondent's assessment on availability of support measures

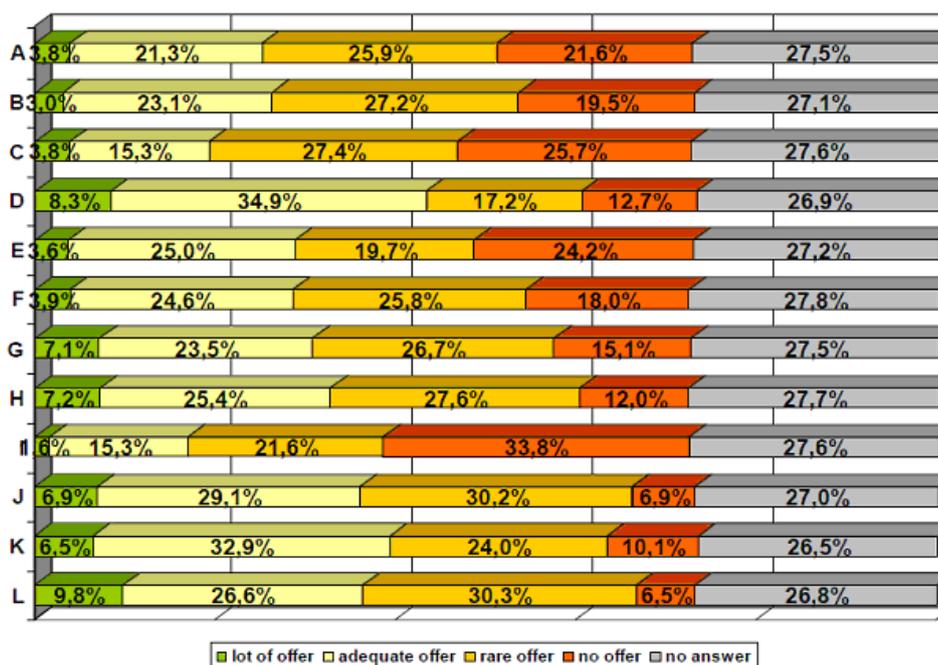


Figure 5

Where:

A	Financial planning, getting loans or public financial support
B	Book-keeping and taxes
C	Laws/regulations
D	Dealing with risk, failures, isolation in decision making, feeling alone with all problems
E	Social insurance
F	Marketing, PR, advertising
G	Selling, negotiations (talking to customers, suppliers, cooperation partners)
H	Self-organisation/time-management
I	Business plan
J	Networking
K	Entrepreneurial acting & thinking
L	Set up of a computer (hardware, software, maintenance)

Out of the respondents who chose to use the available support services for self-employed, only 46.5% attended courses. Or if we put it in other words, out of the 1537 people answering the survey in all four countries only about 20% actually attended trainings. (See Table 1)

Table 1. Self-employed assessment of support measures received

Subject	A	FI	PL	RO
Book-keeping and taxes	67.1%	86.0%	34.1%	17.9%
Laws/regulations	40.8%	66.0%	45.5%	50.0%
Financial planning, getting loans or public financial support	48.7%	66.0%	47.7%	19.2%
Selling, negotiations (talking to customers, suppliers, cooperation partners)	56.6%	70.0%	38.6%	10.3%
Business plan	43.4%	66.0%	45.5%	20.5%
Marketing, PR, advertising	63.2%	70.0%	29.5%	10.3%
Social insurance	32.9%	60.0%	40.9%	21.8%
Self-organisation/time-management	50.0%	66.0%	18.2%	-
Dealing with risk, failures, isolation in decision making, feeling alone with all problems	18.4%	56.0%	34.1%	20.5%
Entrepreneurial acting & thinking	22.4%	66.0%	34.1%	1.3%
Networking	32.9%	56.0%	34.1%	-
Set up of a computer (hardware, software, maintenance)	31.6%	30.0%	34.1%	-
Others and no answers	15.6%	-	13.7%	21.8%

Less than half of the respondents took advantage of the support measures available for self-employment. The most common reason indicated is that the support available was not tailored for their needs. They rather preferred to use self-study or to be helped by their friends.

4. Carrier-counselor training in related countries

4.1. General situation in the field

The general definition of a carrier advisor describes him as a person that advises either young or mature people on the choice of appropriate carrier, education profile or any extra vocational training. Carrier advisor, together with his client discuss about client's education, any finished vocational trainings, professional experience, interests, skills, personal features and physical abilities. For the clients, the advisor can suggest specific employers, provide help with creating application documents or help to prepare for job interviews. Carrier advisors, when necessary, can test for skills and abilities of the client

Persons that are carrier advisors need to possess certain knowledge and know the models of vocational counseling – the processes of change, levels of carrier building, carrier cycles, elements of carrier planning, main organizations and institutions involved in carrier advising and public resources.

The question arises how a carrier advisor should be treated – as an expert or as a person that helps to make the right decision. In order to have the possibility to help his client to choose the right carrier path, the carrier advisor should present educational background connected to psychology and pedagogy. Apart from personality, skills and predisposition tests, a carrier advisor should be able to deduct carrier development for a given person. The advisor should

possess also the skills that allow him to correlate certain facts and be able to build up trust in his client in order to prevent the client from hiding his true personality. Nevertheless, his knowledge should not be limited to knowing the institutions that could offer specific aid; the advisor should know what kind of aid is available, who is eligible, how much can be gained, and most importantly, what conditions need to be fulfilled when applying for such form of aid. The advisor should carry the responsibility to fill in the forms and applications. The knowledge about such responsibilities could be acquired by taking part in different trainings or exchanging experience with other carrier advisors. There should be expert advisors in tax, finance, law etc. counseling.

It is important to notice that the path of becoming a carrier advisor is considerably difficult in Europe. Despite numerous available courses, vocational trainings or studies (very often with tuition fees) the level of education in this field still requires elevation of standards and introduction of new elements. Such situation cannot be carried over all the countries; however with a high level of labor mobility carrier advising becomes a universal profession that is not limited to one country. The advisor should also be able to provide services not only to a person from his own country, but also to all foreigners that would like to establish a business in given country.

The knowledge and quality of service of future carrier advisor does not depend only on the availability of various courses of studies, but also on other factors, most importantly on the teaching personnel. In reality the most important factor for a professional carrier advisor is his experience. Experience allows the advisor not only to develop his personal background, but also to have a more practical approach of the problem. Career advisor can estimate the predisposition of the future entrepreneur not only basing on tests, but mainly through direct contacts with the client.

That is why it is important to develop, support and promote carrier advisors' networks. Apart from exchanging experience, the advisors will have the ability to get up to date with carrier advising within the country or even Europe wide. Being a part of the network is also a good opportunity for the advisor to develop own skills. By means of Internet forums there is a possibility to rapidly exchange experience and supplement information. Implementing such solution would not only be beneficial for the advisors, which would have the opportunity of becoming more professional, but also, and mainly, for the future entrepreneurs.

4.2. Romanian system in the field of information, guidance and counseling services

The Romanian model of information, guidance and counseling services is composed of many networks, centers and services under the supervision of several Ministries (The Ministry of Education -MoE-, the Ministry of Labor – MoL -the National Agency for Supporting Youth Initiatives). The three state institutions above-mentioned have their own network of counseling services (educational / vocational). All of these institutions are funded by the state budget.

Other institutions or organizations involved in this process are:

- ✚ **EUROGUIDANCE ROMANIA** - *The National Resources Centre for Vocational Guidance* exists as part of a Leonardo da Vinci program. It acts like a resource centre that collects information regarding education and vocational training and it is disseminating it in the national network of guidance and other similar centers from Europe.
- ✚ **Consulting Departments for Choosing Professional Route and for Placement in the Labor Market** - were set up in 1998 within higher education institutions. The main goal of these departments is to offer information about the existent curriculum and study programs and also to offer support for the undergraduates in their contact with the labor market.
- ✚ **Employment National Agency** - was established to contribute at decreasing the

unemployment rate and to improve the impact that market economy have on the population. The specialized network of Information and Counseling Centers performs different kinds of guidance services such as: advice, jobclub, consulting for self-employment, information giving about training and retraining programs to unemployed adults. It must be mentioned that besides these guidance activities, the Agencies develop some other programs, of professional training, mediating between potential employees and unemployed people, facilitating the access to the existent jobs through professional good quality information; counseling and vocational guidance for the unemployed people.

- ✚ **Information and Guidance Centers** - are structures of the National Agency for Occupation and Vocational Training and of the Youth & Sports County Departments. Their goal is to provide information about the local and the wider labor market and potential educational routes but also to offer support in (self)assessment for the youngsters.
- ✚ **Resource and Psycho-Pedagogical Assistance Centers (CRAE)** - is an unit for the public undergraduate education, coordinated by the school inspectorates residing in all counties. CRAE's mission is to coordinate the specific educational services offered to pupils, teachers, parents and community members in order to assure the access for all to education and psycho-pedagogical assistance.
- ✚ **Centers for Psycho-Pedagogical Assistance** - are structures under the school inspectorates and / or the Teaching Authorities in each county, including Bucharest. Its activities consist of coordinating the Offices of Psycho-Pedagogical Assistance from schools in their territories and mediating between them and other educational and vocational guidance institutions.
- ✚ **Centers for Educational Resources and Inclusive Education** - a newly created structure to integrate the Psycho-pedagogical Assistance Centers, the Speech Centers, and the Centers for Inclusive Education at the county level.

Long-term university studies in psychology, pedagogy, sociology and social work are required for all categories of information, guidance and counseling staff. In most cases graduate studies are followed by training / preparation / specialization courses through Master level or other specialized courses organized by universities or within various programs and there are graduates from other specializations, taking a Master's degree in Counseling and Guidance aspiring to obtain a counselor position.

Entry into the career guidance field in the education sector, where requirements tend to be more clearly stipulated, is often accomplished on the basis of what the authorities consider to be a relevant degree, together with experience in the schools. Some in-service courses are generally offered.

The majority of the staff employed by the specialized institutions of the MoE network providing information, guidance and counseling services in the education field are psychologists, pedagogues, sociologists and social workers. They are employed in positions such as teacher-psychologist/pedagogue/sociologist. Their basic training is ensured by courses offered by the Faculty of Psychology and Educational Sciences and the Faculty of Sociology and Social Work. Many graduates followed postgraduate training modules (Advanced Studies or Master Degrees) specializing in counseling and guidance, psychotherapy, management and school administration. Attending post-graduate courses is not a prerequisite of obtaining a counselor position in pre-university education.

The specialists in the MoL network offering information, guidance and counseling services for placement are people with a higher education background: sociologists, legal experts, economists, engineers, but also psychologists, pedagogues and social workers. Some of them attended the Public Policy Master courses within the Career Information and Guidance project and specialized in Career Counseling. Nevertheless, one of the main problems confronted by

decision makers regarding information, guidance and counseling policies is the lack of adequate pre-service training in counseling and guidance in Romanian universities. In Romanian universities there are no faculties / departments for training / specialization in counseling and guidance. The students from psychology and educational sciences, sociology and social work faculties attend counseling and guidance training modules. The faculties decide on the content of initial training modules in counseling and guidance offered to students in psychology and educational sciences, sociology and social work etc. Based on the university autonomy principle, each faculty decides on what curricula it will offer, however taking into account: the analysis of services required from practitioner counselors, employers' requirements, suggestions from experts in the field, the experience of other countries, requests from professional or employers' associations.

A *Master degree in Counseling and Guidance* is offered at the University of Bucharest, Faculty of Psychology and Educational Sciences, starting with university year 1996-1997. In the university years 1999-2001 and 2000-2002 a *Master degree in Public Policies and Public Administration* was offered at the University of Bucharest, Faculty of Philosophy, with about 900 graduates majoring in *Information and Career Counseling* (project co-funded by the Romanian Government and the World Bank). Since 1999 a *Master degree in Psychological Counseling* has also been offered at the Babes-Bolyai University in Cluj, Faculty of Psychology and Educational Sciences. A PhD. or Master degree in Counseling and Guidance or special continuous education courses organized by educational institutions accredited by the ministries or professional associations in the field -such as the Psychologists' Association or the National Centre for Secondary Teachers Training (NCSTT) -are also assets helping career promotion or access to a management position.

5. Conclusions

All of the four countries have the strength that the support services are available in the whole countries. The services are also low cost or even free of charge. A common strength is also that there are many types of services available. The Finnish case also has the strength that nearly all information, forms and contact information on the support services for self-employment can be accessed through the Internet; there is less bureaucracy and the access to the services is better. The Internet access becoming more common is other countries, too. In Austria there is a high survival rate of start-up-companies compared to the EU average.

There are also many common weaknesses in the partner countries. One problem is that the image of one-person-companies is not so high-profile; there are barriers in society concerning the image of one-person-companies. One weakness is that financial know how, management & risk taking knowledge and other know-how is lacking from many entrepreneurs. So, the usage of support services should be higher also after the start-up phase of the company. There are also threats. For example, the lack of mental supports the new entrepreneurs for coping with the critical start-up phase is a threat. In Poland there is a low survival rate of one-person companies. In Austria, there is missing awareness for taking into account the situation of one-person-companies in the immigrant population. In Finland there is increase of public support services costs. And in Romania there is poor sustainability of business support centers after the financing from the donors ceased.

The professional development of a carrier advisor is strongly determined by the place in which the advisor lives, educates and works. Nevertheless, no matter in which country people becoming carrier advisors were educated as psychologists, pedagogues, sociologists and correlated studies. Moreover, they can increase the qualifications by taking part in various courses, studies or vocational trainings. In the course of learning, carrier advisors have a possibility of broadening their knowledge about labor market, basics of economy, organization of work, carrier counseling (both for students and older people), business plan writing etc. In the countries taking part in „Self-employment” project the level of career advising varies. It is

important to notice that the path of becoming a career advisor is considerably difficult. Despite numerous available courses, vocational trainings or studies (very often with tuition fees) the level of education in this field must be improved. Such situation cannot be carried over all the countries; however with a high level of labor mobility career advising becomes a universal profession that is not limited to one country.

The knowledge and quality of service of future career advisor does not depend only on the availability of various courses of studies, but also on other factors, most importantly on the teaching personnel. In reality the most important factor for a professional carrier advisor is his/her experience. It is experience that allows the advisor to conclude, analyze situations, and correlate them to analogical events. Experience allows the advisor to base not only on theoretical knowledge, but to approach the problem from the practical point of view, an outstanding person, that can solve the problem with empathy, providing the most professional advice at the same time. Career advisor can estimate the predisposition of the future entrepreneur not only basing on tests, but mainly through direct contact with the client. In such way the advisor gets to know the true goals, abilities, strong and weak points of the entrepreneur. A professional advisor will not be afraid to tell the client that he/she shows no skills to be an entrepreneur, but at the same time the advisor will show a suitable alternative.

That is why it is important to develop, support and promote career advisors' networks. Apart from exchanging experience, the advisors will have the ability to get up to date with career advising within the country or even Europe wide. Being a part of the network is also a good opportunity for the advisor to develop own skills. By means of Internet forums there is a possibility to rapidly exchange experience and supplement information. Implementing such solution would not only be beneficial for the advisors, which would have the opportunity of becoming more professional, but also, and mainly, for the future entrepreneurs.

References

1. *Review of Career Guidance Policies in 11 Acceding and Candidate Countries Synthesis Report, July 2003, European Training Foundation, Prepared by: Professor Ronald G. Sultana – Director, Euro-Mediterranean Centre for Educational Research, University of Malta Guidance Review Coordinator: Helmut Zelloth – Country Manager for Poland, Estonia and Latvia, European Training Foundation (ETF);*
2. *Neculita M., Mazilescu V., Sarpe D., The Trade Liberalization in Romanian Economy, World Multiconference on Applied Economics, Business and Development (AEBD '09), Date: JUL 01, 2009 Tenerife SPAIN Source: AEBD '09: Proceedings of the World Multiconference on Applied Economics, Business and Development, pp.147-152;*
3. *Public Policies and Career Development: A Framework for the Design of Career Information, Guidance and Counseling Services in Developing Countries COUNTRY REPORT ON ROMANIA -World Bank, Daniela Pasnicu, Local Consultant And David H. Fretwell, Lead Employment and Training Specialist Public Policy in Career Guidance Project Manager Europe and Central Asia Region, Human Development Sector Unit;*
4. *Evolutie și perspective în consilierea cariere - Ștefan Dajiu, CAE Galati;*
5. *Education Law no. 84 / 1995, modified by Emergency Governmental Ordinance no. 36 /1997 and by Law no. 15 / 1999);*
6. *Law no. 76 / January 16, 2002, Official Gazette no. 103/2002*
7. *MEVOC – Quality manual for educational and vocational counseling http://www.mevoc.net/PO/htm/proj_info.htm*
8. *European portal for SMEs http://ec.europa.eu/enterprise/sme/support_en.htm#*
9. *Career counseling Services http://www.career-counselling-services.co.uk/what_frame.htm*
10. *The European Guidance Counselor: Integrated Networks for the dissemination of tools, training pathways and methodologies http://www.ergoinnet.net/doc/kit2_pl.pdf http://www.ergoinnet.net/doc/kit_networking_pl.pdf*
11. *Expectations on self-employment – Summary report on needs investigation D3.4 deliverable – LdV project Guidance and Counseling for Self-employment (2007)*
12. *Desk study report on: National curricula for career counselors – comparative report LdV project Guidance and Counseling for Self-employment (2007)*

E-Management of e-Archive

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Abstract

The learning process at organizational level, of memorizing a continuous process that supposes a permanent monitoring of the environment, perceiving certain received "signals", interpreting those for identifying the significance, adopting a certain action, based on the interpretation of the current situation and on the experience. Document management is an area whose potential was not yet fully exploited. The design and the implementation of the management system and of the e- archiving of documents in a company or institution is a complex activity that consumes financial resources.

Keywords: learning process at organizational, learning process at organizational, document management, e- archiving of documents, financial resources

JEL Code: M15, M21, P00

1. Introduction

An organization that has a long enough history, also gets to have a memory; a memory in which should be deposited the more valuable accumulations of it. The concept of organization based on knowledge has its origins in the years 1984-1988 and has been through a couple of successive phases of crystallization. The informational acquirements represent an asset of which should profit all the new members of the organization. As we consider that the organizations have the capacity to acquire, interpret and process information, we can refer to the notion of "organizational memory" in order to understand their behavior and, particularly, their learning mechanisms.

The memory is the result of experience acquired by organizations as a result of the interactions with the environment to which they belong and it is expressed formally (in documents, procedures) and informally (ideas, beliefs). The notion of organizational memory is at the confluence of several fields of analysis – psychology (the theories of individual learning, social and cognitive psychology) and other themes that try to individualize themselves by using innovation theories, theories for taking decisions and organizational changes.

Individuals in a business usually do not work entirely alone, but instead in teams, committees, departments, and other types of workgroups. To collaborate on common tasks, workgroup members can have meetings, talk on the telephone, send faxes, and distribute memos. Group members can also use workgroup information systems to help them collaborate. This type of system is also called a group support system because it supports the work of people in a group. Then we examine the characteristics of group collaboration and describe common workgroup

applications and the software used for these applications, and finally we discuss about office automation and the virtual work environment.

The notion of memory is connected with learning and an inactive brain is losing this capacity. The cure is simple you should never stop learning, training your memory, stimulating your brain, thus the memory. For organizations, having a foundation in knowledge means achieving full maturity, corresponding to the informational society to which they belong.

2. Management of documents

The importance of efficiently managing information and knowledge at the level of the organization is an axiom of the contemporary world. In the new knowledge society, subjects like management of knowledge, memory and organizational learning of an intelligent enterprise, are widely regarded and discussed extensively in the scientific world, but also in the organizational practice. Information and implicitly knowledge is unanimously regarded as the most valuable resource, susceptible to create a competition advantage or, wider than that, to ensure the survival of a company. Governments establish long-term strategies for the informational society. In Romania, the process of adapting the management solutions to the documents is being extended. 18% of the large companies already use this type of applications. It is little, compared to the European Union, where the percent is 35%, but it is important that there is an openness to change, the fact that the Romanian managers have become aware of the importance of adopting management solutions for the documents and projects.

The question is do these information provided by IT more and more sophisticated correspond to the real needs of information of the managers? What is effectively their value, in a certain decisional context? How are they used and taken advantage of? In reality, many organizations that have invested hugely in IT are still in a stage of transition to the stage of intelligent organization. The different between expectations and the results have often led to an underestimation of the concepts (knowledge management or organizational learning seem to be purely theoretical concepts, without any practical use). The computer is not leading a business; it only offers information and sometimes it processes knowledge. What is the receipt for success? What ingredients have to be added, beside the performing systems, what mixes have to be made and in what proportions? What are the coordinates of the intelligent organization?

The studies performed by the American company Delphy Consulting shows that „specialists loose more than 500 hours per year looking for documents, documents that we find duplicated, on average, 8-9 times in a network”. We have to take into account of the degree of informatization of the American companies, of their openness to the informatics solutions and even then, there are problems regarding the management of time and of documents. These situations appear in any company when people are searching contract signed with one of the partners or when people search information regarding the projects that have been completed in the previous years or when are needed the requests for offers sent when it is done an analysis of the offers received from partners. In most cases, there is the pressure of time, either when the information is needed for an internal analysis or to answer a business partner or to make a new business. These situations are because each employee has different structures for organizing the documents, classifying documents being done on different criteria and there is no history of the archived documents in order to facilitate further search. This leads to a fragmentation of the activities of the persons involved, an inefficient allocation of the human resources and of time for searching the documents and delays in accomplishing the delegated activities.

Document management is an area whose potential was not yet fully exploited. Even though documents are the support for any transaction, either internal or in a relationship with other companies, we are still faithful to the physical format of the document. The price of this fidelity is the additional allocation of resources without contributing to an increase of the personnel productivity. The volume of documents increases as the activity grows and the time and work required for their identification increases proportionally.

Searching a document in the classical archive, among hundreds of other documents is now achieved electronically through criteria of search and the task is ready in a few seconds. Electronic search implies immediate localization and visualization of the documents or identification of the location for the situation when the document is in the classical archive. In order to not search the documents in several locations, a solution is grouping them in a single point. It is easier to monitor the activity and to find in time all the information that we need.

The stages of a rapid identification of documents are:

- ✚ each employee will use the same categories and subcategories for organizing documents. For documents that exist in the classical archive there will be records for the name of the documents, the type, the summary and the exact location
- ✚ digital format documents will be structured on categories and stored in the electronic archive
- ✚ each document will contain „identification elements” as: type of documents (request, request of offer, offer, decision, notes, reception note, and protocol) date or period, the document emitter, etc.

Organizing and storing information is the process that probably evolved the most through IT, especially the databases technology. New technologies – of which it is enough to mention data warehousing – allow storing impressive volume of data and information under completely different perspective compared to the transactional ones. There is also the possibility of storing knowledge, of human expertise in knowledge bases that can be used for obtaining new knowledge.

Under the current conditions it is invested a lot in informational technologies, the integration of the informatics systems gets to unprecedented levels, there are new professions; the dynamics of this field is in continuous increase and seems unstoppable. The process is in evolution and knows a real development due to Romania's integration in EU, when the companies have to adopt European standards for quality. If in this moment it is a reality that the majority of the Romanian companies use databases and archives in the form of paper files, it is natural that in the near future these will be send to electronic support, in structured databases.

3. E-management and organizational culture

E-Science promises to open the door to new business models that will improve the effectiveness and competitiveness. The term e-management describes the applications that will arise from out of the intersection of Management and e-Science. The strategic advantages to be derived from the intersection of management and e-Science including: reducing transaction and overhead costs; strengthening customer relationships; streamlining supply chains, enhancing organizational efficiency and the formation of effective alliances, including the sharing and accessing of information.

The organizational culture should not be seen through the prism of the classical procedures or objectives and of the principles condensed in mission and values. Only those organizations that have a dynamic and interactive system of conserving information and accumulated experience

have a strong organizational culture that is the organizations in which the access to information is easy and obvious. The organizational memory has the role of storing, organizing, disseminating and using knowledge accumulated by the members of the organization, but unfortunately the ideas that these have regarding the current problems is often an unused treasure.

Some good ideas are lost because there is no system of storing them, and people don't usually think that an observation regarding the way in which an activity is performed can represent a solution to a problem that someone else is striving to solve. From this perspective, the organizational memory does not represent merely a file, an archive, but it is a system that survives its creators and, in the same time, a system that not only facilitates, but ensures the sharing of experience, knowledge and innovation among all the members of the organization. The organizational memory receives new formative values, beside the immediate conditions of history and storage for the past.

There is a risk associated with using the organizational memory in the process of adopting decisions: strictly speaking, learning supposes identical repetition of problems, situations with which an organization is confronted at a certain moment. If this condition is not entirely fulfilled, choosing a "routine" solution stored in the memory instead of adopting a new solution can lead to a no favorable result. That's why adopting familiar schemes, routine procedures are simple, easy, but the risk of using inadequately the stored information is quite high. In the same time, there should be taken into account that the effective "content" of the organizational memory – the degree in which we find these knowledge's and the "informal" relationships.

It is a real fact that in a greater or lesser degree, any organization has its own routine system of recording formal knowledge that it archives systematically, while the informal aspect is often lost by the collective memory. The knowledge and the informal relationships (which mean, ideas, questions, intuitions, points of view, etc) are the basis of the formal knowledge. Even though they are harder to quantify and represent, they are a valuable aspect of any organization; a coherent system of archiving ideas and in parallel an efficient system of classifying and organizing them in order to allow the accumulation in time of a considerable number of valuable ideas. Only an organizational culture in which storing ideas is encouraged can optimize performance.

The learning process at organizational level is a continuous process that supposes a permanent monitoring of the environment, perceiving certain received "signals", interpreting those for identifying the significance, adopting a certain action, based on the interpretation of the current situation and on the past experience. Actually the experience is used not only in the actual process of adopting a certain decision, but also for interpreting the decisional context. As a consequence, the learning process at organizational level is tightly conditioned by the processes of collecting information, and interpreting it, of diffusing them inside the organization and of course of conserving them.

4. Organizational memory and e-archive

The greatest part of organizations form a priori in the form of procedures, a systematic archive for recording their activities in the form of reports. The files that contain information and data related to clients, providers, employees, transactions etc represent an important element of the organizational memory. These collective archives can be considered a memory of the organization's reactions to various external stimuli.

Individuals conserve their own observations, their own experience in the organization. The individual memory contains "raw" facts (events and the results of the adopted decisions), and particular representations (reference schemes, interpretation models). People frequently build personal archives which can be considered auxiliary memories.

Knowledge capitalization is becoming a strategy game for companies. A possible approach for Knowledge Management inside an organization could be the construction of an organizational memory. The Information and Communication Technologies (ICT) are offering the infrastructure and the tools in order to materialize this memory in a diversity of forms: a database, a documentary base, a knowledge base, a case base or a groupware.

The electronic archiving is the process of securitized storing of the result of a conversion, in general on a read only storing media, while offering access to finding through searches of certain content or in the index fields of the associated documents.

The design and the implementation of the management system and of the electronic archiving of documents in a company or institution is a complex activity. That consumes financial resources, especially when it comes to buying computer hardware, but the efforts are rewarded through the efficiency of the access to information and by the elimination of the dead times in the circuit of documents.

The electronic archiving of documents can be seen as a component of a system of managing documents, but can also be an activity by itself, especially in the public institutions that have impressive archives in terms of volume and value of the content.

Data and information existing in archives are under the most diverse forms, as are paper, electronic files, audio recordings, video clips. Taking over of these archives in a system of automatic processing of data supposes scanning/ importing, indexing, storing them on memory supports of big capacity, which are characterized by a great reliability and finding them after certain criteria.

The analysis of a system of electronic archiving of documents has to start from the perspective of a document management system in which the first has to integrate itself. Thus, the electronic archive has to be capable of taking over the final documents (approved and exploited) together with the adjacent data and information (about the circulation of the document, resolutions) and to organize itself so that the access to the document to be fast and easy. Nevertheless, it should allow archiving of documents on paper or microfilm support and indexing them so that it will be possible to interrogate them in the future and use them as probes in justice.

Because the greatest part of documents appears in the context of solving certain problems or with the goal of achieving certain objective, it is recommendable to group the documents in function of the solved problem or of the followed objective. From these points of view, it is recommended to organize the documents in electronic directories. From the point of view of organizing data and information, the archive should be structured as follows:

- ✚ *the database*, which contains references to documents, classifications of documents, electronic files, the circulation of files.
- ✚ *data warehouse*, which represents the effective place where the documents are archived.

The relationship between a folder and a document is subject to the following rule: a document can be archived only in a single folder, and inside a folder, the document can only once. From the point of view of archiving, a document can be in one of the following states:

- ✚ in work (created, in progress, approved, exploited), specific to the system of routing the documents;
- ✚ temporary archived – the document has been included in a folder but the folder is still updated;
- ✚ definitively archived – the problematic of the folder is no more in use and the folder is archived together with the documents it contains. Usually, definitive archiving supposes that the folder enter the central archive of the organization.

The database of the archive contains information regarding the electronic folders that exist in the evidence of the branch/central office of the organization, the documents that it contains and the data about the disks on which can be found the definitive archives. The temporary warehouse is a structure of subdirectories in which are found electronic documents.

Archiving can be done for any electronic document that has been approved and exploited. The electronic folders are composed of electronic documents whose content treat the common subject or a common theme. This structuring of an archive permits a better further interrogation of the archived database.

Temporary archiving is composed by the set of folders that are still in use. The operation of temporary archiving refers to documents and has as effect the recording of the document in the same folder, allocating to it a current number, which will not be able to be allocated again in the folder.

Through the archiving science, any worker can open, transfer, cancel or definitively archive electronic folders. Opening a folder leads to adding a new record in the indexing of electronic folders and its appearance in the account of a user. Thus, only this user can archive documents inside the folder. When creating a folder it has to be allocated a registration number unique for the whole organization, so that it can circulate without creating confusions. The access to the folder will be allowed to the owner of the folder and his bosses.

Cancelling electronic folders has as effect the deletion of the documents it contains, but there is still recorded the fact that at a certain date and hour a folder has been cancelled, and it will remain in the indexing of electronic folders as „cancelled”. The definitive archiving of electronic folders represents the operation through which a folder can no longer be changed and can be migrated to memory supports that are resistant to intemperies and have an increased endurance. Unarchiving can be done, but it will be performed in exceptional cases.

The transfer of a folder can be done inside the same branch (when only the proprietary is changed) or in between branches (it is an operation that implies taking the file out of the source branch, sending it by email to the destination branch/central office and recording the folder in the evidence of the destination branch and in the account of the employee that becomes the new proprietary).

The database of the archive has to allow following the route of a folder and the operations performed on it over time. The electronic documents that are the content of a folder can exist in image format (TIF, JPG, and BMP) and that is why it is needed to apply the techniques of character recognition from imagines and create words from pseudo-documents needed during the indexing process. The search systems for documents will be a structured search, based on data and information from the database of the archive and from a search of keywords in a structured search, based on data and information from the database of the archive and from a search of keywords, a key role playing the indexing server used.

To every document archived in, electronic form is attached a file in electronic form that contains the following information:

- ✚ proprietary of the document (in electronic form);
- ✚ emitting of the document (in electronic form);
- ✚ owner of the right of disposition on the document;
- ✚ history of the document (in electronic form);
- ✚ type of the document (in electronic form);
- ✚ level of classification of the document (in electronic form);
- ✚ digital format in which the document is archived (in electronic form);
- ✚ key words necessary for the identification of the document (in electronic form);
- ✚ elements of localization on physical support;
- ✚ unique identification of the document in electronic form, in the electronic archive;
- ✚ date at which the document was emitted;
- ✚ date of archiving;
- ✚ how long the document will be stored.

In the case in which the document in electronic form is generated by transferring information from an analog support to a digital support this file will contain references to the proprietary of the original and the location in which the original can be found, the transfer method used, the hardware device and the program used for archiving.

The administrator of the electronic archive is required to record and keep the evidence of all documents in electronic form that have entered the electronic archive in a register. The access to the register of the electronic archive is public only for the documents that are proprietary of the right of disposition on the document have been established to be public. Reference to a document that is part of the classified documents, can be obtained depending on the rights of access of the applicant. The file that accompanies the document will be archived separately from the document and recorded in the electronic register of the electronic archive. In the case when the file refers to a classified document, the reference in the register will be encrypted.

The Law 135 from 2007 regarding to archiving documents in electronic format establishes the juridical framework for creation, conservation, consulting and using documents in electronic form that are archived or are going to be archived in an electronic archive.

According to this law, the electronic archive represents the system of electronic archiving, together with all the other documents archived in electronic format. The administrator of the electronic archive is a physical or juridical person certified by the authority for the regulation and special supervision entitled to administer the electronic system of archiving and the archived documents in an electronic archive. The archiving services provider can be a physical or juridical person certified to perform services connected to electronic archiving. The e-archiving system is an informatics system created for collecting, storing, organizing and filing the documents in electronic form in order to conserve, consult and retrieve them.

The administrator of the archive has the following obligations:

- ✚ to maintain the electronic archive;
- ✚ to create a backup electronic archive, which should contain all the documents in electronic form that are archived and that are updated permanently off-line;
- ✚ to use an homologated security system, which will guarantee integrity, security and confidentiality of the documents archived in electronic form;
- ✚ to ensure the access of any document in electronic format contained in the archive;
- ✚ to ensure the destruction of documents whose period of archiving has expired;
- ✚ to notify the regulating authorities specialized in this field, at least 60 days in advance, of the intention to stop the activity, with the exception of the cases of act of God. In this case,

the administrator of the electronic archive has the obligation to transfer the electronic archive to another provider of electronic archiving services, with the approval of the regulation authorities in the field.

The electronic archives are deposited in data centres that are subject to authorization, while respecting the norms regarding the insurance of:

- ✚ integrity and security of the documents in electronic format;
- ✚ security and integrity of the space occupied by the equipment that host the electronic archives;
- ✚ recovering information after natural disasters, according to the law.

The responsibility for establishing the access policy to a document in an electronic form belongs exclusively to the proprietary of the right of disposition over the document, and the responsibility for following the access policy to the document in electronic format, at archiving as well as when allowing the access to the document, belongs to the administrator of the electronic archive. The administrator will ensure, according to the law, the type of access, permanent or upon request, for each document in electronic form.

4. Conclusion

The most important role of organizational memory appears in the process of adopting new decisions, as a result of the *learning process*. The capacity of learning of an organization represents an essential attribute for evaluating the degree of “intelligence” of the organization. This capacity is embodied in the ability of the organization to create, acquire and disseminate knowledge that will influence its behaviors (the modes in which the organization will react to various external stimuli will be determined by the new knowledge that it can use). Inside the organization, the variety of possible answers to the current problems is increasing continuously and the most efficient solutions will be selected, in other words, the available knowledge inside the organization will be enriched continuously. An electronic archiving system of documents is a necessity in an organization due to the possibilities of interrogation that it offers and not least because of the reduced warehouse space compared to a manual archive. Taking over an automatic system of a manual archive is the hardest step to overcome (because it requires financial and human efforts) but once this step is accomplished, moving to a new archiving system will be done much easier.

References

1. Chartier E. (1996) *Le re-engineering du système d'information de l'entreprise*, Paris, Economica
2. Doole I. et al. (2005) *Understanding and Managing Customers* Edinburg Gate, Pearson Education Limited
3. Hakansson e (1999) *Total Relationship Marketing*, Oxford, Nutterworth-Heinemann
4. Mareş D., Mihai G., Mareş V.,(2005) - *Sisteme informatice financiar-bancare*, Editura Fundației România de Mâine, București
5. Mareş M. and Mareş V.(2008) *Documente și evidențe în format electronic* București, Editura Economică
6. Mareş D., Mareş V.(2006), - *The informatics systems and the mechanisms for management*, ASE București AMIS 2006.
7. Mihalache A. (2002) *Navi-gând-ind introducere în cibercultură*, București, Editura Economică
8. Reix R.,(1993) - *Informatique appliqué à la gestion*, Les Editions Fourcher, Paris.
9. Skinner C. (2008) *The future of finance after SEPA* John Wiley & Sons Ltd, England :276-278
10. Shaw M.(2002) - *E-business management: integration of Web technologies with business models*, Springer
11. Sul H. Lee (2005)- *Collection management and strategic access to digital resources: the new challenges for research libraries*, Haworth Press
11. Zaman G (2006)., *Transferul tehnologic și investițiile – priorități ale dezvoltării durabile*, Editura Expert-CIDE, București

Natural Risk in North-East Region

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Abstract

The paper presents some considerations regarding the natural risk and its impact on life and human activity. Climate change and changes in global economic system leads to a rethinking of the human relationship with nature. In the context of the current global economic crisis, and the natural environment crisis, decision makers - consumers/ companies/ state from Romanian society in general, of the North-East Region in particular, manage the natural risks, trying as much as possible to minimize their effects and spread in time and space. Based on information and communication, consumers and economic entities are considering, first, the prevention and the protection against natural risk, change behavior towards nature and social responsibility.

Keywords: natural risk, pure risk, naturally with anthropic determining risk, crisis of the natural environment, natural risk management

JEL Classification: O13, O18, Q21, Q51, Q53, R11

1. Introduction

Of the range of risks who operate, in one way or another, on the individual consumer and/ or on the company, are separates natural risks bounded, in turn, to:

- ✚ pure risks;
- ✚ natural risks with psycho - socio - economic and political determination.

Pure risks [Colson, (1995)] - based in nature are the worst in terms of consequences and the least frequent; are results from events accidental or fortuitous and dependent on environmental vulnerability in which are conducted various human activities, being for the most part, independent of decision. The natural risks with anthropic determination are directly generated by human activity and involvement: consequences are immediate but also, on long term, their produced costs being supported by the present generation and the consequences, by future generations; thru size, scale, proportion, space, natural risks with that determination may be major (most are by great space and low-frequency) or minor. Whatever be their determination, the production of natural risks involving serious consequences, with slow progression over time. Given the variety and the cost to achieve them, is more acutely felt need to develop solidarity worldwide, establishing and strengthening global awareness regarding more complex interrelationships between human activities.

2. Crisis of natural environment in the context of the global economic crisis

Thru complexity of the event, severity of consequences and force of propagation to the all levels of the global economic system, economic and financial crisis has moved, partial, from the sustainable human development focus to the economic development. Even if, the basic needs of the individual and the firm survival have become priorities in this period, this does not mean that the relationship with nature should not be constantly managed. The climate changes which are globally occurring in recent years have led and will continues to determine the focusing of interest to the quality of environment in which we live, like social and economical human beings. The intensive agriculture, industrialization, dynamic services sector in the last

century, all these, have influenced increasing energy needs, urbanization, rising incomes, in the developed world, causing and increase the need for water [Global Risk 2009, World Economic Forum, p.1-37]. Worldwide competition for land and water has intensified; 69% of water requirements for agriculture, 23% for industry and 8% for households is becoming more problematic in a world where the prevision indicates the increasing world population; the necessary fertile ground to ensure food is the subject of increasing investment in related infrastructure but also of international economic relations while, on the other hand, major agricultural areas decrease each year because of soil erosion, pollution, urbanization. Developed countries have already implemented the possibility of transport of water with pipeline, on long distances, in poor areas in this vital resource. Must be considered interconditionality of demand for energy with the water, noting that 50% of the costs associated with water production are energy related. According to OECD assessments, whether currently 2.8 mil.oameni (44% of world population) live in water scarce areas, in 2030 problem will be chronic, given that 3.9 million people (50% of the estimated the world) will suffer from water shortages.

The contemporary economic and financial crisis highlights the risks in the context of an overall system more complex and more interdependent and the need of proper management of its vulnerabilities. Identifying and assessing risks related to resources and climate changes must be in focus of the macroeconomic policy makers to take, optimal decisions for national economies; for example, the U.S. government seeks to achieve 1.3 thousand billion investment to replace obsolete infrastructure, related to energy and water production. This example will be followed by the countries 'rich' in population, such as China and India and beyond. The environmental risks which potential jeopardize human health and the planet, are under the evaluation report presented in the 2009 World Economic Forum the following:

- ✚ extreme weather changes - evolving towards higher severity regarding the human losses;
- ✚ the drought and the desertification - with signs of moderation in terms of risk size; they are offset, in terms of agricultural crops, by adapting to new conditions;
- ✚ losses freshwater - optimistic forecasts of severity manifested in human losses but high risk by severity and probability of occurrence;
- ✚ cyclones - with the trend of reduction of the severity manifested in human losses;
- ✚ earthquakes - with tendencies to reduce the severity manifested in human losses, due to improved building standards and the response mechanism to earthquake;
- ✚ flooding - maintaining the level of this risk against the background of global climate changes;
- ✚ the coastal flooding - new risk, included in 2009;
- ✚ air pollution - including in assessment in 2009;
- ✚ loss of biodiversity - including in assessment in 2009.

What must be understood is that, though the world economy is in recession, the environment crisis is no less important, quite the contrary. Moreover, the economic crisis and its effects will disappear in an infinite time horizon less than the environment crisis that, can not be solely stopped thru coordinated economic action, while, at their origin are random factors, independent of man. The impact, the costs of these two types of crisis are difficult to estimate, in view of propagation effects, in time and space. However, completion of the economic crisis and the recovery of national economic are certain elements, while, for a land affected by landslides or a polluted water source, the probability to restore in the natural environment circuit is very small.

3. Types of natural risk and their manifestation in Romania - North-East Region

In Romania, natural risks are manifested, in almost all types known, the last years, registering the natural disasters with the most dramatic consequences, both in terms of human and material. In most cases, their production are of anthropogenic origin. Natural pure risks have like origin, in large part, geo-morphological structure of our territory being known vulnerabilities to earthquakes and floods [Inspectorate of Civil Protection Bacau County,

"Disasters - Events caused by accident", May 7, 2005, p.1]. Like in the entire natural system, in our country have occurred, in last years, changes of geo-climatic conditions, leading to increased of probability of occurrence and of the intensity of the major risks. The vulnerability of our economy in face to natural disasters is determined, outside the global determinants, of: environmental degradation, local structures insufficiently prepared in disaster management, poverty, economic and environmental policies incoherent, inconsistencies to meet the new requirements. More than nationally, North-East Region, the poorest region in the European Union, faces with various environmental problems, some being conditioned by natural risks, but majority, being determined by economic, social, political, psychological factors.

Among the natural risks facing the NE region, the risk of flooding has produced in recent years, significant human losses and material damage [Report on the status of environmental factors in North-Eastern Region in 2008, p.5]. Frequency and severity of the consequences of this risk in this region of the country, made responsible, gradually, the managers in designing and operationalising management of the flood risk; in turn, the human community became more aware and more involved in actions to prevent risk or, if the risks turns from potential into real, minimizing, if possible, the immediate damage and long term effects. As shown in Table 1, we see large number of localities affected by floods - 267 out of 2966 of the region (9%), agricultural potential, the number of households and number of affected social and economic objectives.

Table 1.- Damage caused by flooding in the NE Region, Report on the status of environmental factors in North-Eastern Region in 2008, p.5

County / total area	Affected localities number	Number of deceased people	Affected households number	Number of socio-economic objectives affected	ha of agricultural land affected	Infrastructure affected km			
						national roads	Roads County	Municipal Roads	Railways
Bacău	17	-	1052	4	4147	-	3,5	5,22	-
Botoşani	28	-	810	31	9339,5	9,341	35,54	244,7	-
Iaşi	6	-	2	-	-	-	5	18,7	-
Neamţ	82	-	1418	2	2812	0,3		19,77	90,475
Suceava	107	2	2612	34	6820	21,4	220	850	20,1
Vaslui	27	-	132	-	1210	-	11,22	40,06	-

It required a rethink of the management of flood, including the new concepts such as: 'more space for rivers' or 'living together with flash floods' and especially assimilation of the concept of sustainable development in management of risk of flood. Beyond conceptualization is necessary, however, the actual applicability of the lines of action proposed, and for this, investment in infrastructure, behavior change towards nature and the call of insurance services, are the main coordinates. Also, bear in mind that, in comparison with other types of natural risk, predictability of the risk is high, so the means to prevent or counter can be harnessed effectively.

Due to the abundant rainfall but, also, some errors in the design of dams for accumulation, are possible the damages, fragmentation, breaks, causing losses to these communities. Such is the case of the break of dam of accumulation, Belci, on the river Tazlău, Trotuş tributary of the river, which, in 1991, suffered a technical accident due to intensity of the rainfalls, in catchment Tazlău, ending in losses of human life and significant property damage downstream, being the biggest failure of this kind in Romania. [Inspectorate of Civil Protection Bacau County, "Disasters - Events caused by accident", May 7, 2005, p.7].

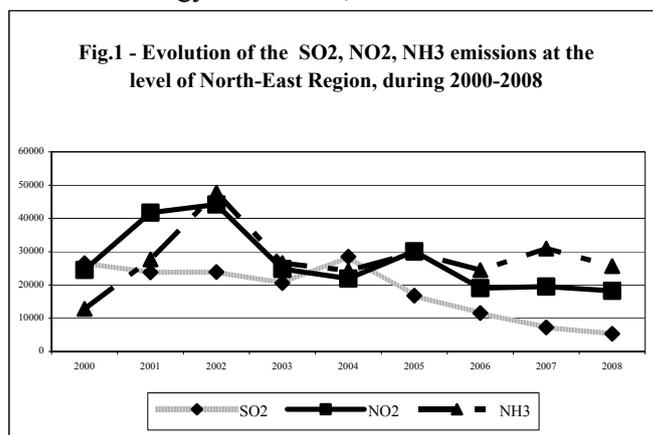
A risk category which concern more and more the human communities is the pollution. The atmosphere is affected by a variety of solids, liquids, gaseous; is considered 'the most widely and, the same time, the most unpredictable propagation vector of pollutants, whose effects are felt directly and indirectly by man and by other components of the environment 'and therefore,

the preventive measures are the most important in the whole range of measures that can be applied. Also, given the specificity and forms of manifestation of these risks is necessary their approach and treatment at regional, continental and global levels. The long-term effects of these risks may be other risks, namely the greenhouse effect, the destruction of layer ozone, acid rain. State of the atmosphere is highlighted by presentation of the impact pollution with various noxious, quality of rainfall, atmospheric ozone situation, the dynamics of emissions of greenhouse gases and other manifestations of climate change.

In regard the potential of chemical risk in the NE Region, vulnerabilities are: Iasi - ammonia, Piatra Neamt - chlorine, ammonia, Bacau - chlorine, ammonia, Onesti - chlorine, hydrochloric acid, carbon disulphide [Report on the status of environmental factors in North-Eastern Region in 2008, p.3]. Among chemical accidents occurring in this region in recent years, significant thru effects is that of July 1988, produced at the Chemical Company Falticeni, caused by the negligently of the employees who have pumped 149 tons of sulfuric acid in a tank with 600 tons acetocianhidrina. The result: a chemical reaction in chain with releasing heat and increased pressure which are leded to explosion of the tank and formation of toxic cloud containing sulfuric acid, sulfur dioxide, hydrogen cyanide. Effects: the contamination of Siret River and affecting the nearby dairy farms, where there were 107 dead animals [Report on the status of environmental factors in North-Eastern Region in 2008, p.3].

Analyzing the total emissions of pollutants in the NE region during 2000-2008, we specify that:

- ✚ in 2008 have reduced emissions of sulfur dioxide as a result of reducing the activities emission generating as well as the conditions of the marketing of fuels with low sulfur content (Fig.1);
- ✚ have reduced the emissions of carbon monoxide and nitrogen dioxide, in the period under review, as result of retrofitting the energy boilers, fitted with low NOx burners and but the restriction of economic activity profile (Fig.1);
- ✚ compared with 2000, in 2008 increased the emissions of ammonia in the atmosphere, doubling. Emission sources of ammonia are: instalations producing nitrogenous fertilizers, household waste landfill compliant, deposits of animal slurry and nitrogen fertilizer application in agriculture. Year 2002 was the most dangerous, the amount of ammonia emissions being nearly 4 times higher than in 2000 (Fig. 1);
- ✚ regarding of emissions of lead, found their important reduced, due to the characteristics improvements of fuels for energy and traffic;



- ✚ emissions of heavy metals - mercury, cadmium - in the period 2000-2008 increased for 7.5 times for cadmium and for 5.93 times for mercury. Case: burning coal and fuel oil in large combustion plants, commercial and industrial heating centrals, manufacture of glass, cast iron, hospital waste incineration and other industrial waste plus since 2006, introducing in calculation of the emissions from road traffic and those from residential instalations;
- ✚ change of quantities of non-methane volatile organic compounds emitted into the atmosphere was negative in the sense that, the total amount emanating region increased to

7.2 times in the range 2000-2008. The main sources of pollution that have caused such a development were: installation of metal degreasing, lacquering furniture, applying the adhesives to shoe factories, storage facilities at fuel stations, the manufacture of distilled alcoholic beverages, manufacturing of pulp, paper, etc.;

- ✚ emissions of polychlorinated biphenyls in the region analyzed, shows that in 2008 the amount emitted to the atmosphere was 4.4 times higher than in 2000, particularly in Suceava County, due the instalations MONDECO Suceava and SUPERSTAR Rădăuți wich provide medical waste disposal hazardous and from the medical units by other counties (Iasi, Bacau, Botosani, etc.);
- ✚ in terms of ambient air quality, tests performed in all 6 counties of the region, shows overfulfilment of the annual mean to a single indicator (PM10); as a result of the monitoring air quality in North-Eastern Region in 2008, was observed that, at the indicators of nitrogen dioxide and sulfur dioxide, annual mean concentrations are much lower than the annual limit; at the particulate matter, background pollution is due: the local sources of emission (different industrial activities, industrial heat centrals), sources of traffic and those area (diffuse sources, such as vacant lots, construction and demolition landfills, waste combustion plant outdoors, etc..), weather conditions (high concentrations of dust in the atmosphere due to the lack of rainfall for long periods of time), the resuspension by the wind of street dust and inadequate landscaping. Increased level of PM10 pollution in all counties of the Northeast Region is due primarily increasing of the number of vehicles in traffic. Heavy metal concentrations, carbon monoxide, benzene, ammonia and ozone levels in 2008 have been properly admitted and so, under the values considered risky.

Another natural risk with anthropic determination are the greenhouse gases. In the North-Eastern Region in 2008, the main sources that have contributed to this risk with a slow effects, were: the activities of producing electricity and heat by burning fossil fuels, combustion in manufacturing, burning from the residential instalations, the waste incineration, the waste disposal, agriculture, mainly crops with fertilizer and zootechny, road transport.

In terms of type of pollutant emissions, carbon dioxide has contributed about 60% of total emissions of greenhouse gases in the North-East Region in 2008. For each of pollutants, have been register increases in emissions (tab.2), the most in the case of nitrous oxide N₂O (due to the inclusion in the analysis of a larger number of emissions) - by 579.37%.

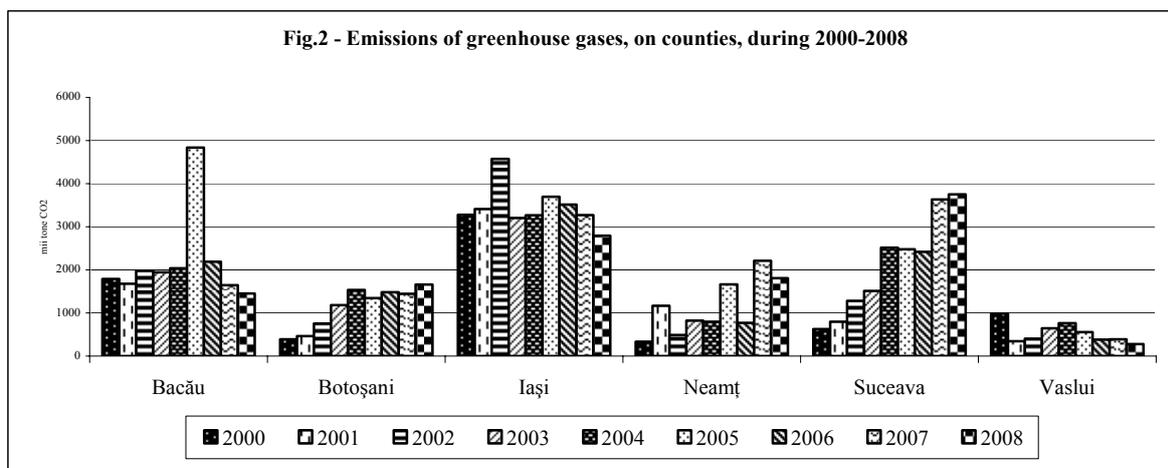
Tab.2 - Emissions of greenhouse gases during 2000-2008

Pollutant (thousand tons)	2000	2001	2002	2003	2004	2005	2006	2007	2008
CO ₂	6115.9	6492.2	7558.5	6605.8	6540	9563.7	6882.2	8162	8092
CH ₄	933.93	616.31	1404.6	1641.2	1803.2	1903.6	1501.5	1765.8	1292.2
N ₂ O	347.48	753	524.69	1061.7	2562.2	3105.7	2375	2669.6	2360.7
Total NE Region	7397,29	7861,55	9487,8	9308,74	10905,4	14572,9	10758,6	12597,4	11745

Given the development of the situation on pollution with greenhouse gases to the counties level from North-Eastern Region, during 2000-2008, we observe the highest levels for Iasi County, the lowest - Vaslui County, also is obvious ascending trend emission of such gases in Suceava, Neamt, Botosani. Among the main reasons for this dynamic are: the increase or decrease the number of operators from one year to another and maintaining / renewing of industrial infrastructure, agriculture, etc.. generating of such type of risk (Fig. 2).

Another type of risk that threaten life and health of the planet is water pollution. Water pollution is another negative effect of irrational human intervention on environmental conditions and, ultimately, on their living conditions. Given the different forms of water found in nature, the pollution too, must be seen linked to them. Important is, in particular, drinking water quality. Water pollution can be: toxic, bacterial, oxidised, thermic, etc.., and is difficult to master or to control, having negative effects on human and animal health, and finally

leading to the achievement of the other serious risks: the emergence of diseases, illnesses, etc.. the disappearance of aquatic life, the atrophy of functions of the body (water through nitrogen or phosphorus).



North-east Region, crossed by the river basins of the rivers Prut and Siret, has generally, a good situation in terms of the need of water. Following assessments carried out in 2003-2008 range, on the water quality, monitorized in these two river basins, there is an improvement in the level of water quality such as: increasing the percentage of water by the first quality from 37.42% in 2003 to 42, 78% in 2008, increasing the percentage of water by the II quality, from 28.63% to 30.68%, increasing the percentage of water by the III quality, from 17.61% to 19.46%; lower percentage of water by the IV quality, from 13.73% to 6.46%, lower percentage of water by the V quality, from 2.61% to 0.62%. This trend highlights the concern for water management in the region and to mitigate risks.

To the level of whole region there are, also, cases of pollution of surface water and groundwater. For example, in Bacau, areas considered critical in this regard are:

- ✚ For surface waters: industrial platform Bacau South - for the river Bistrita - (RAGC Bacău - with specific domestic wastewater discharge, SC Letea SA - pulp and paper; SC Amurco Ltd. - manufacturer of chemical fertilizers), industrial platform Borzești - Onesti - for Trotus River (SC Energy Bio Chemicals Onesti - manufacture of rubber and derivatives of petroleum products; SC Rafo SA Onesti - oil refining, SC Chimcomplex SA Onesti - pesticide manufacturing; SC Water Channel SA Onesti - discharging wastewater with household specific). Also, the area is considered critical area of activity - the oil extraction and transportation of oil products, business pursued by SNP Petrom - Branch Moinești.
- ✚ For groundwater: SC Rafo SA Onesti - the pollution with a petroleum product under dissolved form and as film; SC Chimcomplex SA Borzești - pesticides, ammonia and organic substances; SC Bio Chemicals SA Onesti - phenols and organic substances; SC Amurco LLC Bacău - sulphates, ammonia and phosphorus; SC Petrom SA - Branch Moinești and SC Conpet SA - Branch Moinești - 'Găzărie' and the pipelines transport crude oil, gasoline, water deposit; deposits of manure from livestock breeding complexes.

Minimize risks and increase water quality in North-East region are in the area of decision and action of local decision-makers through an effective water management, in conjunction with education the companies which operating in the area, regarding reducing and even eliminating the negative externalities on the natural environment, anthropic environment and business environment.

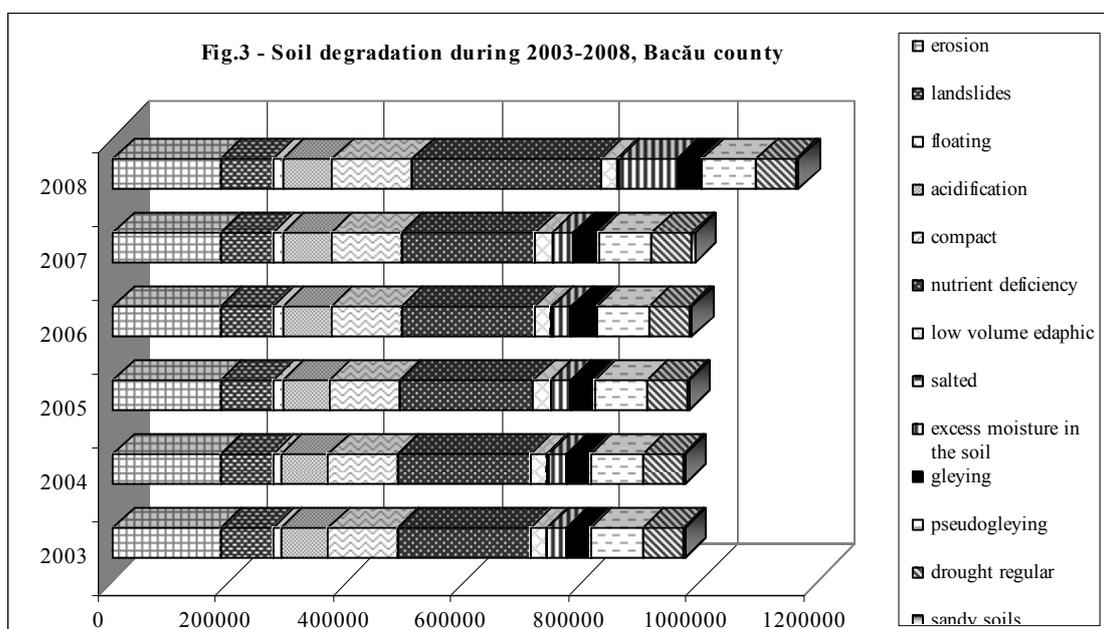
Another type of risk supported unconditionally by man and environment in which he lives, is the risk of soil pollution. The main pollutants of the soil are: ash (from electric energy industry and thermic energy industry), domestic waste, sludge (mining industry), droppings (in agriculture), slam (chemical industry), sewage sludge, mud mining, sterile, slag. On base to

monitoring in North-Eastern Region, the region's biggest polluters are: the ash and the household waste. In terms of pollution with Pb, Ni, Cr, Cd, Zn, as a result of soil samples evaluated were observed the exceedances of the normal rates in all counties of the region in the bulk caused by accidental pollution. A particularly important issue with regard to soil characteristics and its quality level, is a land degradation caused by different types of risk-relevant, namely (Bacau County example, during 2003-2008, tab.3, fig.3):

Tab.3 - Factors of soil quality degradation, Bacau county (ha)

Factors degradation	2003	2004	2005	2006	2007	2008
Erosion	182066	182162	182212	182537	183085	182862
Landslides	89702	89668	89814	89866	89866	89768
Floating	13762	13762	15861	15873	15873	16911
Acidification	80138	80166	80772	82320	82712	83190
Compact	119000	119000	119787	120253	120253	136258
Nutrient deficiency	224989	225369	226223	226298	226298	319777
Low volume edaphic	27448	27448	28021	28021	28021	28151
Salted	1365	1365	1545	1587	1596	3004
Excess moisture in the soil	32506	32506	32506	32506	35506	97825
Gleying	39686	39656	40925	42409	42409	44168
Pseudogleying	89450	89450	89563	90460	90460	91415
Drought regular	67920	67920	67920	67920	67920	67920
Sandy soils	4700	4700	4700	4700	4700	4700
TOTAL	972732	973172	979849	984750	988699	1165949

- ✚ scarcity of nutrients. 27.42% of degraded land in the county (the most of all the factors of degradation) are affected by this type of risk; a negative evolution of the phenomenon - an increase of 42.13% in 2008 over 2003;
- ✚ soil erosion causing degradation of 15.68% of total affected land degradation; the slight increase in 2008 compared to 2003;
- ✚ soil compaction affecting 11.68% of degraded land; moderate growth, with 14.5% in the reported period;



- ✚ the excess soil moisture accounted for 8.4% of total degraded soils. But worrying is the fact that between 2003-2008, on background of growing the volume of precipitation, the phenomenon was emphasized, the excessive soil moisture being by 200.94%;

✚ other risks causing degradation of soil quality: landslides (7.7% of total), acidification (7.13%), pseudogleying (7.84%), recurrent drought (5.83%), gleying (3.79%), edaphic volume low (2.41%), floating (1.45%), sandy soils (0.4%) and salted (0.27%). The biggest increase in this period had a risk of salted respectively, 120.07%.

Given the climatic conditions, terrain and other physical and geographical factors specific of that habitat, risk of degradation soil in the North-Eastern Region is determined, mainly, by the following risks - such as: Botosani - drought, lack of nutrients, compaction, Suceava - acidification, nutrient deficiency, excess moisture, Vaslui – erosion, gleying, landslides, Neamt - lack of nutrients, acidification, Iasi - erosion, acidification, excess moisture.

Another type of risks that affect the health of the planet is the irrational deforestation, uncontrolled. As stated in the literature, including the so-called anthropogenic pressures exerted on forests include: non-observance of the forest cuts scheme, overgrazing, hunting of rare species, vulnerable, uncontrolled waste deposits, non-observance of tourist routes and, in general, lack of education in tourism, etc.. Among these factors, the cutting of the trees and the over-exploitation of forests (conditioned mainly by the need to ensure the revenues of the population, economic dependent, in household consumption, extension of residential areas, overgrazing, etc..) are the most dangerous both for the present generation and the future generation. After the '90, the timber of North-East and, in general, in Romania, was operated irrational, intense, ignoring the impact on the environment and nature. Uncontrolled and unscientific deforestation of the forest creates, default, open field action for production of other types of risk, such as landslides, increasing soil moisture, flood, deterioration of soil quality, damage the ozone layer, etc.. Also, by deforestation occurring imbalances in other subsystems natural, disturbances, such as: disappearing species of plants, changing the behavior of animals, moving to other areas, etc.. Besides the role of conservation of biological biodiversity and biological barrier they perform, the forest accomplishes, according to experts, the role of the sound barrier, so to prevent the risk of noise with which the contemporary society is facing more and more. Briefly, the problem of decision makers, but also of the business people, is to preserve the precious values that nature provides them, unconditionally, and finding the optimal ratio between the amount of the space eco-forest protected and can ensure its biodiversity, stability and poly-functionality.

One of the risks arousing growing interest for environmental managers as well as the social and the economic communities, is the waste. Endangering the environment by transport and storage of hazardous materials, increases the risk and vulnerability, which the modern society it must face. Waste has always been a secondary product of any type of human activity and production. Increasing specialization of the products is aimed, by obtaining waste more complex and dangerous, increasing the risks derived from simply their existence. Simultaneously with the accumulation of industrial waste, widening of the consumption for a more demanding population, whose needs are more difficult to satisfy, it mean increasing the quantitative and the qualitative waste produced. As harmful effects of the waste existence, either sterile, industrial-ordinary, household uses (for burning), toxic, nuclear, etc..., we mention: disaster caused by the continued use of defective products, whose natural depreciation is very high (explosions, fires), contamination of water sources, soil, air, due to the storage or the discharge into illegal areas, the visual pollution caused to the natural landscape, to the proximity of the institutions, monuments, hotels, etc.. All these risks come within sfere of human life and adversely affect the health and the life of individual. Moreover, the incidences of the visual pollution on humans are reflected in the risk of image regarding some sightseeing, cultural, and un-repeating of the experience, which, obviously, affects the company, directly affected by the existence of waste. Given the multiple effects resulting from their existence, one of the major concerns of current services economy is the waste prevention and recycling. In North-Eastern region, the concern to improve the relation with the natural environment but also with the social environment, is materializes, in terms of quantity, in lowered volume of domestic waste from the public, from year to year and in increasing quality of the education of the public and of businesses regarding the management of habitat. The

household waste and similar decreased in 2007 compared to 2003 with 13.49%; of them, the garbage from the public, the mixture decreased by 30.45%, the domestic waste and similar from the economic units increased by 34.47%, the household waste collected separately (without construction, demolition) increased by 502% and bulky waste collected separately decreased by 96.21%. The volume of waste from economic units increased due to the multiplication of the operators and reporting such data; the volume of household waste collected separately reflect the increasing level of education achieved in this period and the role of information and dissemination of information on educating people and businesses. The construction waste, demolition waste increased by 79.72% during 2003-2007, due to the increasing pace of construction of private homes, buildings of public interest, companies, etc.. Simultaneously, increased the quantity of the associated waste of the decommissioning of old buildings, which inherently, was followed by increasing undesirable impact of this actions. Another undesirable effect, still remained at the stage of the goal, is the high volume of waste generated and collected, ie 33.10% of total municipal waste generated in North-East Region, in 2007. Although there are still many shortcomings in the appropriate treatment of the issue of waste, the indicator regarding generation of the municipal waste, per habitant, shows that the region analyzed is placed under the indicator at country level in all years (2003-2007). Another positive aspect is the structure of waste, as the statistics, in 2007, in the region analyzed, consists mainly in biodegradable waste (49.1%); a negative element is that this percentage has decreased compared to 2003 when biodegradable waste occupied 57.7% of total waste. Although in recent years have made strides in the management and maintenance of the environment face the waste, both in urban and especially in rural areas of North-Eastern Region this type of risk is derived from the low standard of living, income levels and cultural environment still tributary to the subsistence economy.

4. Responsibilities and accountability in natural risk management

Current context marked by crises put in front of managers, society and individuals, new responsibilities, adapted to the present and viable on medium and long term; the crisis of the natural environment have, perhaps, need, more than any other type of crisis, to bringing together the interests of the entire society, order to cross the major changes of climate and order to adapt to 'requirements and demands of nature'. In this regard, are significant several milestones, to be taken into consideration [Managing Climate Risk, Integration, Adaptation into World Bank Group Operations, 2006, Washington, DC, p.23]:

- ✚ climate change should be treated as a social and economic major risk in the national economy, not just an environmental problem in the long term;
- ✚ to focus on short-term vulnerabilities to prepare the management of long-term ones;
- ✚ manage climate change requires a coordination to the high level, involving major sectors of the economy;
- ✚ management, climate change must be integrated into economic planning and included in sectoral plans and budgets;
- ✚ many of climate change management efforts must be taken by communities and private sector;
- ✚ adaptation investments should be supported by a long-term process based on high-level consultations with planning and policies in economic life.

Even if, it is imperative the collaboration with all members and all variables of the economic system in order to counter the already visible effects of climate change and in order to prevent disastrous events of these changes, the principal role of these actions is from the managers of the macroeconomic level. They should propose and support the reform progress in environmental management, given some objectives, such as [Responsabiliser les marches et les entreprises pour le developpement durable, Final Report, Laboratoire d'Economie des Ressources Naturelle, Ecole d'Economie Toulouse, Fr.Salanie, N. Treich, sept. 2007, p.4]:

- systematic use of the cost-benefit analysis;
- monitoring the effects of competition rules;
- the fight against climate change;

- the development of agriculture and irrigation system;
- ensuring climate risks and natural disasters;
- the development of contractual support systems in agriculture;
- conduct socially responsible.

The responsible social behavior is, also, required for both consumers and businesses and the business environment. The motivation responsibility of the consumer lies right in the effects that it will incur, as a result of the non-respectfully of natural environment. To better understand the gravity, the severity of the natural risks produced, partly as a result of negligence, lack of education or other individual characteristics, the consumer should have complete information, accurate, timely, sufficient, current regarding his actions or inactions effects. Identical, the firms seeking to maximize benefits, forget that they make part of an evolving systemic, disregard the negative externalities, in time, may spread on their own, ignoring willingly or unwillingly, the laws of the socially responsible behavior. The consumers and the businesses understand, however, the natural risks that they incur or which potentially could borne. For example, one research that I conducted it with 10 years ago, on the business companies of the county of Bacau, concerning the risks borne by the own firm and concerning the risks produced on other economic entities, were following conclusions [The Business Risk, Doctoral Thesis, University 'Al.I.Cuza' Iasi, 2000]:

- ✚ the primary sector was most affected by natural risks, particularly agriculture; of natural risks, 62.5% of primary sector firms were affected by rainfall, 87.5% were affected by drought; in terms of severity of impact of these risks (we used the semantic differential scaling method), the average score of 2.5 (scale 1-5) was exceeded for heavy rains and drought risks; for humidity, strong winds, soil erosion and other natural phenomena, the score obtained was placed below the average, the risk of depletion of natural resources, the percentage of respondents was 75%, assessed with a score of 2.33 and 87.5% for the risk of pollution have confirmed the danger, assessing it, but, with average score of 1.57;
- ✚ in the secondary sector, natural risks were not considered major in terms of their size but were taken into account in all forms; 93.33% of companies surveyed were affected by rainfall, at the opposite topping humidity and winds that hit 13.33% of respondents. For none of these risks, from processor sector firms, were not considered serious, not exceeding a score of 2.5. However, it was considered notable, the risk of heavy rains, the view, in terms of severity, with 2.04 (scale 1-5), and strong winds are very close. 65.38% answered yes to the risk of pollution, noting it, on average, 2.359. In construction, the responses were for the risk of pollution by 100%, denoted by 2.25 on average. Proximity to water sources, means of communication, forms of relief threatened by movements of the earth, etc., constituted another potential risk factor being estimated, in the primary sector, by about 30% of respondents (between 12,5 and 37.5%), the highest assessment score recorded - close by forms of relief threatened by sliding 3.3. In the secondary sector, a large number of respondents (46.15%) specified that an important risk is the distance from the lines of communication. For the construction industry, was particularly remarkable the risk 'close by water sources', rated by respondents with a score of 2.25;
- ✚ in the tertiary sector, the natural risks were not considered major impediments in the way of the provision of services and trade activity. In transport services, tourism, health, etc., 30% of respondents said that the impact of these types of risk was not significant for their work but, for wholesale or retail 91.66% of respondents mentioned as important risks of heavy rains and strong winds. In terms of gravity, high scores were obtained in trade, at the risk of heavy rains 2.63, other types of risk are rated as risks with below average gravity. The risk of pollution was considered important for trade activity, the percentage of responses being 83.33% with an average score of 2.5. In the same area, for „proximity by a form of relief threatened with a sliding”, there were 58.33% responses, with a score of 3.28 and the distance of a communication line, the 83.33% of respondents appreciated the seriousness of the risk with average score of 3.0. In services, 20% of respondents opined with a score of 4 the remoteness from areas crowded with productive activity and from touristic attractiveness points.

- ✚ In conclusion, pure and natural risks with anthropic determination are, in most cases, major risks, the action area varying in time and space and are not dangerous only for the enterprise and/or individuals at this time, but worse, amplify and multiply at the moments (t + i).
- ✚ I followed the same research interdependence of economy and, on this basis, the effects that can cause the activity of each business surveyed, on the others, thus:
- ✚ in the primary sector all respondents agreed that produced pollution on the others, but the severity was assessed with a score of 1.75 only; 50% of decision-makers of the primary-sector have said that produce waste products over others, but the risk was not considered major; depletion of resources has been recognized by 12.5% of respondents, with a very low gravity;
- ✚ in the secondary sector, the pollution affecting the others was recognized by 66.6% of respondents but its effects were considered minor (average score 1.26), 50% of respondents disagreed that produce waste, but their effects have been minimized; 46.66% of respondents said that they produce the risk of depletion of resources specific to their work, but are considered with minor impact on others;
- ✚ in the tertiary sector, the risk of producing pollution and the depletion of resources have been confirmed by over 30% of respondents and the risk of producing waste 22.72%; seriousness of such risks to other entities was considered very low.

Results from administration of the questionnaire have proven either retention to respond or to give correct answers, either undersized of the effects it may cause on the other businesses, consumers or the environment, directly or indirectly connected with the company. Because of the climate change in subsequent years of research conducted in the county of Bacau, some types of natural risk were more acute - for example, the risk of heavy rains, flood risk, others, as result of operationalising the environmental policy at EU level, at the country but also in the county, have improved - for example, pollution, waste, but the attitude of economic agents face of nature and its perennial values is not sufficiently accountable.

Responsibility face of the natural environment is and the attribute of the individual, seeking to maximize his benefits. This attitude toward nature reflects the stage reached in the social development, living standards, quality of life. The supply of information about risks and their effects, direct and propagated in the short term and but long term, must have as addressee, the consumer; tenderers are makers of macroeconomic level but also insurance companies that must helping both consumers and businesses in their attempt to develop conscious and calculated the relationship with the environment. Insurance industry [From Risk to Opportunity: How Insurers Can proactively and Profitably Manage Climate Change, The Ceres report, E. Mills, Ph.D., E. Lecomte, August 2006, p.28] must focus its efforts to maintain the insurance of the extreme events; make use of mathematical device to more accurately analyze the magnitude of natural risks, concomitant with climate change and the challenges; use the investment towards R & D for the best identification of the new climate risks or with the increased severity, to take an active role in educating consumers about climate risks and opportunities to minimize them.

5. Conclusions

The natural risk is, together with other types of risk, the component of system of risks which make their presence felt and action in human society. The systemic interdependences and the mutual conditioning are inherent. Although, currently, development of system of the world economy is marked by economic crisis, the crisis of the natural environment is a reality that has become perennial. Resolving the crisis of the natural environment is lasting and, in part, beyond the random, is in the individual power of decision and action: in quality of the consumer and/or decision maker at the level of the firm, institution, state. The main spring of his action is the information concerning the natural environment and the ability to establish and develop a mutually beneficial relationship.

Human-nature relationship has developed, over time, in the Romanian society, in a relatively peaceful and harmonious. In North-East Region, the poorest of the EU, problems of living together with nature, are bounded by several types of natural risk, some with immediate effect, most with long-term effects, propagated to the other subsystems, in different sizes and severity. The role of the environmental management is particularly important in a society where, in addition to shortcomings in the relationship with the natural environment, are added the others failures arising from the development of the country and quality of the business environment. The changes caused by natural risks in terms of production, consumption, distribution of wealth nations, orientates the decision-makers to the activities of the small consumers by energy and raw materials, less polluting and focuses its attention on recycling and reuse of goods, on long time. It also, requires focusing of the human efforts, towards the maintenance, preservation, cultural heritage, artistic, ethnographic, scientific, etc.. and protect it from contact with natural risks, potential major.

References

1. Colson, Gerard, *Gestion du Risque, EAA, Paris, 1995*
2. Danu, Marcela-Cornelia, *The Business Risk, Doctoral Thesis, University „Al.I.Cuza” Iași, 2000*
3. Mills, E., Ph.D, Lecomte, E., *From Risk to Opportunity: How Insurers Can Proactively and Profitably Manage Climate Change, A Ceres Repport, August 2006*
4. Salanie, Fr., Treich, N., *Responsabiliser les marches et les entreprises pour le developpment durable, Rapport final, Laboratoire d’Economie des Ressources Naturelle, Ecole D’Economie de Toulouse, Sept. 2007*
5. ***, *Global Risk 2009, World Economic Forum*
6. ***, *Inspectorate of Civil Protection Bacau County, "Disasters - Events caused by accident, May 7, 2005*
7. ***, *Managing Climate Risk, Integration, Adaptation into World Bank Group Operations, 2006, Washington, D.C.*
8. ***, *Report on status of environmental factors in North-Eastern Region in 2008*

Dividend Policy

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Abstract

The dividend policy represents all decisions and techniques used to determine the level of dividends that can be distributed to shareholders. Therein is the question of choosing between the distribution of dividends or reinvesting of a higher proportion of the profit by the enterprise. So, this paper analyse the parameters of dividend policy, the factor that influence the dividend policy and determine the distribution of high dividends, the optimal policy and the reinvestment decision of the profit in the enterprise.

Keywords: optimal dividend policy, rate of distribution, dividend rate of growth, reinvested profit, dividend tax rate

JEL Code: G32, G35

1. Introduction

In the present methodology and practice, the decision-making on allocation of profits is limited and do not fall entirely to the enterprise, weather it works with public or private capital. For example, to the private equity firms, the profit sharing is an attribute of the General Assembly, but not entirely because for this form of ownership the state will be manifested by law relating to depreciation, funds placed in reserve and components of deductible expenses.

After were being covered all tax obligations and the like defined by law, the remaining profit is the net income on which the decision act rests entirely only to the enterprises with private equity. Schematically, the decision-making can occur as follows:

- ↙ establishment of the reserve fund whose minimum size is determined by law;
- ↙ *development*, as a form of protection against to the competitive risks;
- ↙ increasing of social capital;
- ↙ *remuneration of employees* and others involved in the management of the enterprise;
- ↙ *pay dividends to shareholders* through dividends and supra-dividends.

The decisions on the allocation of the enterprise net profit determine the dividend policy, with direct implications on self-financing and remuneration of the own capital.

2. The effects of dividends distribution

It should be noted that through the dividend, shareholders may recover most comfortable the amount invested with the purchase of the share. Any sale of the share may be interpreted as a possible “sanction”, as a waiver to the initial investment because of its lack of perspective and therefore, the collection of dividends appears as an incentive for retention the share in the portfolio. The high dividends can be interpreted as signals for the higher future performance of the enterprise. Any counters link to the possibility of obtaining of higher future earnings or dividend becoming larger or of the sale of the share. However, the first solution take to the providing of the shareholders hope, and the second is the issue of shareholders instability in the company.

M.J. Gordon and E. Shapiro (1956) have conducted a study that supports the need to distribute dividends and the managers concern to its increase. Apparently, the more dividends and their growth rate will be higher, with both the value of the shares is greater and therefore is needed a

distribution of the highest percent of the net profit. The question that arises is that a dividend of a large size determine problems on long-term in business operation, annihilating its growth prospects. The practice, respectively the financial analysts and observers from the stock market, often show that the dividends and their growth compared with the previous years appear to be the major explanatory factors of evolution in the share price. However, the idea of a perpetual growth in dividends is unrealistic, primarily because it assumes that the company continually evolving, and secondly because a company still can not grow indefinitely. In a joint stock company the profit sharing is mainly to meet the development needs and dividends payment. The distribution of dividends deprives the company of cash, but on the other hand provides an income to shareholders and determines the increase of efficiency in the initial financial investment. The distribution has the effect of opposition between the enterprise as economic entity and the shareholder whose immediate concern is not measured only in terms of financial investment. This opposition is blurred over the time as the accumulation becomes a source for obtaining of the long-term profit.

3. Analysis of the dividend policy parameters

In the analysis of a dividend policy is necessary to follow two parameters: the *rate of distribution*, i.e. the ratio of dividends and net profit and the *dividend growth rate* that is the ratio of dividend per share of the current year and dividend per share of the previous year. In terms of dividends, the heads of the enterprises have always expressed a goal based on the rate of distribution. They set as objective to distribute a certain percentage 35-45% of the enterprise profit, trying to alleviate as much as possible the unit dividend fluctuations, in the case of the sensitive variations of the profit from one period to another. A distribution policy is considered low if the rate of distribution shall not exceed 20% and over 60%, the distribution policy is considered strong.

If the company decides to increase the rate of distribution, it will use new external resources. In this case:

- or call on its shareholders, taking what he initially distributed. The overall financial value of the equity will not be modified, as a matter of division between shareholders;
- or use the credit: a lower growth of own funds would be then offset both by the increasing of the risk on the market and by reducing of the PER multiplier. In total, the financial value will not be modified.

In substance, whether the company distributes more, then its value will be lower and the shareholder will have more significant liquid funds. If the company distributes less, then its value will be higher and shareholders will have less liquid funds. The degree of distribution of the profit does not change so the shareholder assets. In practice there are many factors that favour the payments of high dividends [7]:

- ✚ *the preference for current income*: an individual with preference for high current cash flows but holds securities with low dividends can very easy to sell shares to obtain the necessary funds. An individual with preference for low current cash flows but holding securities with high dividends may reinvest dividends. But in practice, the sale of shares with lower dividend will involve the brokerage tax and other transaction costs;
- ✚ *the uncertain decisions*: we know that investors with substantial current needs of consumption will prefer higher current dividends. *Gordon* argued that the dividend policy brings high benefits to shareholders as resolve the uncertainty. According to *Gordon*, investors set the share price by forecasting and updating the future dividends. He argues that the forecasts for dividends to be received in the distant future have a greater uncertainty than the forecasts for immediate dividends. Since investors do not like uncertainty, the share price may be lower in those businesses that pay small dividends now in order to pay higher dividends at a later date;
- ✚ *legal and tax benefits of the high dividends*: the tax advantages of dividends causes some companies to hold shares with high yields at the expense of the long-term bonds because there aren't tax incentives similar in the payments of interest to bondholders of the enterprise.

From a technical standpoint there is a dependency between the distributed profit and the market price. The distributed part of the profits is greater, the market price is more volatile. Consequently, a high degree of distribution tends to reduce the volatility of the shares. If the company maintain its dividend while its profit decreases, means that this decrease is only temporary and are expected new growth of the profit in the future. For example, in France, the dividends are distributed to 6 months after the balance sheet. The level of dividends depends on the outcome of previous year and the current year but for the first 6 months. The level of dividends is a signal for the forecast outcome of the current year.

In terms of shareholders, the dividend policy highlights two issues:

➤ *some stability*. The importance of the past evolution of dividends requires from the company a certain stability of the amount of dividends distributed. The dividend policy previously pursued by the firm influencing the level of dividends hoped by the shareholders, the level, in turn, has an influence on the price share. The constant distribution of dividends leads to the increasing of the public confidence in the enterprise and increasing its market value. A certain regularity is therefore desirable, either by increasing or by the stability of dividends distributed. Hence for the enterprise an objective choice of a dividend policy: when the profit growth is perennial, the dividend policy loses from its importance and the firm can, without risk, to reduce the rate of distribution; if the profit has due to the activity profile a cyclical character, it is important to maintain the regular dividend distribution, in order to maintain the sequence phase of stability and of the growth phases in the distribution; an oscillating dividend may suggest to financial investors that the company is characterized by inconsistency in the policy to develop the basic work. Such a dividend policy can not have a good influence on the market price [10];

➤ *a credible policy*: the dividend policy must be credible, i.e. consistency with the enterprise profits. Any dividend policy, even if is based on regular, not conducive to favourable effects on long-term than if it is consistent with profit-sharing policy.

4. Factors influencing the dividend policy

An increase of dividends indicates the heads optimism about the earnings and thus affects the share price. But the surge in the share price that accompanying an unexpected increase of the dividends can happen and because the information about earnings that can be obtained from other means. Regarding to the dividend decision arises the question whether this change the share value or just provide a signal for the share value. There are thus three ways, which are controversies about dividend policy [5]. First there is a conservative group, optimistic, who believes that an increase in the distribution of dividends, increase the enterprise value. On the other hand, there is a radical group, pessimist, who believes that an increase in distribution lead to reduction in value. And in center, there are financiers followers of the neutralism, who believes that dividend policy has no influence.

The neutralism was founded by Miller and Modigliani in 1961, when they published a theoretical work that shows the irrelevance of dividend policy in a world where there is no taxation, transaction costs and other market imperfections. The evidences of M & M are generally accepted as correct and the argument was changed in terms of taxation and other market imperfections which alter the situation. In this process, M & M have been taken in the middle by the pessimistic part that makes arguments for small dividends. The pessimistic position is based on arguments of M & M modified taking into account the tax and the issuance cost of the securities.

The factors that, in general, influencing the dividend policy [6] are:

➤ *the restrictions imposed by law*: the undermining restrictions on the capital, the net profits and insolvency restriction;

➤ *the fiscal constraints*: while the restrictions imposed by law tend to encourage the companies to retain their profits, the tax may have an opposite effect;

➤ *the restrictive agreements*: agreements included in the borrowing bond, long-term loans or short term, lease and those to issue preferential shares limit the total amount of dividends that a company may pay;

➤ *the financial situation of the company*: if the company is borrowed from banks with large amounts on the medium or long term or issuing bonds on the market, it faces a restriction consisting in the fact that dividends will be paid only after meeting the obligations to creditors; the restriction imposed by the company's financial situation can occur in connection with the way of financing choose: equity or loans;

➤ *the investors preferences*: to establishment of the dividend policy the management should take into account factors such as: investment opportunities, cash fund needs, access to financial markets and other factors that may influence this decision;

➤ *the protection against the dilution of the capital*: to counter the dilution risk, some firms choose the variance of retention of the most of their profits and pay low dividends; other companies choose some alternatives to increase the dividend paid at the expense of retained profits.

The enterprise capacity to pay dividends is dependent on its profitability and liquidity. The policy adopted by the enterprise management must seek the shareholder wealth maximization in correspondence with the company's assets. The change in the policy on dividends has two opposite effects:

- ✚ whether the company adopts a policy of paying the majority of profits as dividends, then tend to increase share prices;
- ✚ if the proportion of profits allocated for distribution of dividend increases, it will be less money available for reinvestment, the future growth rates expected by shareholders will be reduced and this will decrease the share price.

5. The optimal dividend policy

The optimal dividend policy ensures the balance between current dividends and their future growth that maximizes the shares price. The decision to pay dividends to shareholders is also a decision to not reinvest the same amount to the company for expansion or development. The decision to pay dividends affecting while the capital structure and the decisions for capital allocation and enterprise financing.

Porterfield propose a simple model for analyzing the payment of dividends that is useful in identifying the factors that can affect shareholder wealth. He suggests paying dividends if:

$$Dv_{act1} + P_{p1} > P_{p0}, \text{ where:}$$

Dv_{act1} = the cash dividend paid for a share;

P_{p1} = the expected market price of the share immediately after the dividend announcement;

P_{p0} = the market price before the dividend announcement.

The equation shows that if the dividend amount paid plus the share price after the dividend payment is higher than the market price of the share before the dividend announcement, then must be paid dividends. In relation to the share price change on around the day of dividend payment it can say that this (price change) occurs so that the shareholder wealth, expressed through the share market capitalization and dividends received, to reduce the least.

Analyzing the equation, we can conclude:

- if $Dv_{act1} + P_{p1} > P_{p0}$, then the dividends paid increase the shareholder wealth and will be preferred the dividends increased;
- if $Dv_{act1} + P_{p1} = P_{p0}$, i.e. the shareholder wealth will not be changed by the payments of dividends, as the share value is reduced by the dividend payment;
- the third point of view, based on shareholder taxation, argues that if dividends were taxed in prior period greater than capital gain, then $Dv_{act1} + P_{p1} < P_{p0}$.

The ratio of the corporate tax rate and dividend tax rate is determined by the taxation of the country. Thus, as said *I. Văcărel*, in his work *Public Finance*, the taxation of profits from the companies can be made in several variants [9], as follows:

- a. must be taxed first, the total profit obtained by the company and then separately, the profits distributed to the shareholders as dividends;
- b. there are taxed only dividends, being exempt from tax the profit remaining to the company;
- c. there is taxed only the profit remaining to the company and dividends are not taxed;
- d. there are taxed first, the dividends distributed to shareholders and then the remaining part of the profit to the company.

Once the company decides to distribute dividends to the shareholders, the payment can be made in two main ways: payment of the dividends to shareholders or repurchase of the shares. On dividend policy, the French market has been made several studies [2]. *S. Bar Zossef* and *R. Kalodnz* (1979) make up a methodology by which *Mustapha Moufid* (1984) tested the impact of dividend distribution on the relationship profitability - risk, about 102 French enterprises representing 48% of the market capitalization of French shares. This study highlights the following:

- ✚ the companies of different classes of dividends distribution has the same type of return. Meanwhile, the companies that distribute fewer dividends are generally more risky than those who practice higher distribution rates. This latter observation, however, is not validated during the growing stock exchange period 1978-1980;
- ✚ the dividend distribution rate is not recorded by a linear relationship in function of profitability, statistically significant, unless is adjusted by systematic risk or total risk;
- ✚ the companies practicing a low, medium or high distribution rate, are not assessed differently in the financial market after adjusting for the systematic risk and total risk.

For the period of the market growth (1978 1980), the results show the indifference of investors to alternative of distribution/reinvestment and that the return (before taxes and after adjustments for risk) of shares of an enterprise with a high distribution rate are not significantly different from those of a company with a low delivery rate. The results obtained for variable dividend per share/price share are virtually identical, *Pascal Dumontier* (1984) highlighting the flag role played by dividends for the 98 French companies and concludes that:

- ✚ a decrease in dividends has a negative impact on the course, as well as the decreased net income;
- ✚ an increase in dividends has no impact on the course if the results were reduced, but lead to a significant increase of the course in the case of increases in results.

The significant differences are viewed between the dividend policies practiced in various countries of the world. Thus, referring us to the economies of developed countries, there is the practice of a high rate of dividends distribution in countries such as Great Britain or the United States of America and low rates in continental countries (France, Germany, Italy). In the same vein, Japan is at a medium level, with oscillation between the belonging to either of the two groups. As shown by *William Megginson* (1997), in states with a strong socialist tradition (e.g. France) or in those with a long history of the state interventionism in the economy (e.g. Italy) it tends to the dividend payments by private investors to be deterred, and in those where the property is "sacred", unassailable, the dividend payments are understood as being normal.

We conclude that far from being fully converged, the results of empirical studies on dividend policy practiced in the world still leaves us to identify a number of elements:

- ✚ the dividend distributed to shareholders is a very sensitive variable for those outside of the enterprise, where a caution especially in the cuts of the dividends;
- ✚ closely related to the first conclusion, it emphasized the flag role for the enterprise financing played by the dividend firm performance;
- ✚ there are peculiarities in terms of the rate of dividend distribution from one industry to another, and the world.

For unlisted companies, often family business, the current yield plays a very important role because the inexistence of a liquid secondary market does not allow concretization of a easy addition values on the shares. The optics of a minority who can not "leave" with difficulty of the company, or a majority that don't want to "leave" in order to not lose the control, the

current yield becomes an acute problem [4]. It is perceived profitability. Depending on the financial health of the company, its overall profitability, the shareholder pressure (in particular for groups), the current yield will be more or less high. In some cases, can reach 5% even 15% of equity. But it must also point out that for unlisted companies are a calculated a current yield of their accounting own funds which do not necessarily meaning the value of the capital invested by the shareholders. In such cases, we calculate more useful the distribution rate of the profits that expresses well the arbitrage between distribution of profits to shareholders and retaining of the reserve by the enterprise. The maintaining of a distribution rate is a long term goal and the dividend can not increase only if the enterprise has the certainty that he can maintain in the future at least at the same level and if the unit profitability is considered sustainable [3].

6. Decision of reinvestment of the profits in enterprise

For an enterprise, the distribution of a part of the profit or non-distribution of the profit will be reflected in the growth of the net assets and finally by a gain of value. The reinvestment of a significant proportion of the net profit will lead to an increase of the financial autonomy and to reducing of the financial risk. Consequently, the cost of own capital will be reduced accordingly to the risk reduction, representing a growth factor for the profitability and for the enterprise value. A company that distributes a small share of the profit and whose marginal cost of the equity is satisfactory will register a growth of its price of shares. Such an enterprise will select its shareholders. Instead a high dividend policy is a means to ensure the constancy of shareholders who were used to collect a certain income.

The harmonization between the two alternatives, distribution and/or reinvestment is done through a procedure of dividend distribution involving in the issue and free distribution of new shares. Thus, the cash capital for dividends remain in the company to finance its development, and shareholders incentives will be achieved by allocating free shares that in fact increase their property. The decision of net profit-sharing is taken by shareholders by the general meeting. However, the financial manager is not only a particular persuasion on a significant number of owners, but especially for European companies, he owns a significant percentage of the enterprise capital. The same situation occurs for a number of companies for which the ownership is divided among a significant number of shareholders, where the manager is the trustee of their interests. In practice there are many factors that favour the profit reinvesting [7]:

- ✚ *the taxes (personal and of the enterprise)*: when the personal income tax rate is higher than the tax rate of the company profits, it will be stimulated to reduce the payments of dividends and vice versa;
- ✚ *the expected income, dividends and personal taxes*: we are presenting here the effect of personal taxes taking the extreme case that the dividends are taxed as ordinary income and the capital gains are not taxed at all. Looks like to a company that distributes a greater benefit in the form of dividends will have a low value (or a higher required return before tax) than the one whose benefit is expressed as non-taxable capital gains;
- ✚ *fluctuating costs*: if the dividend policy is neutral, we can say that a company may sell new shares if is necessary to pay dividends. The sale of the new shares can be very expensive. If we include the fluctuating costs in our argument, then we can conclude that the amount of shares fall when we sell new shares;
- ✚ *restrictions on dividends*: in many cases, a company must deal with restrictions on its ability to pay dividends. A common feature of bonds is to prohibit the payment of dividends over a certain level. Also, an enterprise can be stopped by the law to pay dividends if the dividend exceeds the amount of the retained profits.

The classical theory of Benjamin Graham, David Dodd and Sidney Cottle argued that companies generally have high dividend payments because [7]: the present value of immediate dividends exceeds the present value of dividends from remote and between two companies with the same overall power of gain and the same general position in the industry, one that pays big dividends almost always sell shares at a higher price.

There are a number of arguments to support the reinvestment of a significant proportion of the net profit, as destination of the distribution:

- ✚ the recovery of the invested funds is done through depreciation, maintenance of the current position involving an investment policy more or less substantial;
- ✚ when a fixed asset obsolete with a long time before its physical wear, the only solution is to sell or discarding it and buying a new machine, of course paying a higher price and with losses incurred by the company, offset by the profit-sharing policy by raising the funds for development;
- ✚ the dividend tax rate is higher than those applied to the earnings from the increases of price share;
- ✚ by not distributing dividends, the company has sufficient funds available, that is a favour in development of its current activity.

Although dividends are taxed higher and sometimes are not attractive to investors, they still appear as the destination for distribution, because:

- ✚ do not forget that shareholders do not feed on account of hopes of future earnings due to the reinvestment of profits, but on account of actual receipts, such as those resulting from the receipt of dividends;
- ✚ the dividends are a solution for the fact that the enterprise can not find a better investment;
- ✚ the dividends must be distributed to its informational role, of signalling;
- ✚ through dividends there can provide a control on the managers' activity.

The problem of net profit distribution there isn't a minor problem in the financial management of the company, getting more and more the character of a fundamental decision for the life company and the complexity of difficult problems of the financial policy. *J.E. Walter (1956)* argues that the profit sharing should be followed to achieve with priority the investment and financing policies, thereby claiming that dividend policy is not one major, but a waste one. According to this theory, the rational investors will prefer to see the company and preserving their financial resources only to receive dividends, provided that return such funds to be reinvested in higher yield one could obtain on your own, from investment of equal risk [2].

The theory starts from the premise that the enterprise value (V_0) is given by [8]:

$$V_0 = \frac{Dv_{act} + \frac{r_{inv}}{k} \times (Pr_{act} - Dv_{act})}{k}, \text{ where:}$$

Dv_{act} = dividend per share;

r_{inv} = return on investment;

k = discount rate;

Pr_{act} = Net profit per share.

In this relation, the interpretation is clear:

- if $r_{inv} > k$, the company will not distribute any dividend, because otherwise it will not get maximum value for V_0 ;
- if $r_{inv} = k$, the firm value is independent of the rate of profit distribution as dividends;
- if $r_{inv} < k$, the company must distribute dividends, as it can not provide a satisfactory rate of return for investors.

The adoption of this theory in practice is difficult for large companies, because determines a high variability of dividends, which is generally interpreted as a negative situation on the financial market as it creates uncertainty about the future of the enterprise. It can still apply for small enterprises. Other theories claim the decreasing of the distributed dividend due to the tax differentials between reinvested profits and dividends, most often for the first destination. Many authors have shown that the neutrality of dividend policy is not achieved in practice because there is a distinction between the taxation of dividends and earnings from increases of share price.

The criticism of this current of opinion related on the first: the negative reactions to the variability of the financial markets or absence of dividends; the fact that it is possible to conduct the shareholder behaviour who becomes obsessively preoccupied by stock speculation; the uncertainty about the future, in the context of information asymmetry and that managers can use undistributed profits to the shareholders for non-viable projects and even for their own interest.

4. Conclusions

In conclusion, as it is difficult to give a simple formula to assist the management in determining of the optimal capital structure, just as it is difficult to establish the optimal dividend policy [1]. However, we can identify several important factors:

- ✚ the fast-growing enterprises should promote a reduced rate of dividends payment and to reinvest the funds generated internally. This approach minimizes the costs of capital market constraints to finance the development options;
- ✚ the companies with high and stable operating cash-flow and with few investment opportunities have to pay higher dividends to reduce the tendency of managers to reinvest the cash-flow available in unprofitable investments;
- ✚ the companies should not worry too much on fiscal factors in determining the policy dividends. Whatever policy is chosen, they will be able to attract investors. The enterprises that opt for higher rates of dividend payment will attract the tax exempt organizations and the companies that pay low dividends, or not paid at all, will attract investors with high tax rate;
- ✚ the financial agreements concluded by enterprises may have an impact on determining of the policy dividends. The enterprises will try to avoid the proximity limits to minimize the possibility of dividends reducing.

References

1. Constantinescu D. A., Dobrin, M., Ungureanu, A. M., Rotaru, A., Ghenciu, A., Popescu, D. – *Analiza managerială a firmei*, Națională Publishing House, Bucharest, 1999.
2. Dragotă, V., Ciobanu, A., Obreja, L., Dragotă, M. – *Management financiar, Vol. II*, Economică Publishing House, Bucharest, 2003.
3. Florea, Ș. – *Gestiunea și managementul activității financiare din întreprinderi*, Victor Publishing House, Bucharest, 1997.
4. La Bruslerie, H. – *Analyse financière. Information financière et diagnostic*, 2^e édition, Dunod, Paris, 2002.
5. Myers, B., Stewart, C., Richard, A. – *Principles of Corporate Finance*, McGraw-Hill, 2003.
6. Onofrei, M. – *Finanțele întreprinderii*, Economică Publishing House, Bucharest, 2003.
7. Ross, S. A., Westerfield, R. W., Jordan, B. D. – *Fundamentals of Corporate Finance*, Fifth Edition, McGraw-Hill, 2000.
8. Stancu, I. – *Finanțe*, Economică Publishing House, Bucharest, 1996.
9. Văcărel, I. și colectivul – *Finanțe publice*, IVth Edition, Didactică și Pedagogică Publishing House – R.A., Bucharest, 2004.
10. Vernimmen, P. – *Finance d'entreprise*, Editura Dalloz, Paris, 2002.

Efficiency and Effectiveness in Managing Major Changes

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Abstract

In a world of globalization and change, the only constant is change. The stability which seemed to characterize the corporate world in 1950s and 1960s has given way to increased and global competition, technological innovation and change, limited resources ,deregulation , privatization of public sector organizations and change in much more besides. How we can create more effective organizations is the major topics of this paper, trying to gain a better understanding of why certain approaches to effective management seem to work in pursuing objectives more fully.

Keywords : efficiency, effectiveness, change, human resources, organization, structure

JEL Code : **O3**

1. Introduction

Living in a world of changes, requires mainly approaching a careful planning of those, that means to set out a range of concepts and techniques to help people and companies to handle change more effectively. There isn't any miraculous receipt for implementing changes without failure, but a complex of leadership, vision, imagination and involvement of people can all contribute to identifying the course of actions to take, or product market to exploit or organizational structure to chose. Creating efficiency and effectiveness in managing changes and especially major ones consists in trying to avoid to do things twice, otherwise it would be a waste of important resources such as : time, money, materials and nevertheless, trust of people and companies clients.

2. A strategy for change

We can speak about 3 types of approaching change :

- a) in the structure of the organization;
 - b) in human resources;
 - c) in the process of business operations.
- a. One of the most spread type of change restructuring and **re-organization** of the companies which is actually of wide interest, being one of the important and sometimes dramatic consequence of the economic crisis, depression that we are passing through, affecting Romania and its economic environment, as well.

The idea is of building more efficient companies to survive doing business more effectively. So, we assist to a flattening or diminishment of the structure because that means elimination of several hierarchical levels and less managers. This package comes with redundancy of many employees. All these leads to a severe cut out of the costs, but we have to take into account the fact that the motivation and dedication of the people that are still working are fairly low and they live the " survival " syndrome.

The type of restructuring is accompanied by establishing tighter relationship with the clients and suppliers and by a process of contracting parts of the former activities to third parties, the so-called externalization of secondary services (for example : accounting, human resources, logistics, maintenance, etc.)

b. In **human resources** we refer to a change of attitude and outlook of the employees. It is agreed to undertake a survey of attitudes in all departments and to provide an independent check on the problems of productivity and rising costs.

It's not an easy step to create a movement of closer cooperation between managers and employees.

As the functions of the workers have changed, developed and improved, so there are more and more problems in obtaining collaboration between them. Integration becomes a key-task.. Thus, we must add to managerial performance and continuous learning the need to gain more effective collaboration across functional boundaries.

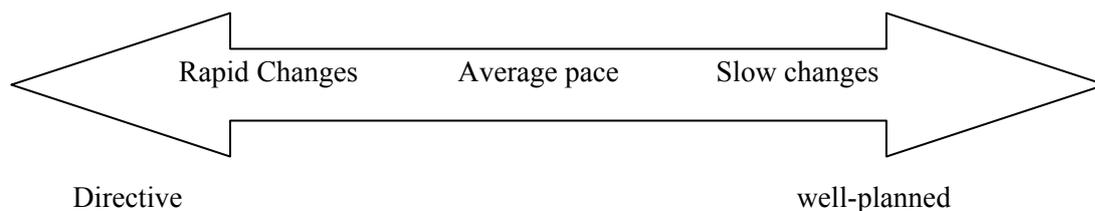
Partly, this is a matter of attitudes and understanding ; partly, it is a matter of effective information and control.

c. The need of an effective structure and system consists in either to sustain existing strategies or in order to implement new ones. This means to focus on **the process**, to create a functional link between accountabilities, reporting systems, information and authority, resource allocation. Revised systems, performance appraisal, promotion, marketing, need to be defined in order to sustain and even improve performance against the organization objectives.

Without effectiveness of the process, other changes (such as new products or new technology) cannot be properly deployed or exploited. We introduce changes either to improve effectiveness or to adapt to external changes. Explaining changes and their meaning to employees, the readier they will be willing to accept changes.

And here we can speak about rapid, average or slow types of changes. When in crisis, the changes need to be done very rapidly but this will lead to side-effects on the people moral and motivation level, because of the lack of time to properly explain the advantages or the risks to lose the business.

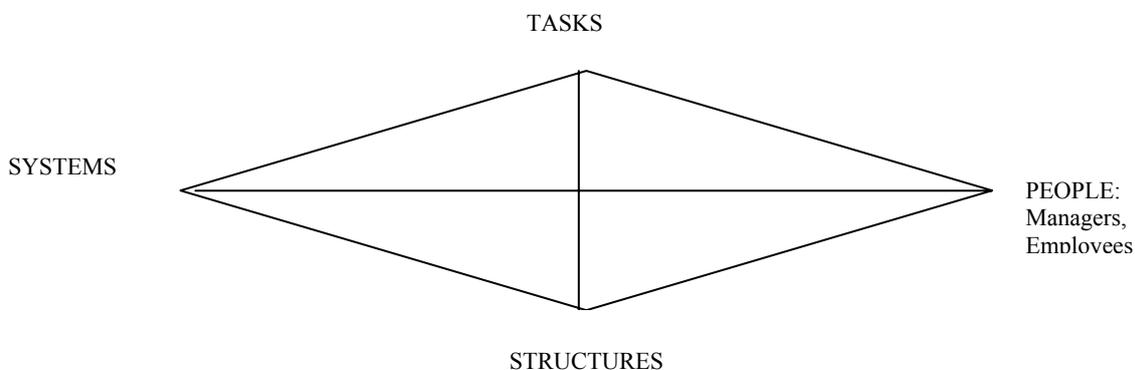
Fig.1 The scale of the speed of changes



When in times of average economic environment or a profitable, stable one, the changes can be done with a slower pace, giving time to employees to adapt and to reduce the stress level. In these conditions, the forces to oppose changes are not so strong as in the above example.

At one end of the scale is ideal, well-planned, sensitively handled, carefully timed, sufficiently resourced change. At the other end of the scale is the rapid, directive, drastic sometimes, change.

Fig.2 Leavitt rhombus of the organizational links



Anyway, as in the figure above, there is a link, an equilibrium between the process made of systems and tasks to be achieved, the structure of the company and the people involved; a change appeared in one of them affects the other elements of the organization.

2. The effective change in organizations

Efficiency means encouraging and supporting learning from change, applying an open management style, with accent on initiative and risk. However, the ability to measure and monitor progress and problems is also required. What do the managers learn from changes they introduce?

- ✚ there must be a clear set of objectives linked to pressing problems which people do actually recognize;
- ✚ planning and participation must focus on specific issues and problems;
- ✚ employees will respond to a sustained initiative from senior management;
- ✚ it is essential to make improvements in managerial performance at an early stage;
- ✚ creating success early on, supported by positive feed-back enables the building up of self-confidence;
- ✚ managing change is often a slow and difficult process;
- ✚ managers must be seen to act on solutions and ideas derived from employees;
- ✚ monitoring and evaluation are important means of following through with change seeking further improvement;
- ✚ managing changes is a learning process for all concerned.

In order to achieve efficiency we can choose from one of the six following structures:

- a). The simple or entrepreneurial structure;
- b). The functional structure;
- c). The product structure;
- d). The divisional structure;
- e). The matrix structure;
- f). The federal structure.

a) The entrepreneurial structure is the most simple of the model structures. The entrepreneur of the business makes all the decisions and undertakes much of the work. The other employees are taken on to carry out specific tasks. Little or no identifiable department

structuring exists. These are the so-called flexible organizations, specific to trading companies. Partnerships are typically a variant of this structure.

But growth and geographical dispersion combined with the need for investment can create pressure to change from this structure . The opportunity is to attract financial institutions into the market. Also, the public image is of importance and lead to improve the service that is provided by improved information provision to the clients.

Development and enforcement of the codes of practice put pressure for changes.

b)The functional structure

If the organization is not too large it provides a series of advantages :

- ✚ it allows for the development of particular kinds of expertise, engineering, technology, finance, personnel;
- ✚ it provides career paths for professional staff who work with a similar background;
- ✚ it provides for the effective utilization of personnel across various departments;

However, further growth, geographical dispersion or products and services diversification can create pressures on this form of organization structure.

c)The product structure

At one point it can become difficult to devote the necessary time and commitment to each of a range of products, services or markets and to establish criteria by which priorities are settled.

It is difficult to establish the criteria by which priorities are to be taken into account. Individuals need to be accountable for products or/and services, markets, if they are to attract the appropriate resources. The functional structure provides a good basis for achieving internal efficiency of functions and co-ordination. But it does not provide growth in a competitive environment. In practice, it turns out to be difficult to allocate resources to the different products or services on a rational basis.

In the product structure, activity is grouped around products markets. Each group have its own specialists, at least from disciplines which are best organized at product level. Typically, finance and personnel may remain functionally organized, reporting directly to the management committee, alongside the product groups.

The functional structure provides a good basis for achieving internal efficiency of functions and coordination . It does not provide a good basis for growth in a competitive environment due to difficulty to allocate resources to the different products and services on any rational basis . Each group of production will have its own specialists, at least from disciplines which are best organized at product level (for example engineering and marketing). Typically, finance and personnel may remain functionally organizes, reporting directly to the management committee alongside the product groups.

This structure brings with it main advantages :

- ✚ the product departments respond better to the market demands for growth or change to products or services. They do not need to compete for resources unless the rate of growth is such that resources allocated to them must be expanded;
- ✚ the engineering and marketing departments becomes directly related to the market, closer to the customer.

However, a change in growth or decline leads either to a demand for more resources or to reassignment of staff between product sections.

d). The divisional structure

Further growth can create pressure on senior management, who will become overloaded by daily matters . This means that either senior management tend to ignore broader matters and corporate strategy or they tend to ignore the operational matters, creating a managerial vacuum within which coordination may become difficult to handle. To approach a divisional structure involves breaking the organization into relatively autonomous units, called divisions. In this structure, each division will serve a particular product, market or client . Each division will have its own divisional chief executive and management committee or board.

The foreseen advantages are as follows :

- ✚ cost and profit performance are matters for the divisional managers;
- ✚ the main functions of the group are overall financial planning and management, strategic planning, business development and management development. Divisional managers need to be involved in establishing the divisions, in various feasible options;
- ✚ each division is free to respond to the demands of its own markets within a framework created by overall strategic plans and budgets;
- ✚ this structure allows accountability to be pushed down the organization, providing a balance between corporate development and control and local, market autonomy. Anyway, striking the balance can become difficult in practice.

e) The Matrix structure

The several structures we have described are attempts to combine market and functional focus to organizational work. The matrix structure is one in which both of them are given importance throughout the organization structure, which gives each equal importance, but this is not everything. Matrix structures are often found on large construction, aerospace or computer development projects. Where an organization deals with more than one complex project there is a need to both co-ordinate and develop various specialist activities. As the demand for inputs is variable over the life of a product we need a structure which promotes both effective deployment on a project when needed and adaptability over time as that resources can be easily switched between projects.

The matrix structure identifies project management structures, accountable for project and functional structures, accountable for each discipline such as engineering, operations, research and so on.

As advantages of this structure, we can mention :

- ✚ development of cohesive and effective teams of specialists working towards the objectives of a key project;
- ✚ professional and career development of specialist staff;
- ✚ flexible use of specialist staff.

However, the difficulty of handling a matrix structure can lie in the problem of reconciling the need for flexibility with the need for project co-ordination and control. This reconciliation implies good working relationships between project and functional management which may, in practice, be difficult to establish.

f) The federal structure

This structure carries the decentralization of the divisional structure a stage further. The group establishes strategic business units for each product market and controls them from the centre without an intervening decisional structure. This reflects the fact that, in practice, further growth often means that divisions operate more than one unit, firm or plant.

Accountability could readily become confused between group, division and firm levels.

The advantages of the federal structure are as follows :

- ✚ accountability is clear and defined at unit level;
- ✚ resources are not expended at divisional level;
- ✚ group can achieve growth or divestment quickly to suit corporate strategies.

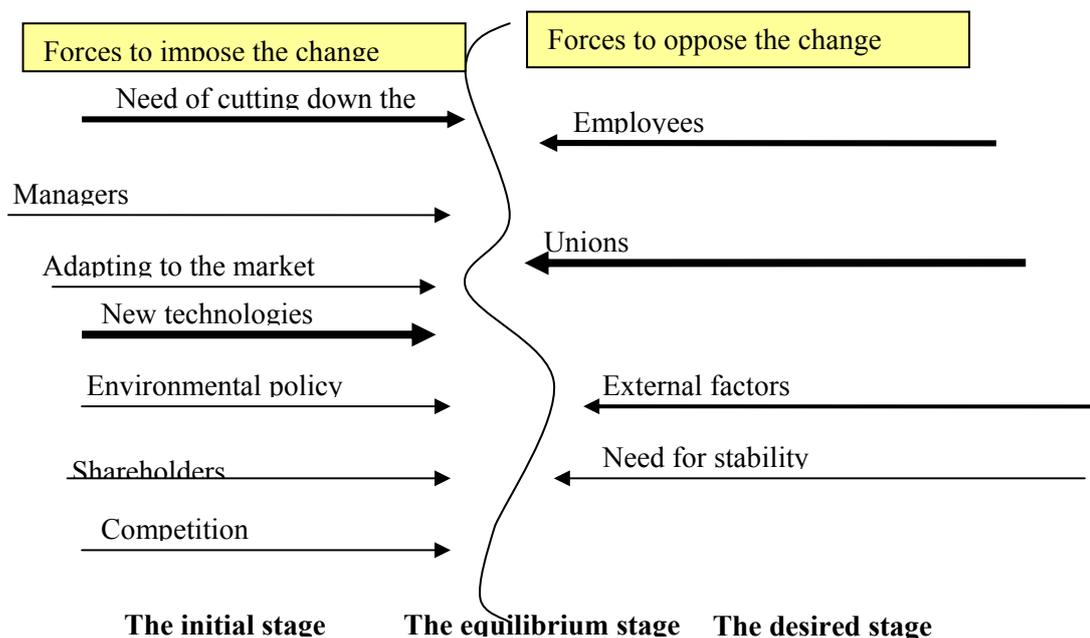
However, the emergence of the federal structure can recreate the pressures on senior management which the divisional structure once removed. Effective reporting systems, information systems and decentralization are three keys to the solution of this problem. In practice, organizations implement variants of the above structures. Many large organizations in both public and private sectors operate divisional structures alongside some element of matrix management.

3. Stages of implementing major changes.

Many descriptive receipts and universal models for implementing major changes in organizations have been described in the specialized literature. Adapting to the globalization often means to review some of the processes by which companies come to decide upon a new strategy, a new product, a new organization structure, to close a production unit . The easy answer is to cope with it, implementing the change . The resources must be obtained , the constraints considered and dealt with it in one way or another. Change creates anxiety, uncertainty and stress, even for those managing change and even if they are fully committed to change. There are no guarantees that the new approach will work, delivering added value to the business. Those who wish the change to be successful often find themselves working long hours, dealing with problems, trying to overcome doubts of others and doing everything needed to see the change done. In real life, change and role strain are two important sources of stress. People respond differently to change : some can understand it and work for it even if they don't have a certainty of success, others will oppose it , wishing for stability and seeing things operating as they have been done until then.

One simple way of describing the fight between the forces that wish the change and those to oppose is to look at the figure below, in which Lewin analyzes the Field of Forces that have to struggle from the initial stage when the change is drawn and planned until the desired phase .

Fig. 3. The Analyze of the Forces Field of Change - Lewin



The coping cycle consists of three important stages :

- a) Preparation for the change;
- b) The change itself;
- c) The consolidation of the change.

The early discussion of changes leads to concrete plans and programmes of change. The realities become clear and people must begin to face new tasks, working in a different department or location. This can lead to feelings of depression and frustration . Coping with the process of change places demands on individuals involved; various issues need to be faced either by these individuals or by their managers.

In the second phase, appears a new system, process and organization. New relationship between people and processes have been tried, modified and accepted. Finally, the above will take a little time, but if it's done well it will release energy in support of change. We often underestimate the time and energy needed to introduce change. Paying attention to these issues will save time in longer run. The current changes will be implemented more quickly and the organization will become more receptive to overall change.

4. Efficiency versus effectiveness

There are several main sets of dilemmas , as follows :

- ✚ centralization versus decentralization;
- ✚ efficiency versus effectiveness;
- ✚ professional versus management;
- ✚ control versus commitment;
- ✚ change versus stability.

On this chapter we shall concentrate on the second one, efficiency versus effectiveness. Efficiency may be defined as achieving stated goals (for example: manufacture, sale and distribution of a given product or service) within given resource constraints . Effectiveness includes efficiency and adaptability to future circumstances. The effective organization balances immediate efficiency with the adaptability to deploy new products and services for the future. The dilemma emerges in all sorts of practical ways, such as when cutting in budgets there is a need to cut in training , research and development.

The efficient organization focus on internal efficiency and control. The effective organization constantly strives to ensure that all its activities pass externally imposed criteria. These may be the ability to generate income by sales or income by grant-aid, by obtaining research contracts, or by other external reference points. To be effective, an organization must adapt to changing external circumstances.

There are various practical ways of overcoming this dilemma between efficiency and effectiveness. They all depend on achieving a better understanding of the necessity for change and adaptability. This may be achieved in the following variety of ways :

- ✚ job rotation can be utilized to give people a broader perspective of the organization's work;
- ✚ following selection and training of people can emphasize a broader background;
- ✚ intensive use may be made available communications' media in order to create a better degree of shared understanding of the organization's tasks, resources, opportunities and so on;
- ✚ an organizational climate can be created which supports experiment and risk-taking;

- ✚ participation may be increased in planning, both generally and by specific approaches such as quality circles;
- ✚ innovation should be always be on agendas for strategic planning, management developing activities and workshops and conferences;
- ✚ project groups can be established to resolve specific tasks and problems. Such groups should be recruited from all the departments involved, creating broader perspectives and quicker acceptance of new ideas;
- ✚ product champions should be identified, along with organizational champions whose task is to create resources and time for new activities to be proven and to integrate the emerging new products or services systems with existing corporate strategy.

In various ways these ideas are designed to open up the way in which we think about the organization. They aim at helping people to take a broader and more flexible look at what they do, and at what they might do. Adaptability and innovation are reinforced by making them an explicit part of the work people do. Moreover, we need to act within a coherent framework of management strategy.

5. Conclusions

Diagnosis, change and effectiveness all depend upon people. Whenever we think that we have enough data, the interpretations are always provisional and there is always scope for improvement . The management of change is not and will never be , easy or straightforward .

“The reasonable man adapts himself to the world : the unreasonable man persists in trying to adapt the world to himself. Therefore all progress depends on the unreasonable man”. (George Bernard Shaw).

References

1. Adams, J., Hayes, J.and Hopson, *Transitions – Understanding and managing Personal Change*, Oxford : Martin Robertson, 1976;
2. Bate,P, *Strategies for Cultural Change*, Oxford, Butterworth-Heinemann, 1995;
3. Bennis, W.,” *The 4 competencies of leadership* “, *Training and development Journal*, 1984;
4. Brooke, M., *Centralization and Autonomy*, London; Holt , Rineheart and Winston, 1984;
5. Handy, C.; *Organizations*; Harmondsworth, Penguin, 1984;
6. Kirkpatrick, D., *How to Manage Change Effectively*, New York ; Jossey-Bass, 1985;
7. Llewellyn, “ *Boundary work : costing and caring in the social services* “, *Organizations and society*, 1998;
8. Mc.Loughlin and M. Harris, *International Thomson Business Press*, London, 1997.
9. J. van der Meer Kooistra and E.G.J. Vosselman : “ *The role of accounting practices in a radical change process* “, *23-rd Annual Congress of the European Accounting Associaton*, 2000;
10. J.W.Weiss, *Organizational Behaviour and Change*, Minneapolis, New York, West Publishing Company, 1996;
11. Wilkocks, J. and G. Grint, “ *Reinventing the organization ? Towards a critique of business process re-engineering* “, *Organizational Change and Technology*, 1997.

Analysis of the Systemic Risks for the Financial Institutions in the context of Global Crisis

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Abstract

This paper explores the particularities of systemic risk associated to the Romanian financial institutions in the context of the global crisis. We evaluate, for a period of time when financial markets were affected by the global crisis, the systematic risks for two categories of financial institutions: SIFs and banks, finding highest risks for the SIFs. We conclude that because the nature of linkages between the two categories of financial institutions and because of different risk perceptions an eventually SIFs crisis will not necessary propagate to the banking sector.

Keywords: Systemic Risk, Romanian Financial Markets, Global Crisis

JEL Code: G 21, G 19

1. Introduction

The systemic risks occur in the case of substantial linkages between the components of a system. In such a situation the evolution of an entity could be affected significantly by the evolutions of other components of the system. This kind of risk has some particularities for the financial markets which react substantially to the new information (Mishkin, 1991).

The systemic risks evaluation has a considerable utility for the investment in financial assets. It is a complex operation based on the analysis of individual risks and the linkages between the financial institutions.

Some researches revealed the particularities of the financial institutions systemic risks, especially in the periods of crisis. In many cases the financial institutions stock prices fell not so deeply as other stock prices or they even rose. One of the explanations was that financial institutions were perceived by the investors as "too big to fail" or "too interconnected to fail" and they think the government would help them in the case of difficulties.

The actual global crisis affected significantly since 2008 the Romanian stocks prices (Figure 1). In these circumstances we may presume the systemic risks associated to the financial institutions were perceived quite differently in comparison with the more tranquil periods. However, to our knowledge, this subject wasn't approached until now in the specialized literature. In this paper we try to analyze the systemic risks for eight financial institutions in the context of the financial crisis, in the period 13th of April 2009 – 9th of October 2009. Five of them are SIFs, big financial institutions engaged initially in the process of privatization launched in the 1990s and which in the present have substantial participations in the capital of many Romanian corporations. The other three are important Romanian banks. All of them are

traded at the Bucharest Stock Exchange (BSE) and they are included in BET – XT, a representative index which reflects the evolution of the most liquid 25 shares traded on BSE.

Based on the capital asset price model (CAPM) we estimate the systematic risk for every financial institution. Then, based on these risks and on the linkages between the companies, we analyze the particularities of the systemic risk for the Romanian financial sector.

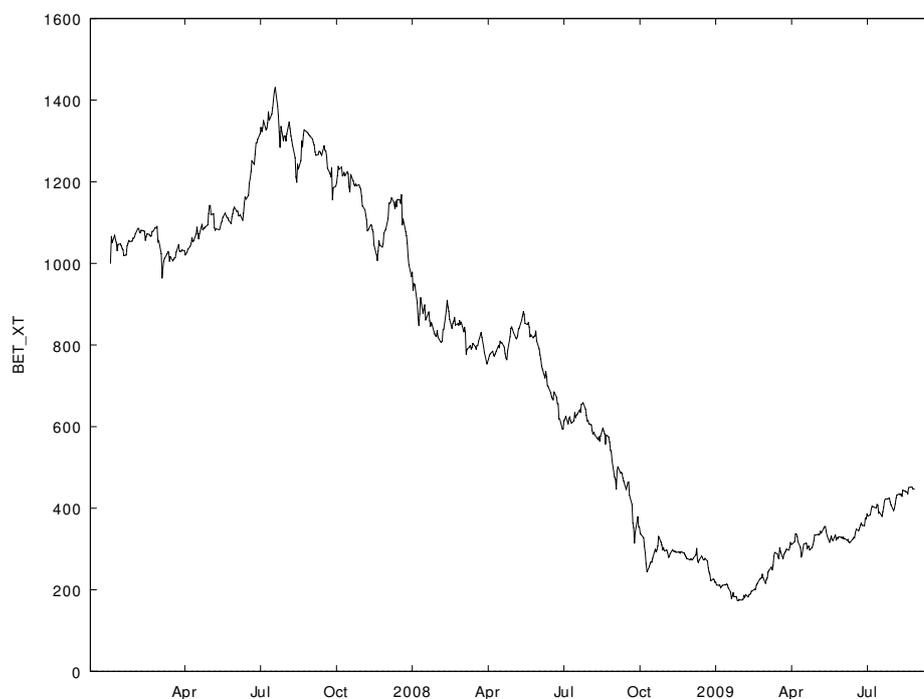


Figure 1 - Evolution of BET XT index from January 2007 to October 2009

The rest of this paper is organized as follows. In the second part we approach the specialized literature in the domain of the systemic risk for the financial institutions. In the third part we present briefly the data and the methodology used in our analysis. In the fourth part we report the empirical results and in the fifth part we conclude.

2. Literature Review

The systemic risk for the financial institutions was approached in several papers. Kaufman and Scott (2003) revealed some financial institutions systemic risks particularities which are caused by the significant linkages between them. Schwartz (2008) found the government intervention helped the financial institutions with difficulties which affected the systemic risks perceptions for the whole sector.

The evaluation of the systematic risk for a stock was approached in many papers. In his model of portfolio optimization Markowitz (1959) identified the risk and the returns as the main criteria for the investment decisions. From the works of Sharpe (1964), Lintner (1965) and Black (1972) an equation which is the essence of CAPM resulted:

$$E (R_i) = R_f + [E (R_M) - R_f] \beta_{IM} \quad (1)$$

where:

- $E (R_i)$ is the expected return of an asset i ;
- R_f is the risk free rate;

- $E(R_M)$ is the expected return of the market;
- β_{IM} is a coefficient, commonly known as beta, which reflects the sensitivity of the expected return of the asset to the difference between the expected return of the market and the risk free rate.

The beta coefficient reflects the correlation between an asset return and the market return and it could be considered as an expression of the systematic risk.

Some studies revealed the asymmetrical responses of CAPM – beta to the market conditions. Levy (1974) found that beta differs considerably in the bull and bear markets and he proposed the calculation of separate values for the two distinct circumstances. Roll (1977) identified significant effects of the market conditions on the values of the beta assets.

Fabozzi and Francis (1977) evaluated the CAPM betas for the bull market (defined by positive returns) and the bear markets (defined by negative returns) and they found no significant differences. Braun et al. (1995) demonstrated that CAPM – betas had distinct reactions to the good news and to the bad news. To the same conclusions arrived Ang and Chen (2003) who estimated the betas for USA equity market from 1926 to 2001 and Woodward and Anderson (2003) who analyzed the returns on the Australian industry portfolio.

3. Data and Methodology

In our analysis we employ daily values of the BET – XT index and of the eight financial institutions from 13th of April 2009 to 9th of October 2009. The data are provided by the BSE. We use the daily returns computed as:

$$R_t = 100 \times [\ln(P_t) - \ln(P_{t-1})] \quad (2)$$

where:

- R_t is the return at time t;
- P_t is the price at time t;
- P_{t-1} is the price at time t-1.

In the Table 1 there are presented the descriptive statistics for the returns of the eight financial institutions and the BET – XT. With the exception of Carpatica Bank, all of them have positive means of returns. For five companies the means of returns were smaller than the mean of BET XT returns. Most of the stocks returns have significant values of standard deviation, skewness and excess kurtosis.

Table 1 - Descriptive Statistics of BET XT and the Eight Stocks Returns

Stock	Min.	Max.	Mean	Std. Dev.	Skewness	Ex. Kurtosis
<i>BET XT</i>	-0.0802	0.0930	0.00338	0.0269	-0.0814	0.8011
<i>SIF 1</i>	-0.1278	0.1398	0.0021	0.0404	-0.0060	1.0537
<i>SIF 2</i>	-0.1335	0.1368	0.0043	0.0435	0.0888	0.8262
<i>SIF 3</i>	-0.1123	0.1391	0.0049	0.0404	0.1286	1.0477
<i>SIF 4</i>	-0.1108	0.1368	0.0013	0.0352	0.0872	2.1071
<i>SIF 5</i>	-0.1001	0.1386	0.0033	0.0404	0.1468	0.6352
<i>Carpatica Bank</i>	-0.08464	0.0944	-0.0021	0.0286	-0.0788	1.4580
<i>BRD - GSG</i>	-0.1163	0.0858	0.0046	0.0321	-0.6955	1.8242
<i>Transilvania Bank</i>	-0.0953	0.1324	0.0027	0.0337	0.4125	2.0640

In the systematic risk of asset estimation it is important to know if its returns followed a normal distribution. In this paper we test the normality for the returns of the eight stocks and for the BET XT using four tests: the Doornik - Hansen test, the Shapiro - Wilk test, the Lilliefors test and the Jarque - Bera test.

In order to avoid the spurious regressions we analyze the time series stationarity. For this purpose we use the classical Augmented Dickey Fuller test (*Dickey and Fuller, 1979*).

We estimate betas for the eight financial institutions by two types of CAPM: a single factor model and a multifactor one. The single factor model assumes no asymmetric response of beta to the market conditions and it is based on the equation:

$$R_t = \alpha + \beta R_{m_t} + u_t \quad (3)$$

where:

- R_{m_t} is the market return at time t ;
- u_t is an error term, $u_t \sim N(0, \sigma^2)$.

The multifactor model is designed to capture the asymmetric behavior of beta in the bull and the bear market conditions. We use along with the stock prices and the BET – XT returns two dummy variables:

- $D^+ = 1$ if R_m is positive or 0 otherwise;
- $D^- = 1$ if R_m is negative or 0 otherwise.

The multifactor model is based on the equation:

$$R_t = \alpha + \beta^+ D^+ R_{m_t} + \beta^- D^- R_{m_t} + u_t \quad (4)$$

where:

- β^+ are betas corresponding to the bull market conditions;
- β^- are betas corresponding to the bear market conditions.

For both models the values of beta are calculated by the OLS regression.

4. Empirical Results

In the Table 2 there are presented the results of the normality tests on the returns of the eight financial institutions and of the BET - XT. The normal distribution of the returns was confirmed by the four tests of all three banks and for SIF 4. For the other four companies and for the BET - XT the results are ambiguous.

Table 2 - Normality tests for the nine returns

Stock	Doornik - Hansen test	Shapiro - Wilk test	Lilliefors test	Jarque-Bera test
<i>BET XT</i>	5.29945 [0.0706706]	0.98828 [0.375746]	0.0797914 [$\sim= 0.05$]	3.42492 [0.180422]
<i>SIF 1</i>	7.86988 [0.0195469]	0.988621 [0.401167]	0.0483813 [$\sim= 0.68$]	5.69106 [0.0581035]
<i>SIF 2</i>	5.5284 [0.0630264]	0.989297 [0.455044]	0.0556622 [$\sim= 0.45$]	3.66002 [0.160412]
<i>SIF 3</i>	7.67485 [0.021549]	0.984855 [0.186251]	0.0838219 [$\sim= 0.03$]	5.96421 [0.0506861]
<i>SIF 4</i>	21.2544 [0.00001]	0.967824 [0.004908]	0.09322 [$\sim= 0.01$]	22.9111 [0.00001]

Stock	Doornik - Hansen test	Shapiro - Wilk test	Lilliefors test	Jarque-Bera test
<i>SIF 5</i>	3.86134 [0.145051]	0.990719 [0.581933]	0.0528185 [~ = 0.54]	2.5099 [0.28509]
<i>Carpatica Bank</i>	12.5013 [0.00192917]	0.95271 [0.000284]	0.156063 [~ = 0]	11.0214 [0.004043]
<i>BRD - GSG</i>	12.2037 [0.0022387]	0.963482 [0.002077]	0.101687 [~ = 0]	26.9699 [0.00001]
<i>Transilvania Bank</i>	17.4231 [0.0001647]	0.966155 [0.003512]	0.0925071 [~ = 0.01]	25.3215 [0.00001]

Note: Values in the square brackets represent p-values.

We analyzed the stationarity of nine time series by the Augmented Dickey Fuller test. The results are presented in the Table 3. For all of them it was rejected the null hypothesis of a unit root, so they could be considered as stationary.

Table 3 - Augmented Dickey-Fuller Test for the nine returns

Variable	Deterministic terms	Lagged differences	Test statistics	Asymptotic p-value
<i>BET - XT</i>	Constant and no trend	3	-10.4768	0.000001***
	Constant and trend	3	-10.4394	0.000001***
<i>SIF 1</i>	Constant and no trend	2	-11.0406	0.000001***
	Constant and trend	2	-10.9966	0.000001***
<i>SIF 2</i>	Constant and no trend	4	-10.6866	0.000001***
	Constant and trend	4	-10.643	0.000001***
<i>SIF 3</i>	Constant and no trend	2	-10.3004	0.000001***
	Constant and trend	2	-10.2555	0.000001***
<i>SIF 4</i>	Constant and no trend	3	-4.70714	0.000001***
	Constant and trend	3	-4.74801	0.0005382***
<i>SIF 5</i>	Constant and no trend	1	-11.0787	0.000001***
	Constant and trend	1	-11.0371	0.000001***
<i>Carpatica Bank</i>	Constant and no trend	2	-7.52816	0.000001***
	Constant and trend	2	-3.13159	0.09887*

<i>BRD - GSG</i>	Constant and no trend	6	-5.36987	0.000001***
	Constant and trend	6	-5.382	0.000001***
<i>Transilvania Bank</i>	Constant and no trend	4	-11.5693	0.000001***
	Constant and trend	4	-11.5413	0.000001***

Note: The number of the lagged differences was chosen based on Schwartz Information Criteria.

The CAPM – betas for the single factor model are presented in the Table 4. For all five SIFs the value of betas are bigger than a unit, suggesting that systematic risks are higher than for the other assets from market. Instead, for all three banks beta values less than a unit resulted, indicating lower risks than for other assets traded on the market.

Table 4 - Single Factor CAPM coefficients for the eight financial institutions

Stock	Coefficient α	Coefficient β	F-test	Durbin-Watson statistic
<i>SIF 1</i>	-0.0024 (-1.3379) [0.18345]	1.3185 (17.5969) [0.00001***]	402.8599 [0.00001***]	2.0607 [0.00001***]
<i>SIF 2</i>	-0.0007 (-0.4553) [0.64973]	1.48521 (26.2231) [0.00001***]	647.8214 [0.00001***]	1.9834 [0.00001***]
<i>SIF 3</i>	0.0003 (0.1798) [0.85760]	1.36753 (22.2872) [0.00001***]	584.2059 [0.00001***]	2.1330 [0.00001***]
<i>SIF 4</i>	-0.0026 (-1.5841) [0.11578]	1.15068 (11.9948) [0.00001***]	410.4379 [0.00001***]	2.294157 [0.00001***]
<i>SIF 5</i>	-0.0014 (-0.9910) [0.32369]	1.3852 (27.0707) [0.00001***]	691.1717 [0.00001***]	2.196625 [0.00001***]
<i>Carpatica Bank</i>	-0.0039 (-1.6772) [0.09608*]	0.5353 (5.7442) [0.00001***]	41.07295 [0.00001***]	2.222684 [0.00001***]
<i>BRD - GSG</i>	0.0014 (0.7511) [0.45406]	0.9411 (11.1039) [0.00001***]	199.8418 [0.00001***]	2.244444 [0.00001***]
<i>Transilvania Bank</i>	-0.0003 (-0.1742) [0.86203]	0.8925 (8.3211) [0.00001***]	124.5426 [0.00001***]	2.118662 [0.00001***]

Notes: Values in the round brackets represent t-ratios;
Values in the square brackets represent p-values.

In the Table 5 there are presented the CAPM – betas for the multifactor model. For all the eight stocks there were revealed asymmetrical behaviors for the bear and the bull markets. Again higher systematic risks for SIFs and lower systematic risks for banks resulted.

Table 5 - Multiple Factor CAPM coefficients for the eight financial institutions

Stock	Coefficient α	Coefficient β^+	Coefficient β^-	F-test	Durbin-Watson statistic
<i>SIF 1</i>	-0.0022 (-0.7755) [0.43960]	1.3102 (9.4514) [0.00001***]	1.32809 (8.7743) [0.00001***]	142.7717 [0.00001***]	2.064522 [0.00001***]
<i>SIF 2</i>	-0.0025 (-1.0129) [0.31316]	1.56835 (15.4362) [0.00001***]	1.39024 (11.3191) [0.00001***]	317.2128 [0.00001***]	1.944292 [0.00001***]
<i>SIF 3</i>	0.0005 (0.2310) [0.81769]	1.3557 (12.3373) [0.00001***]	1.38104 (11.3003) [0.00001***]	230.2315 [0.00001***]	2.138988 [0.00001***]
<i>SIF 4</i>	-0.0038774 (-1.5103) [0.13359]	1.21105 (8.0332) [0.00001***]	1.08172 (4.9246) [0.00001***]	75.31193 [0.00001***]	2.260292 [0.00001***]
<i>SIF 5</i>	-0.0034 (-1.5349) [0.12743]	1.4785 (15.3039) [0.00001***]	1.2787 (13.7950) [0.00001***]	373.9633 [0.00001***]	2.209702 [0.00001***]
<i>Carpatica Bank</i>	-0.0013 (-0.3699) [0.71211]	0.4168 (2.7745) [0.00641]	0.670738 (3.1684) [0.00194***]	15.54041 [0.00001***]	2.235619 [0.00001***]
<i>BRD - GSG</i>	0.0065 (2.6461) [0.00923***]	0.7041 (5.9349) [0.00001***]	1.21176 (9.1459) [0.00001***]	85.01656 [0.00001***]	2.296293 [0.00001***]
<i>Transilvania Bank</i>	-0.0018 (-0.5707) [0.56927]	0.9578 (4.1123) [0.00007***]	0.8179 (5.8638) [0.00001***]	45.67544 [0.00001***]	2.128712 [0.00001***]

Notes: Values in the round brackets represent t-ratio;
 Values in the square brackets represent p-values.

5. Conclusions

In this paper we investigated the systemic risks of eight Romanian financial institutions based on the daily values of the stock prices from period 13th of April 2009 – 9th of October 2009. During this period of time the financial markets were still characterized by volatility induced by the global crisis. For a financial institution, which depends very much on credibility, its own stock price evolution is a very important aspect and the systematic risk is a major dimension of the global risk.

We analyzed, in a single factor and in a multifactor CAPM framework, the systematic risks for all the eight companies. We found significant asymmetrical behaviors of stock prices in the circumstances of the bull and the bear markets. We found also the systematic risks associated to the SIFs stocks were much higher than the systematic risks associated to the banks stocks. This fact is an argument for a separate treatment of the two branches in the systemic risks for the financial sector evaluation.

The functional relation between SIFs and banks is another argument in the favor of a distinct approach of their risks. While the SIFs activity is crucially influenced by the banks which deposit their funds, the banks are not very dependent on the SIFs. We have reasons to believe

that some eventual SIFs failure, in the context of the actual global crisis, not necessary lead to major difficulties in the banking sector. Instead, a banking crisis could determine SIFs failure.

This research should be continued by studying the systemic risk in the financial sector for specific intervals of the actual global crisis, delimited by the intensities of impact on the financial markets.

References

1. Ang, A.; Chen, J. S. - *CAPM Over the Long-Run: 1926 – 2001 - AFA 2004 San Diego Meetings, January 21, 2003 - Available at SSRN: <http://ssrn.com/abstract=346600>*
2. Black, F. - *Capital Market Equilibrium with Restricted Borrowing, Journal of Business* 45, pp 444 - 455, 1972
3. Braun, P. A.; Nelson, D.B. and Sunier, A. M. - *Good News, Bad News, Volatility and Beta, Journal of Finance* 50, pp. 1575 - 1603, 1995
4. Cho, Y.H.; Engle, R.F. - *Time Varying Betas and Asymmetric Effects of News: Empirical Analysis of Blue Chip Stocks, UCSD, Working Paper, 1999*
5. Dickey, D. A. and Fuller, W. A. - *Estimators for autoregressive time series with a unit root, Journal of the American Statistical Association* 74: 427-431, 1979
6. Fabozzi, F. J.; Francis, J. C. - *Stability Tests for Alphas and Betas Over Bull and Bear Market Conditions, Journal of Finance*, 32, pp. 1093 - 1099, 1977
7. Granger, C.W.J. and Silvapulle, P. - *Capital Asset Pricing Model, Bear, Usual and Bull Market Conditions and Beta Instability A value At Risk Approach, Working Paper, 2002*
8. Kaufman, G. G.; Scott K. E. - *What is Systemic Risk and Do Bank Regulators Retard or Contribute to It?, The Independent Review*, v. VII, n. 3, pp. 371 – 391, Winter 2003
9. Levy, R. A. - *Beta Coefficients as Predictors of Returns, Financial Analysts Journal, January - February, pp. 61-69, 1974*
10. Lunde, A.; Timmermann, A. - *Duration Dependence in Stock Prices: An Analysis of Bull and Bear Markets, UCSD, Working Paper, 2000*
11. Lintner, J. - *The Valuation of Risk Assets and the Selection of Risky Investments in Stock Portfolios and Capital Budgets, Review of Economics and Statistics*. 47:1, 13-37, 1965
12. Markowitz - H. *Portfolio Selection, New York: J. Wiley and Son, 1959*
13. Mishkin, F. - *Comment on Systemic Risk, Research in Financial Services: Banking, Financial Markets and Systemic Risk, pp. 31 – 45, 1991*
14. Pagan, A.; Sossounov, K. - *A Simple Framework for Analyzing Bull and Bear Markets, Australian National University, Working Paper, 2000*
15. Roll, R. - *A Critique of the Asset Pricing Theory's Tests Part 1: On Past and Potential Testability of the Theory, Journal of Financial Economics* 4, 129 - 176, 1977
16. Schwarcz, S. L. - *Systemic Risk, Duke Law School Legal Studies Research Paper No. 163, Georgetown Law Journal, vol. 97, No. 1, 2008*
17. Sharpe, W. F. - *Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk, Journal of Finance, pp. 425 – 442, 1964*

Statistical Aspects Concerning at the Test „T”

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Abstract

The test „t” reflects the existence of the efficiency at the experimental team which had in final a good evolution comparative with the norms propose by F.R.F., as effect of the positive transfer for the means utilized over the development of the driving capacities for the young footballers.

Key words: test „t”, standard turning off; coefficient of variation; dynamic; physical preparation.

1. Introduction

The objective of base of the present research was the theoretical and experimental argumentation of the effectiveness for the sporting training, in the trace of the application for the methodic proposed on the distance covered of one annual cycle of training with the footballers from C.P.S. Salbero, which appears as experimental groupe.

2. Content

The results accumulated by the experiment group will be comparated with the results of the team F.C. Oțelul which appears as witness group. We mention that these groups, on the distance covered of one annual cycle of preparation, carried on the activity according to the needs imposed by the programmes in vigour in Romania at football, at the age of 17-18 years. In this sense, we will analyse the dynamic of the indexes for the physical parametres recommended by F.R.F. in the conditions of training, of the team Salbero (experimental), at beginning and end of experiment, as well as the evolution of the results for the experimental group face to the witness group, results which are presented in the tables numbers 1 and 2.

Table no. 1

The physical test Factors		30 m	The jump in length	Run-ning 12'	Fivejum-ping (m)	30 m dri-bling	5x30m	Trans-mition ball to Distance	Jump on vertical Line	3 x 1600 m	Throwing ball
The average of the physical test \bar{x}	Initial gr. exp.	4",3	2,27	3000	10,50	4,8"	25"	82	52	6',30"	20
	Final gr. exp.	4",2	2,40	3200	13,50	4,6"	24"	85	62	6',00"	25
The standard turning off	Initial gr. exp.	0,074	0,08	104,41	1,20	0,088"	0",88	3,44	5,99	8"	1,77
	Final gr. exp.	0,124	0,09	104,41	0,97	0,070"	1"	3,96	5,57	13",33	0,81
The coefficient of variation C _v (%)	Initial gr. exp.	1,72	3,52	3,48	11,42	1,83	3,52	4,18	11,51	2,05	8,85
	Final gr. exp.	2,95	3,75	3,26	7,18	1,52	4,16	4,65	8,98	3,70	3,24
The test „t”		-3,40 p<0,05	4,29 p<0,01	5,58 p<0,01	8,01 p<0,001	-7,44 p<0,001	-3,11 p<0,05	2,35 p<0,05	5,03 p<0,05	-7,95 p<0,001	10,63 p<0,001
The dynamic	Absolute deviation	-0,1"	0,13	200	3	-0,2"	-1"	3	10	-30"	5
	Rhythm of growth	-2,33%	5,72%	6,66 %	28,57%	-4,17%	-4%	3,65%	19,23%	7,69%	25%
	Index	0,9767	1,0572	1,0666	1,2857	0,9583	0,9600	1,0365	1,1923	0,9231	1,25

If we compare the initial results from the table number 1, we can consider as in the physical test *Running 30 m* of the experimental group, the average time of trial subtracted from 4,3" to 4,2", the reduction was with 0",1, while the rhythm of the diminution for the time was with 2,33 %. The coefficient of variation grewed from 1,72 % at 2,95 %, which it expresses a growth of the heterogeneity for the results of the experimental team. The calculation of the difference from the initial average time initial and the final average time at the physical test „Running 30 m 30 m", proved to be significant from statistics point of view ($p < 0,05$).

At the physical test *The jump in length from place*, at the beginnig of the experiment the average level of the result for the experimental group was 2,27 m. At the end of the experiment, this index grewed on an average with 0,13 m, respectively with 5,72 %, because the experimental team touched an average level of 2,40 m, which it represents a significant difference from statistics point of view ($p < 0,01$). The heterogeneity of the results increased at the end of the experiment, because the coefficient of variation grewed from 3,52 % initial, at 3,75 % in final.

Concerning to the physical test *Running 12'*, the average level of the trial grewed from 3000 m at 3200 m, with a progress of 200 m, while the rhythm of growth was 6,66 %. The coefficient of variation subtracted from 3,48 % at 3,26 %, which it expresses a growth of the homogeneity for the results of the experimental team. In the trace of the statistics processing of the initial and final results at the trial maked, it demonstrated as the difference between the the means obtained is significant ($p < 0,01$).

At the test *Fivejumping*, at the beginning of the experiment, the average level of the result for the experimental group was 10,50 m. At the end of the experiment, this index grewed in mean with 3 m, respectively with 28,57 %, the experimental team touched a average level of 13,50 m, which it represents a significant difference frim statistic point of view ($p < 0,001$). It increased and the homogeneity of the results at the end of the experiment, beacuse the coefficient of variation subtracted from 11,42 % initial, at 7,18 % in final

In the frame of the physical test *30 m dribling*, the average level of the trial subtracted from 4,8 sec., to 4,6 sec., the diminution was with 0",2, while the rhythm of the subtraction for the average final time face to the average initial time was of 4,17 %. The coefficient of variation subtracted from 1,83 % to 1,52%, which it expresses a growth of the homogeneity for the rezultats of the experimental team. The calculation of the difference for the average initial time and for the average final time holds a significant character at this physical trial ($p < 0,001$).

Concerning to the physical test *5 x 30 m*, at the beginning of the experiment the average time of the experimental group was 25 sec. At the end of the experiment, this index subtracted in mean with 1 sec., respectively with 4 %, the experimental team touched an average time of 24 sec., which it represents a signifucant difference from statistics point of view ($p < 0,05$). It increased and the heterogeneity of the results at the end of the experiment, because the coefficient of variation grewed from 3,52 % initial, to 4,16 % in final.

In the frame of the physical test *Transmition ball to distance*, the average level of the trial grewed from 82 m to 85 m, the progress is 3 m, while the rhythm of the growth is 4,65 % in the final period face to initial period. The coefficient of variation grewed from 4,18 % to 4,65 %, which it represents a growth of the heterogeneity of the results for the experimental team. In the trace of the statistics processing of difference between the average final time and the average initial time for thhe physical test, it obtained a significant level for this ($p < 0,05$).

Concerning to the physical test *Jump on vertical line*, at the beginning of the experiment, the average level of the result for the experimental group was 52 cm. At the end of the experiment, this index grew in mean with 10 cm., respectively with 19,23 %, the experiment team touched an average level of 62 cm., which it represents a significant difference from the statistics point of view ($p < 0,05$). It increased and the homogeneity of the results at the end of the experiment, because the coefficient of variation subtracted from 11,51 % initial, to 8,98 % in final.

At the physical test *3 x 1600 m*, the average level of the trial subtracted from 6',30" to 6',00", the diminution was with 30", while the rhythm of the subtraction was of 7,69 % in the final period face to initial period. The coefficient of variation of the times touched for each footballer grew from 2,05 % to 3,70 %, which it aims at a growth of the heterogeneity for the results of the experimental team. The difference between the average initial time and the average final time calculated through the test „t” reflects a significant character ($p < 0,001$).

In the frame of the physical test *Throwing ball from edge*, at the beginning of the experiment the average level of the result from the experimental group was 20 m. At the end of the experiment, this index grew in mean with 5 m, respectively with 25%, the experimental team touched an average level of 25 m, which it represents a significant difference from the statistics point of view ($p < 0,001$). It increased and the homogeneity of the results at the end of the experiment, because the coefficient of variation subtracted from 8,85 % initial, to 3,24 % in final.

Consequently, there are significant differences from the statistics point of view between the average final levels and the average initial levels of all the physical tests unfolded in conditions of training in the frame of the experimental team, which it expresses the growth of the efficiency from the application in the time of the training of the methodical proposed, of the programmes, of the models of preparation and of play in the frame of the experimental team. In continuation, we will analyse the dynamic of the indexes of the physical preparation between the experimental group (C.P.S. Salbero) and the witness team (F.C. Oțelul), where the results are presented in the table number 2.

According to the table number 2 presented at the end of the experiment, the footballers of the experimental group were clear superior face to the results of the witness team. The most representative difference from the statistics point of view were registered at the trial „*Throwing ball from edge*” where at the end of the experiment, the sportives from the experiment group, in mean, threw the ball at 25 m. face to 21 m. at the witness group. The difference from these two results has a significant character from the statistic point of view ($p < 0,001$). Sufficient of representative were and the trials of „force-speed”, such as: *The jump in length from place*, where the difference between the mean length of the test at the end of the experiment at the experimental group was with 0,20 m. more great face to the witness team. In the trace of the statistics processing of difference between the final mean length of the trial at the experimental group and the final mean length of the test for the witness team, through the test „t”, this was demonstrated to be significant ($p < 0,01$).

Another trial of „force-speed” is the physical test *Fivejumping*, where the average final level of the fivejump for the experimental group of 13,50 m is more great than the average final level of the fivejump for the witness group of 12,00 m, the progress of the experimental team is of 1,50 m, while the rhythm of the growth for the average level of the trial for the experimental group is of 12,5 % face to the witness group. The coefficient of variation of the levels at the physical test fivejump registered by each footballer of the experimental group of 7,18 % is more great than of the witness team of 2,91%, which it represents a more big heterogeneity of

the results for the experimental group face to the witness group. The calculation of the difference between the average final level of the test for the experimental team and the average finale level for the witness team is significant from the statistics point of view ($p < 0,01$).

Table no. 2

The physical test		30 m	The jump in length	Running 12'	Fivejumping (m)	30 m dribling	5x30m	Transmition ball to distance	Jump on vertical line	3 x 1600 m	Throwing ball
The average of the physical test \bar{x}	Final Gr. witness	4",4	2,20	3000	12,00	4,9"	27"	75	50	6',20"	21
	Final Gr. exp.	4",2	2,40	3200	13,50	4,6"	24"	85	62	6',00"	25
The standard turning off	Final Gr. witness	0,084	0,04	66,66	0,35	0,081"	1",00	2,88	3,05	7",63	1,05
	Final Gr. exp.	0,124	0,09	104,41	0,97	0,070"	1",00	3,96	5,57	13",33	0,81
The coefficient of variation C_v (%)	Final Gr. witness	1,91	1,81	2,22	2,91	1,65	3,70	3,84	6,10	2,01	5,00
	Final Gr. exp.	2,95	3,75	3,26	7,18	1,52	4,16	4,65	8,98	3,70	3,24
The test „t”		-5,64 $p < 0,05$	8,96 $p < 0,01$	6,65 $p < 0,01$	5,97 $p < 0,001$	-11,66 $p < 0,001$	-8,78 $p < 0,05$	8,41 $p < 0,05$	7,77 $p < 0,05$	-5,36 $p < 0,001$	12,42 $p < 0,001$
The dynamic	Absolute Deviation	-0,2"	0,20	200	1,50	-0,3"	-3"	10	12	-20"	4
	Rhythm of growth	-4,55%	9,09%	6,66 %	12,50%	-6,13%	-11,12%	13,33%	24,00%	-5,27%	19,04%
	Index	0,9545	1,0909	1,0666	1,1250	0,9387	0,8888	1,1333	1,24	0,9473	1,1904

In the frame of the physical test *The jump on vertical line*, the experimental group registered in the end an average level of the trial of 62 cm, which is more great than the average level of the witness team of 50 cm, the progress of the experimental group is in mean of 12 cm, respectively of 24 % face to the witness group, which it expresses a significant difference from the statistics point of view ($p < 0,05$). Also, there is a heterogeneity of the results for the experimental team face to the witness team, because the coefficient of variation at the experimental group is 8,98 % face to the coefficient of variation of the witness group wich is 6,10 %.

At the physical test *Running 30 m*, the progress of the experimental team represents a subtraction in mean of the time for the test with 0,2 sec., respectively with 4,55 % face to the witness team. Concerning to the physical test *Running 12'*, the progress for the experimental group is in mean of 200 m, respectively de 6,66 % face to the witness group, which it expresses a significant difference from the statistics point of view ($p < 0,01$).

In the frame of the physical test *30 m dribling*, the progress of the team represents a subtraction of the average time on the group face to the witness team with 0,3 sec., while the rhythm of the subtraction for the average time at the experimental group is with 6,13 % face to the average time of on the witness team. At the physical test *5 x 30 m*, the experimental team registered in final an average time of 24 sec. which is more little face to the witness team who has 27 sec. So, the progress of the experimental group is represented by the subtraction of the average time of the trial face to witness group with 3 sec., respectively 11,12 %, which is expresses a significant difference from statistics point of view ($p < 0,001$).

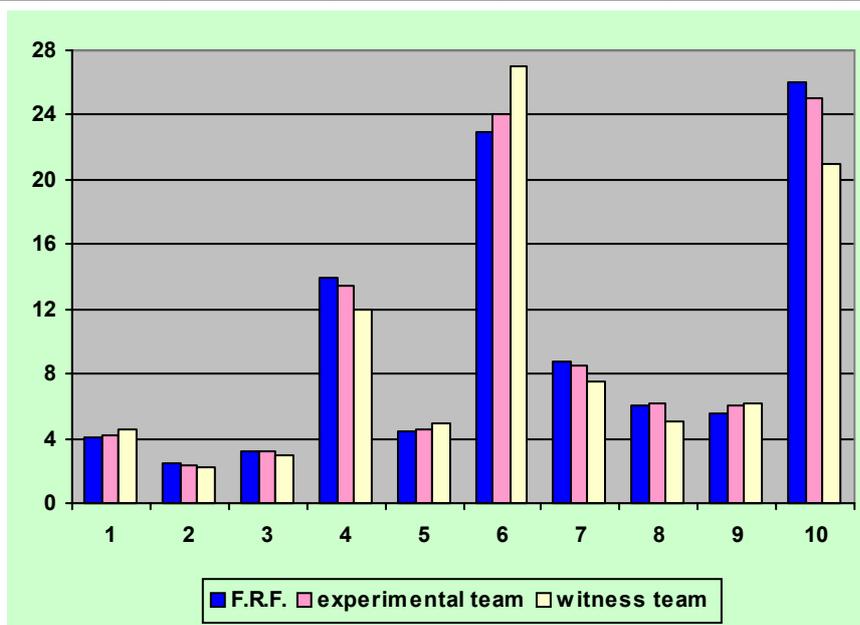
Concerning to *The transmition ball to distance*, the progress of the experimental group is in mean of 10 m, while the rhythm of the growth for the average level of the test at experimental team is with 13,33 % face to the average level of the witness team. If we speak about the physical test *3 x 1600 m*, the progress of the experimental group is represented by the

subtraction of the average time on team face to the witness group with 20", respectively with 5,27 %, which it expresses significant difference from statistics point of view ($p < 0,01$).

Consequently, the analyse of the comparative results between the experimental and the witness team at the physical tests demonstrated a evident superiority of the methodical which is applied to the experimental group, after we observe in the table number 3 and the type number 1:

Table no. 3

Nr. crt	THE PHYSICAL TESTS	F.R.F.	THE EXPERIMENTAL TEAM		THE WITNESS TEAM	
			INITIAL	FINAL	INITIAL	FINAL
1.	Running „30 m.” (sec.)	4,1"	4,3"	4,2"	4,5"	4,6"
2.	The jump in length (m.)	2,45	2,27	2,40	2,08	2,20
3.	Running 12' (m.)	3200m = 3,2 km	3000 m = 3,0 km	3200 = 3,2 km	2800 m = 2,8 km	3000 m = 3,0 km
4.	Fivejumping (m.)	14,00	10,50	13,50	10,72	12,00
5.	30 m dribling (sec.)	4,5"	4,8"	4,6"	5,1"	4,9"
6.	5 x 30 m. (sec.)	23,0"	25,0"	24,0"	29,0"	27,0"
7.	Transmition ball at distance	87,0 m = 8,7 dam	82,0 m = 8,2 dam	85,0 m = 8,5dam	70,0 m = 7,0 dam	75,0 m = 7,5 dam
8.	The jump on vertical line	60cm = 6dm	52,0 cm = 5,2 dm	62,0 cm = 6,2 dm	47,0 cm = 4,7 dm	50,0 cm = 5,0 dm
9.	3 x 1600m (min. și sec.)	5',50"	6',30"	6',00"	6',39"	6',20"
10.	Throwing ball (m.)	26,0	20,0	25,0	19,0	21,0



Type 1. The histogram of the values from the average levels of the physical tests in conditions of trainings for the experimental group and the witness group face to the average levels proposes by F.R.F.

3. Conclusions

By means of test „t”, we can to observe that the experimental team had in final an evolution enough of good comparative with the norms propose by F.R.F., which it expresses an positive transfer of the means applied in the frame of the experiment, over the development of the driving capacities for the game of football and which facilitates the growth of the level for the sporting preparation of the young footballers.

The final conclusion is the individual valuation, more concretely between the sportives comprised in the experimental team touched footballers in League I or in one from the national teams: Ropotan Adrian (Dinamo București, in present at Dinamo Moskova, who was international of younger and youth); Izvoranu M. – Dinamo București, who was international of youth; Sârghi Cr. – Oțelul Galați, League I, who was international of youth; Ioviță Valentin - Gloria Buzău, Oțelul Galați, League I, who was international of younger; Milea Ciprian – Poli Iași, League I, Axente Mircea – Oțelul Galați, League I, who was international of younger, Șotrocan Eduard, Nejneru Marius – Gloria Buzău, League I, Drăgan Sorin who was in League I - Unirea Urziceni, Bourceanu - Poli Timișoara, component in the national batch of seniors.

References

1. Cojocaru V. –, „Strategia pregătirii juniorilor de înaltă performanță” – Ed. Axis Mundi, București, 2000.
2. Drăgan A. –, „Fotbal pentru juniori”, Ed. Valinex, Chișinău, 2006.
3. Drăgan A. –, „Fotbal – concepții, metode și mijloace”, Ed. Mongabit, Galați, 2006.
4. Drăgan A. –, „Abordări interdisciplinare în fotbal”, Ed. Academica, Galați, 2007.
5. Drăgan A. –, „Optimizarea lecției de antrenament la disciplina fotbal”, Ed. Galati University Press, Galați, 2009.
6. Opaș G. –, „Statistică”, Ed. Fundației Universitare „Dunărea de Jos” – Galați, 2006.
7. Rădulescu M., Cojocaru V., Drăgan A. –, „Ghidul antrenorului de fotbal la copii și juniori”, Ed. Axis-Mundi, București, 2003.
8. Rădulescu M. – Damian M. – „Fotbal – pro – Ghidul antrenorului profesionist” – Ed. Didactică și Pedagogică, Galați, 2009.

Changes in Characteristics of Services within the Knowledge-Based Economy

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Abstract

This study explores how the knowledge-based economy could influence the characteristics of services. Therefore, the main characteristics of services both within the industrial society and within the knowledge-based society were analyzed in this study. The findings of this study disclose that the characteristics of services have considerably changed during the past few years, in the sense that there is a new "delineation" of services from goods that is the vagueness of the demarcation between these products.

Keywords: service, characteristic, knowledge-based economy

JEL Code: L80, M10, M11

1. Introduction

This study investigates how the knowledge-based economy could change the characteristics of services. Over many years, researchers have conceptualized a range of characteristics that were considered to distinguish services from goods within the industrial society, having implications for management practice. However, these characteristics may not correspond with the new conceptions on services in a knowledge-based society. Therefore, the main characteristics of services both within the industrial society and within the knowledge-based society were analyzed in this study.

We consider that there is a new "delineation" of services from goods that is the vagueness of the demarcation between these products. There is a "grey" zone, where we find tangible and/or homogeneous and/or separable and/or durable services, on one hand, and intangible and/or heterogeneous and/or inseparable and/or perishable goods, on the other hand. The study is based on evidence provided by a large variety of sources, such as articles, conceptual papers and research reports. The research question was answered by analyzing and evaluating evidence and interpreting and reorganizing concepts. Answering the research question was difficult, due to the variety of approaches, concepts, and definitions found in the literature.

2. Background

In the last decade, services became the main dynamic component of economic competition within developed countries. The broaden interpenetration and integration relations between the sector of services and other sectors of the economy and the growth of economic development opportunities through the extension of international transactions with services may be the main causes of the increasing role of services within national economies. Moreover, nowadays people often buy goods for the services that these goods are offering to them.

Services were independently studied quite recently, within the second half of the 20th century, due to the explosive development of the tertiary sector. There is a strong demand for services associated generally with the evolution of society from an industrial society to a knowledge-based society and specifically with raising living standards. Today services are a central area of a modern economy, used by private and public companies, institutions and individuals. They have a major contribution to Gross Domestic Product, employment, and economic growth. According to the European Commission (2008), the sector of services generates around 60-70% of the economic activity and of the overall employment. In addition, this sector offers a considerable potential for economic growth and creating jobs. The expansion and diversification of services are sustained by technological progress, social division of labour intensification and companies' demand for services expansion. As a result, the increasing importance of services within the economy and the spectacular progress of services have intensified the preoccupations for better understanding this sector.

Even though services have been usually defined in the literature by comparing them with economic goods, this comparison may not be so significant today. As new technologies have rapidly emerged, the production process of goods and services has also changed. According to Grönroos (2006) mass customization and modular production allow clients to participate in the production process, to interact with the company that produces goods (e.g. using cad/cam techniques) and, moreover, some goods are no longer perceived as tangible. As well, Vargo and Lusch (2004) argue that services and goods are not reciprocally exclusive (e.g. intangible versus tangible) subdivisions of the general domain named products, explaining that:

“Attempting to define service by contradistinction from tangible goods both prohibits a full understanding of the richness of the role of service in exchange and limits a full understanding of the role of tangible goods. Rather than illuminating understanding, it constrains understanding.” (Vargo and Lusch, 2004: 326).

All these issues associated with the variety of the conceptions on services may hinder the understanding and management of this field. Therefore, it is important to analyze the main characteristics of services both within the industrial society and within the knowledge-based society.

Within the industrial society the predominant conception on services is that services have a series of characteristics that allow for their identification on one hand, and their delineation from other fields of economic activity (especially from goods) on the other hand. Over many years, researchers have conceptualized a range of characteristics that were considered to distinguish services from goods within the industrial society, having implications for management practice (Table 1). However, these characteristics may not correspond with the new conceptions on services in a knowledge-based society.

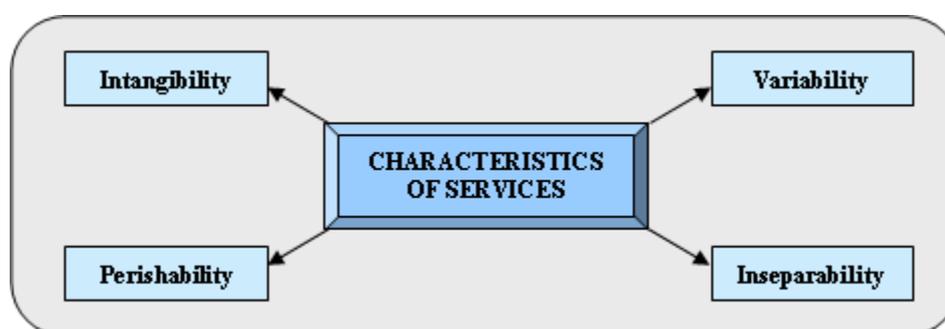
Table 1 Characteristics of services identified by different scholars

Author	Characteristics of services
Zeithaml et al. (1985)	Intangibility, inseparability, heterogeneity, and perishability
Lovelock and Wright (1999)	Intangibility, variability, perishability, and inseparability
Kerin et al. (2003)	Intangibility, inconsistency, inseparability, and inventory
Kotler (2003)	Intangibility, inseparability, variability, and perishability

Author	Characteristics of services
Pride and Ferrell (2003)	Intangibility, inseparability of production and consumption, perishability, heterogeneity, client-based relationships, and customer contact
Solomon and Stuart (2003)	Intangibility, perishability, inseparability, and variability
Vargo and Lusch (2004)	Intangibility, heterogeneity, inseparability of production and consumption, and perishability

The most common characteristics of services identified by several authors (Table 1) are intangibility, variability, inseparability and perishability (Figure 1). These characteristics will be further investigated in order to reveal how they were conceptually changed throughout the years and whether they are still relevant within the context of the knowledge-based society.

Figure 1 Unique characteristics of services

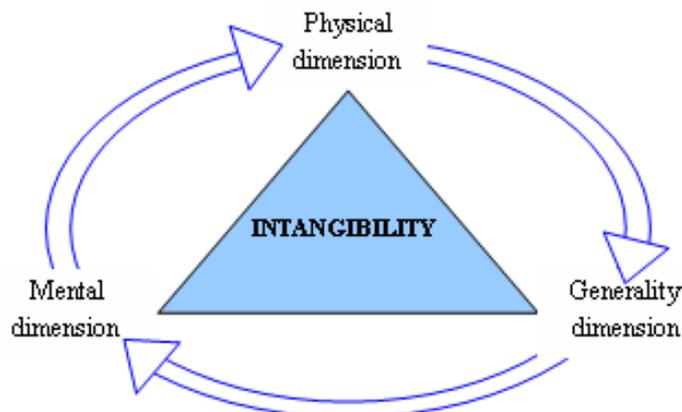


3. The intangibility of services

Intangibility of services means that a service is “an act or performance that cannot be seen or touched” (McKee et al., 2006: 207), or tasted, felt, heard, smelt before purchase or even before consumption. According to Vargo and Lusch (2004: 326) intangibility of services may be defined as “lacking the palpable or tactile quality of goods”.

However, Laroche et al. (2001) find that some goods appear to be less tangible than many services (e.g. pizzeria dinner versus compact disc). They identify intangibility as a three-dimensional construct by adding a mental component to the two dimensions known in the literature at that moment (physical intangibility and generality). Additionally, Laroche et al. (2001) state that mental intangibility is the most important dimension of overall intangibility. However, Lovelock and Gummesson (2004: 26) mention that no explicit distinction is made between physical and mental intangibility in marketing textbooks. The three dimensions covered by intangibility are better described in another study conducted by Laroche et al. (2004): (1) *physical intangibility*, which means that a service is not accessible to the senses (cannot be touched or seen), as it does not have a physical presence; (2) *generality*, which means that the client has difficulties in accurately defining or describing a particular service; and (3) *mental intangibility*, which means that a service is difficult to understand (grasp) mentally. The physical, generality and mental dimensions of intangibility of services are illustrated in Figure 2.

Figure 2 The dimensions of intangibility



As a consequence of intangibility clients cannot perceive or evaluate the services before consumption and therefore their confidence regarding those services is limited. Thus, the sale of services depends on the provider's capacity to point out the visible parts of the services (e.g. personnel, equipments, prices, etc.). There are some factors that contribute to revealing the visible parts of services: (a) the environment in which the service is provided (for instance, in case of higher education the inadequate temperature in classrooms, the noise or the furniture design may significantly influence the students' behaviour and attitudes); (b) the communications regarding the service (e.g. brochures, advertisements, advertising spots); (c) the price of the service, which more or less indicates the level of quality.

Recently, scholars have questioned intangibility as a characteristic of services, considering it to be "an ambiguous and limited concept" (Lovelock and Gummesson, 2004: 27) with "myopic and goods oriented" focus on manufactured output (Vargo and Lusch, 2004: 327).

According to Lovelock and Gummesson (2004: 27) intangibility seems to be linked to pre-purchase activities characterized by lack of clients' experience with the service, but they argue that this could happen in the case of some goods too. Also, during the delivery of many services the clients are experiencing through their senses some tangible performance activities. In addition, Vargo and Lusch (2004: 327) criticize this characteristic of services on the basis that: (1) services often have tangible results, (2) tangible goods are often purchased for intangible benefits and (3) tangibility can be a limiting factor in distribution. Furthermore, they argue that "a more central weakness with differentiating services from goods in terms of tangibility is that the distinction represents the producer's orientation, rather than the consumer's, and thus what should be the marketer's orientation" (Vargo and Lusch, 2004: 328).

As Lovelock and Gummesson (2004) conclude, intangibility does not characterize all services in all their stages of existence:

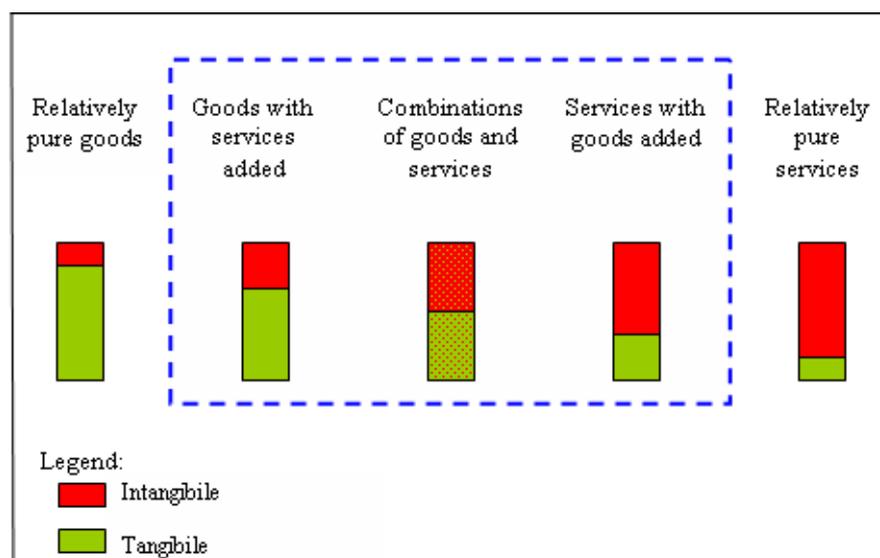
"Although the concept of intangibility might sometimes remain useful – for example, in relation to the growing number of e-services – we conclude that it is not a universally applicable characteristic of all services during all stages from pre-purchase through delivery, consumption, and output." (p. 27).

Moreover, due to the development of services and the increasing complexity of the economy, many goods require complementary services in order to be used, and conversely, there are services that require the existence of goods. According to Zeithaml and Bitner (1996: 25) a company can offer to its clients:

1. A relatively simple, pure, unmixed good, the company's offer being limited to a tangible good, with no service added (e.g., perfumes, detergents etc.);
2. A good with more services added, in which case the company supplies a basic good that is complemented by several additional services (for example, a manufacturer of refrigerators offer the product and also warranty service, or transport service at home);
3. A service with other goods or services added, the offer being a basic service, supplemented by certain goods or services (e.g. airline service is made up of the basic service – transport, as well as more goods or services such as drinks, food, watching movies, listening to music etc.) and
4. A relatively simple, pure, unmixed service, in which case the offer consists of a single service, unaccompanied by another good or service (e.g., the service provided by a psychologist, the counselling service offered by a lawyer, etc.).

This dualism between goods and services offered by companies is illustrated in Figure 3. It should be noted that most companies nowadays are in the dotted area in Figure 3. In their effort to achieve customer satisfaction, companies located outside the marked area tend to move towards it. For example, a company that produces packaged foods (relatively distinct goods) may install telephone lines to inform customers and to offer them food recipes. Also, a lawyer who provides legal counselling (a relatively distinct service) can offer to its customers Internet access for the time waiting to be spent pleasantly.

Figure 3 Dualism between goods and services offered by companies



(Source: Adapted from Zeithaml and Bitner, 1996: 25)

On the basis of what has been revealed above we may bring to a close by saying that within the knowledge-based society it may be appropriate to maintain the concept of intangibility only for some services. To some extent companies offer products that are not tangible or intangible products, but different combinations of tangible and intangible outputs of their activity. Diversification of services has made the delineation of services from goods more difficult, and intangibility may be a characteristic for some goods too.

4. The variability of services

The variability of services may be encountered in the service literature as heterogeneity, differentiation, diversity, inconsistency, or non-standardization (Lovelock and Gummesson,

2004). Vargo and Lusch (2004: 326) use the term heterogeneity when they evoke this characteristic of services, defining it as “the relative inability to standardize the output of services in comparison to goods”. As stated by McKee et al. (2006: 207) variability suggests that “different customers require different types or levels of service in different situations”. We note the (intentional) repetition of the word “different” that may have the role to emphasize the idea of change. The services cannot be identically repeated since their results depend on the time when they are provided, on the place where they are provided and on the service provider’s and client’s states of mind, dispositions, health, tiredness etc.

This characteristic of services, irrespective of the name it is given in the literature (more frequently, heterogeneity or variability), is very much correlated with the concept of standardization. This concept came into view during the industrial revolution when mass production that characterized it required standardization in order to evaluate its quality. However, within the knowledge-based society many services may also be standardized, and this means that variability is no longer a reliable criterion to delineate services from goods. As indicated by Vargo and Lusch (2004: 329), the same output of a service (a mixture of standardized offerings) may be provided to several clients belonging to relatively homogeneous groups (market segments), and thus services are relatively standardized. For example, a lecture may be considered a standardized, homogeneous service because it is identically provided to all the students present in the classroom. Nevertheless what each student absorbs is very heterogeneous because it depends on his/her capacity of perception.

On the other hand, scholars have lately emphasized the idea of replacing heterogeneity with customization (Vargo and Lusch, 2004: 329; Lovelock and Gummesson, 2004: 28) on the ground that customization is more responsive to demand because clients may create the service package that best suits their needs by selecting services from a variety of standardized modules. For instance, mobile telecommunications service is standardized in design, but offers modules for customizing specific elements, such as alternative service plans on subscription (in case of voice services), alternative data service plans, different prices, etc. Similarly, banking services offer modules for customization such as different ways of performing operations (alternative channels transactions: phone, internet, front-desk), different bank accounts, different cards, alternative bill paying options, etc. As a result, variability or heterogeneity is no longer a distinctive characteristic that distinguishes all services apart from all goods.

5. The inseparability of services

The inseparability of services or the simultaneity of services is related to their production and consumption. It designates the simultaneous nature of service production and consumption, contrasting with the sequential nature of production, purchase and consumption that characterizes physical products (Vargo and Lusch, 2004: 326). The inseparability of services also means that customers are involved in the service mix (McKee et al., 2006: 207). For example, a taxi operator drives the taxi, and the client uses it, therefore the physical presence of the taxi driver and client are indispensable to provide the service.

Also, the client must be physically present in order to use the services of a hotel, of a restaurant, or of a ski resort. Besides the fact that the client is physically present, he/she also interacts with the service provider. For instance, the patient communicates information to the physician, thus really participating to the service providing. Furthermore, Vargo and Lusch (2004: 327) argue that the customer is always involved in the “production” of value, in the case of both goods and services.

In order to outline this participation of the consumer to the service production process and the transfer of work from the provider to the client, Lovelock and Gummesson (2004: 29) use the term "coproduction" (the client is a coproducer in the case of many services). However, they criticize the generalization that inseparability is a distinctive characteristic of all services, arguing that "there is a large group of *separable* services that do not involve the customer directly, with the result that production and consumption need not be simultaneous". Examples of such "separable services" performed in the client's absence are: laundering clothes (cleaning), repair and maintenance services, transporting freight, government services (defence, police, maintenance of infrastructure), banking etc.

6. The perishability of services

Services tend to perish in the absence of consumption because their value exists only when they are required by the clients. Therefore, the services are forever lost if they are not required and used (consumed). The perishability of services means the relative inability to inventory services as compared to goods (Vargo and Lusch, 2004: 326).

According to Lovelock and Gummesson (2004: 30), perishability is "a multidimensional concept encompassing productive capacity, the producer's output, the performance experienced by customers, and the output they obtain from the service".

The perishability of services as a general criterion to delineate services from goods has been questioned, as well as the other characteristics of services. Based on the fact that there are perishable tangible goods and long-lasting benefits resulting from many services, Vargo and Lusch (2004: 332) state that "perishability in value potential is a characteristic of all market offerings rather than a characteristic disadvantage of services".

Furthermore, they emphasize that both tangible and intangible capabilities can be inventoried (Vargo and Lusch, 2004: 327) and therefore "inventoriability (storage of output) is not (should not be) a normative goal for what are traditionally categorized as either goods or service firms". They claim that "the normative goal should be to find ways to maximize the service flows desired by consumers while minimizing output inventory and its limitations" (Vargo and Lusch, 2004: 332).

Additionally, Lovelock and Gummesson (2004: 30) state that there are some service performances and output that can be captured through recording and to be sold, replayed, and resold later. For example, performances of information-based services such as education, entertainment, music, information and news can be recorded on CDs, DVDs, or other storage media for later reuse and resale. However, this is only an exception to the rule that, generally, services cannot be stored and resold later.

7. Conclusion

We may conclude that the four "unique" characteristics of services have considerably changed during the past few years. Consistent with Grove et al. (2003: 107), "as the domain of services has expanded, the boundaries that define it have become more obscure. (...). Issues regarding the scope and the future of services persist".

Figure 4 The new “delineation” of services from goods

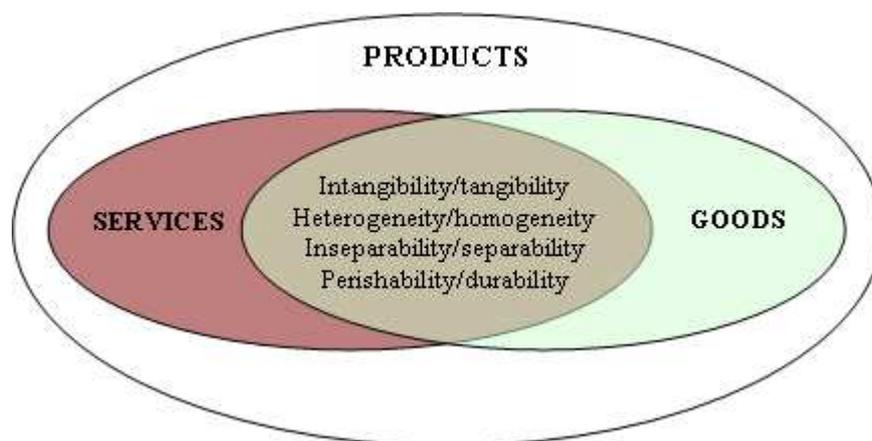


Figure 4 reveals the new “delineation” of services from goods that is the vagueness of the demarcation between these products. There is a “grey” zone, where we find tangible and/or homogeneous and/or separable and/or durable services, on one hand, and intangible and/or heterogeneous and/or inseparable and/or perishable goods, on the other hand. Therefore, I suggest that further research should be done in this direction in order to investigate the changes in types of services that have appeared due to the ambiguity in characterizing services and goods.

References

1. European Commission (2008), *A Single Market for Services*, <http://ec.europa.eu/internal_market/top_layer/index_19_en.htm>, last accessed October 10, 2009.
2. Grönroos, C. (2006), *Adopting a service logic for marketing*, *Marketing Theory*, 6 (3): 317-333.
3. Grove, S. J., Fisk, R. P., John, J. (2003), *The Future of Services Marketing: Forecasts from Ten Services Experts*, *Journal of Services Marketing*, 17 (2): 107-121.
4. Kerin, R. A., Berkowitz, E. N., Hartley, S. W., Rudelius W. (2003), *Marketing*, 7th Edition, New York: McGraw-Hill.
5. Kotler, Ph. (2003), *Marketing Management*, 11th Edition, Upper Saddle River, NJ: Prentice Hall.
6. Laroche, M., Bergeron, J., Goutaland, C. (2001), *A Three-Dimensional Scale of Intangibility*, *Journal of Service Research*, 4 (1): 26-38.
7. Laroche, M., McDougall, G. H. G., Bergeron, J., Yang, Z. (2004), *Exploring How Intangibility Affects Perceived Risk*, *Journal of Service Research*, 6 (4): 373-389.
8. Lovelock, C., Gummesson, E. (2004), *Whither Services Marketing?: In Search of a New Paradigm and Fresh Perspectives*, *Journal of Service Research*, 7 (1): 20-41.
9. Lovelock, C., Wright L. (1999), *Principles of Services Marketing and Management*, Upper Saddle River, NJ: Prentice Hall.
10. McKee, D., Simmers, C. S., Licata, J. (2006), *Customer Self-Efficacy and Response to Service*, *Journal of Service Research*, 8 (3): 207-220.
11. Pride, W. M., Ferrell, O. C. (2003), *Marketing: Concepts and Strategies*, 12th Edition, Boston: Houghton Mifflin.
12. Solomon, M. R., Stuart E. W. (2003), *Marketing: Real People, Real Choices*, Upper Saddle River, NJ: Prentice Hall.
13. Vargo, S. L., Lusch, R. F. (2004), *The Four Service Marketing Myths: Remnants of a Goods-Based, Manufacturing Model*, *Journal of Service Research*, 6 (4): 324-335.
14. Zeithaml, V. A., Bitner, M. J. (1996), *Services Marketing*, New York: Mc Graw Hill.
15. Zeithaml, V. A., Parasuraman, A., Berry, L. L. (1985), *Problems and Strategies in Services Marketing*, *Journal of Marketing*, 49 (2): 33-46.

The Common Agricultural Market and Its Effects Upon European Union Countries' Agriculture and Budget

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Abstract

In the light of last years, even decades, major reforms aligned Common Agricultural Policy requirements to large interest groups on world agricultural markets and the political-economic framework due to European Union permanent expansion. This essay summarizes the premises and objectives of the Common Agricultural Policy, the review and their implementation in time, as proposals and expectations of future economic interests of European agriculture, from the consumer protection point of view, food safety and food industries in the European Union, compared to dependence on a market in a world where uncertainty is increasing.

Keywords: Common Agricultural Policy, CAP reform, agriculture, rural development, Single Payment Scheme, eco-compliance.

1. European Union economic characteristics

The unification process of the European continent shows the European Union dynamism and progress as a new economic, political and social organization form, which becomes a high power center, together with U.S. and Japan.⁵ In the Treaty of Rome, the six founding members: France, Germany, Italy, Belgium, Netherlands and Luxembourg, have founded the European Economic Community, the first step to European Union enlargement.

In the past 30 years the European Union has received new members in five successive stages as follows: United Kingdom, Denmark and Ireland in 1973, Greece in 1981, Spain and Portugal in 1986, Austria, Finland and Sweden in 1995, Czech Republic, Estonia, Lithuania, Hungary, Malta, Poland, Slovakia and Slovenia on May 1, 2004, Romania and Bulgaria at January 1, 2007.

For Eastern European countries, the adherence criteria were set at the Copenhagen Conference in 1993, including:

- ✚ institution stability that guarantees democracy, respect for law, human rights and minority protection;
- ✚ the existence of a functioning market economy and economy's capacity to face competition and market forces within the European Union;
- ✚ the ability to assume obligations as Member State, including the adoption of EU objectives.

⁵ Miron Dumitru, Gabriela Drăgan, Laura Păun, Florin Ilie, Mihaela Cibian, *Economia Integrării Europene*, ASE Publishing House, București, 2002.

Through the decision from Madrid in 1995, these conditions added the need for pre-adherence period; states must obtain the administrative sectors adjustment, European Community legislation and its transposition into national legislation by adopting the community acquis. Although negotiations were completed in 2004, Romania and Bulgaria had not yet met some of the criteria established in Madrid, which delayed accession until 2007.

European Union extension process continues to this day with the negotiations that are made with Turkey and some Balkan countries. This process of unification Western Europe with the East is a major challenge, as it provides for all members of the European Union economic growth and macro stabilization, supports Member States to become competitive on global market and contributes to the building of a new business behavior. The European Union expansion in 2007 means an increase of the population to over 450 million inhabitants, 20% increase over the number of EU population, with an increase of 23% of land area, rises substantially the demographic and geographic dimensions of the European Union.

Since 2007, agricultural land use in the European Union amounts to approx. 200 million hectares, vesting 0.44 ha per inhabitant. This agricultural area, rational exploit, will increase the European Union agricultural power. After adherence, with the 7012 million hectares of eligible area, Romania contributes 7.4% of total agricultural area used by the 27 Member States, the second after France.

In its new configuration, European Union member countries differ both in size, natural conditions, wealth and economic performance, cultural differences and historical evolution. With all this diversity, there are common interests and hope that the benefits that will result from the integration will be greater than its cost to all countries. Benefits of the European Union by creating a United Europe, are political and economic, materialized in:

- ✚ extending a peace, stability and prosperity area that will increase the security of its citizens;
- ✚ the European Union dimensional size and population increase will rise the consumers number, stimulating growth and creating jobs;
- ✚ improving citizens quality of life;
- ✚ European Union extension conditions the worldwide foreign policy, security and trade position;
- ✚ European Union Member States real convergence by reducing disparities between income per capita which is subject to achieving sustained economic growth based on economic efficiency increasing;
- ✚ European Union Member States nominal convergence is considering the following criteria established at Maastricht:
 - ✚ Setting prices, respectively, the inflation rate should not exceed more than 1.5% average of the three countries with lowest inflation in the euro area;
 - ✚ Establishing long-term interest rate not exceeding more than 2% similar rate to the three member states that achieved the best results on pricing;

Ability to support public finance, expressed by a budget deficit, not exceeding 60% of GDP;
Exchange rate stability within a movement area.

2. The effects of agricultural policy reforms on the European Community countries agriculture

2.1. Reform the Common Agriculture Policy

Historically, Common Agricultural Policy started in 1957 along with the Treaty of Rome. This treaty had the following objectives: establish a common market and the progressive approach of economic policies of member countries, to further throughout the European Community a

harmonious development of economic activities, a balanced expansion, increased stability, increased standard of living, close terms with the members.

Agriculture was considered by Member States, a strategic sector, thanks to its essential character of ensuring food security. Excluding agriculture from the process of establishing a common market and leaving a free competition system, in terms of opening markets within the community, would have led to a pronounced decline in this sector in poorly performing countries and a large number of farmers. Although there were differences between Member States regarding production systems, there is a complementary agricultural benefit, especially between France, which has large cereals production, and Germany which was poor in animal products; Italy which has comparative advantage on Mediterranean products, Belgium and Holland which had livestock and developed processing sectors, benefit the seaport Rotterdam, Luxembourg having instead, demand for food. Complementary agricultural benefits became effective after extension from 6 to 15. This advantage could not be maintained under EU extension to eastern Europe.⁶

Common Agricultural Policy was created and defined by the Treaty of Rome and was applied in 1962 by the Brussels Agreement, which established the key elements of the Common Agricultural Policy: objectives, principles and action mechanisms, products or product groups amenable to intervention, single community rules on production, prices, imports and exports, etc.

The objectives of the Single Market created in 1962 included:⁷

- common rules on competitiveness;
- national market policies coordination;
- formation and operation of Common Market Organisations on products and product groups.

In the period that we refer to, only 20% of the population of Member States was included in the agricultural sector, with a GDP contribution of only 10% and average income of a farmer was less than 40% of median income in the economy. Common Agricultural Policy is considered the most important European Community policy, which has spread to most food products and remained the most important agricultural policy until 1990, when a new reform began. Throughout the period up to '90, the Common Agricultural Policy was always subject to reform measures.

Common Agricultural Policy objectives should ensure food security and disparities elimination between countries through comparative advantage harmonization. To do this, measures have been taken to increase competitiveness through technical and managerial updates, increasing farmers' incomes and stabilizing prices. These measures were implemented gradually as agricultural products were subject to internal market rules. Price stabilization was done through the Common Market Organisations system of the main agricultural products by improving Member States trade, based on pricing mechanisms and specific interventions and a protectionist trade regime between the countries. Implementation of these objectives has led to an agricultural production explosion where by resulted the farm income improvement. However, due to the high level of indirect subsidies through indefinitely guaranteed prices it has been created an imbalance in the normal functioning of internal agricultural markets and global market distortions of agricultural products.⁸ Agricultural products increased surpluses contributed to the creation of such imbalance, even though exports have increased and it has

⁶ Zahiu Letiția, Politici și piețe agricole, Reformă și integrare economică, Ceres Publishing House, București, 2004.

⁷ Hazell Peter, Agricultural Economics, nr. 19/1998

⁸ Commission Regulation No. 1253, May 17,1998

been intervened on the market for creating strategic structure. Due to intervention price support mechanisms has been an inefficient budgetary resources allocation process.

Increasing agricultural surpluses and widening imbalances and market distortions on the global market have led to the need of a new Common Agricultural Policy reform. This reform was imposed by the need to amend the original objectives of CAP, and a high level of agricultural products supply of EU population, the growth of agricultural structures and rural depopulation.

The first steps in this direction were taken in the '70, with indefinitely guaranteed cost reductions. In summary, the effects of the first phase of CAP reforms consisted of:

- ✚ food security and reducing the food cost to middle-income family budget, from 28% in 1970 to 19.5% in 1995; also, agricultural products such as beef cattle, dairy, meat poultry, vegetables, etc., ensured 100% of EU15 population's consumption needs;
- ✚ stabilize prices and eliminate unfair competition between member countries;
- ✚ strong growth in agricultural productivity due to high internal prices, customs policy and export subsidies;
- ✚ promote the modernization of agriculture through subsidies and unlimited loans;
- ✚ increasing the foodstuffs supply has led to the subsidized stocks creation to be exported;
- ✚ increased budgetary costs for large farms.

Implementation of these objectives has made the Single Market to represent a successful global market, which gradually became an integrated market for goods, services, capital and labor. Reform measures undertaken by the year 1988, proved ineffective and could not restore balances agricultural markets. This failure was due to increased agricultural surpluses and sustained production costs, market intervention for training subsidized export stocks.

All this required finding new solutions and tools to support agriculture and the implementation of the Common Agricultural Policy, which can be summarized in the following fundamental principles:

uniqueness market and prices;

- ✚ community preference to supply Member States with food products;
- ✚ financial solidarity by focusing on strengthening economic and social principle that is true in terms of EU extension from 15 to 27 Member States.

2.1.1. CAP reform in 1992

1992 reform of the Agriculture Common Policy is a radical change named McSharry reform, after the name of European Commissioner for Agriculture. The objectives of this reform were the liberalization of agricultural market due to agricultural development, growth of customers' requirements and the pressures exercised by the World Trade Organization, Uruguay Round.⁹

Imbalances in agriculture have been aggravated by supply and demand according to increasing surpluses, with all measures taken in advance regarding the increased export and establishment of strategic stocks. Rigid application of agriculture subvention mechanisms emphasized increasing unsalable surpluses and led to an increase in budgetary costs. This mechanism was no longer an effective support to farmers, who have become dissatisfied with the price support, the cost and quality of the aliments and the high costs of supporting agriculture. Thus, if during 1985-1991, the price index of agricultural products increased by 30%, it means that each customer paid 100 Euros each to support agriculture.

⁹ Alexandru Cecilia, Aderarea României la Uniunea Europeană – provocare pentru agricultură și mediu, ASE Publishing House, 2005.

The objectives of this reform were established by the Maastricht agreement, with the following specifications:

- ✚ to maintain the European Union among major producers and exporters of agricultural products, through measures meant to increase competitiveness on both internal markets and export;
- ✚ to reduce agricultural production according to the market demand by decreasing the area of cultivated land and limiting intervention prices;
- ✚ directing the community assistance to support farmers in need;
- ✚ assist farmers to settle in rural areas;
- ✚ environmental protection and development of economic and social potential of rural areas.

For agriculture, the reform mechanisms stipulated¹⁰:

- ✚ redefining the mechanisms for intervention, especially: recover of domestic markets, backed by reducing market prices, reducing surpluses and approach of the international markets;
- ✚ offer correction actions, as a result of decoupling the price policy (which led to distortions in the market), income policies, using compensation scheme (direct payments) and reduction in some crop areas;
- ✚ reduce subsidized exports and export subsidies;
- ✚ reduce budgetary costs by an economic management of financial resources.

Markets management after the 1992 reform sought to link supply to demand, by reducing the offer for excess products, without affecting the living standards of farmers. Although the reform maintained the quota system by reducing prices and providing compensation payments to farmers, products quotas decreased and were eliminated in particular for grain. Also, compensation payments were partially decoupled from production, being given directly per hectare or per animal.

The expenses made by EAGGF to manage the markets were in 1997: EUR 12.363 million to support and 28.681 million Euros to aid farmers. The market support took place due to mechanisms such as: Intervention stocks, raw guidance, processing and marketing support, consumer support, export restrictions, etc.

The reorganization of market mechanisms has been accompanied by a series of measures meant to develop rural areas, namely: extensive support for agricultural activities, multifunctional agriculture development, agro-environment schemes development, environmental and social harmonization, etc

Reform implementation effects in 1992 resulted in a relative production stabilization at a level close to Community consumption and artificially raising prices decreased. Introducing quality criteria as part of CAP, had a beneficial effect on consumers. Also, environmental and social measures began to provide a new orientation to market needs and new ways of rural development.

2.2.2. Agenda 2000

Agenda 2000 marks a new reform stage of the common agricultural policy and has the following objectives:

- ✚ carry-over the reform process began in 1992, on reducing institutional prices;
- ✚ increasing compensation (direct);

¹⁰ Zahiu Letiția, Politici și piețe agricole, Reformă și integrare economică, Ceres Publishing House, București, 2004.

- ✚ improving competitiveness by increasing quality and reducing production costs;
- ✚ ensuring food safety and quality;
- ✚ improving agricultural products marketing;
- ✚ environmental protection and environmental compliance in agricultural policy objectives;
- ✚ introduction of complex measures for rural development;
- ✚ legislation simplification and greater flexibility in allocating agricultural policy support to Member States.

Agenda 2000 establishes and draws the general framework of the new EU candidate countries admission, the framework established in Copenhagen in 2002. In May 2004 it took place the admission of 10 candidate countries: Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovenia, Slovakia, Cyprus and Malta, and Romania and Bulgaria have been postponed for 2007.

Agenda 2000 aimed mainly the growth of EU agriculture competitive on the global market. Thus, *Midd Term Review* of *Agenda 2000*, in 2002, stipulated the increase of the objectives set in Berlin in 1999, which provided:

- modernization of the European agricultural model by promoting sustainable agriculture and increase competitiveness for price liberalization;
- the decrease of economic disparities between European regions, with reference to the candidate countries, by directing European structural funds to harmonious agricultural development, fundamental improving of the rural policy and economic and social cooperation;
- to ensure a good management of budgetary resources required to meet priorities set in *Agenda 2000*.

These provisions contained in *Agenda 2000*, are broken down into *Midd Term Review* and focused in particular on rural development and establishment of a financial framework for the euro of EU budget funds management. To adjust the assistance schemes regarding direct payments as a new system for agriculture support, for agriculture intensification and rural development *Midd Term Review*, proposes a series of objectives, including¹¹:

- strengthening the competitiveness of agricultural products on internal markets and the global market through a closer relationship between the farmers and the market;
- the security and quality of food improvement for a better integration of the states to the CAP requirements;
- ensure social stability by ensuring a fair living standard for farmers based on agricultural income stabilization and the creation of new jobs;
- integration of agriculture with the environment, health and welfare of animals'
- Rural development; improvement, simplification and decentralization of agricultural legislation;
- agricultural budget.

3. New reform of the common agricultural policy 2004-2013

3.1. The content of agricultural policy reform 2004-2013 and its importance for the future European agriculture

a. Characteristics. The new reform is based on the general objectives of *Agenda 2000*, regarding the competitiveness strengthening of agriculture in internal and foreign markets and promoting decent living standard for farmers' community, formulating an improved policy on rural areas and integration of environmental policy, improving food quality and security, legislation simplification and decentralized application of Community rules. The measures proposed by the European Commission in *Agenda 2000*, have been negotiated in Berlin in March 1999 and revised in 2002 by *Midd Term Review*. These measures were proposed by the European Commission and Council of Ministers of Agriculture in January 2003, and reached in this form an agreement on fundamental reform of the Common Agriculture Policy, in the following stages:

¹¹ Alexandri Cecilia, idem, op. cit

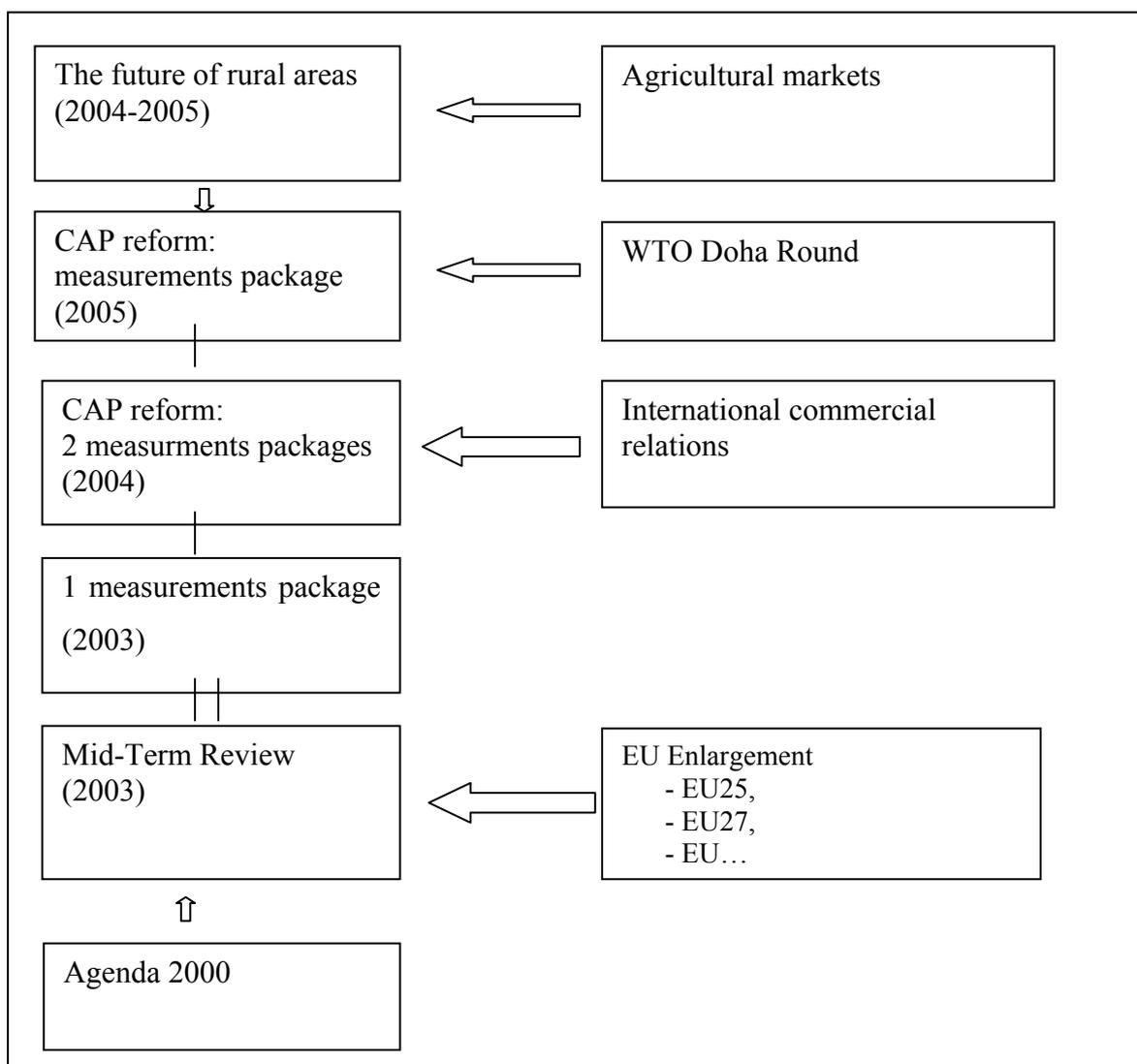


Fig. 1.1. The stages of the Common Agricultural Policy
 Source: Dirk Ahner, *The Future of European Agricultural Policy*, Sofia, 2004

The aim of this reform is to create a more stable policy framework for European agriculture policy, in terms of EU enlargement, with another 12 countries.¹²

The main features of the reform are:¹³

- ✚ the orientation of the community agricultural policy towards the consumers' and taxpayers' interests, especially the support of farmers;
- ✚ introduction of the unique payment scheme¹⁴ as a new way of payments distribution;
- ✚ protection of the rural economy and environment;
- ✚ maintenance of stable budgetary costs;
- ✚ negotiations with World Trade Organization on an agreement on agriculture, to satisfy the agriculture needs to meet the needs of each country in the European Union;
- ✚ simplify the CAP mechanism;
- ✚ supporting agriculture in the new Member States;
- ✚ ensure food safety standards.

¹² J Malone, The Common Agricultural Policy and Enlargement, Conference PAC Sofia, 14-15 March, 2004

¹³ Dirk Ahner, *The Future of European agricultural Policy*, Sofia, 2004

¹⁴ SPS – Single Payment Scheme

b. The purpose of reform is to achieve a more dynamic and competitive European economy through: sustainable agriculture development and expansion of the European model of agriculture which involves: the diversification of production systems, environmental protection and food security. The integration of southeastern countries of Europe has introduced new gaps between countries. Thus France with the largest share of agricultural (more than 23%) of agricultural products of the total European Union, Poland as the first largest producer with over 52%, required measures to limit surplus production of some countries, as export subsidies and stocks required large expenditures. Differences occurred in the income of farmers and called for measures to eliminate the oscillation of the real income between countries. Thus, in 2002, farmers' incomes fell in Denmark with 24%, in Poland by 26%, and in England increased by 71% and 11% in Slovakia and Latvia.

c. Reform Objectives 2004-2013. Common Agricultural Policy has formulated objectives and priorities to be supported by individual farms and established the connection between environment, rural development and sustainable agriculture as follows:

- **Better targeting of agricultural farmers towards market**, so that they become competitive on the EU market and the world. In this regard, agricultural policy will not connect direct payments to production, but will provide income stability for farmers and increase their capacity to produce according to customers requirements. In order to do this, farmers must: obtain rewards for agricultural activities carried out by environmental criteria, to produce high quality food, and to develop diversified activities in various regions of the European Union, to develop rural areas and to maintain the essential characteristics.
- **Market and price policies.** In almost all the stages of reforming the Common Agricultural Policy, the management of agricultural markets policy has undergone many changes. However, the mechanisms used did not solve unequally market imbalances and establishing farmers' incomes. The essence of the reform for the 2004-2013 phase is the market liberalization determined by agricultural development and the pressures of the World Trade Organization, regarding the imbalance of the reduction and eliminating export subsidies and the quantities of subsidized agricultural products.
- **Institutional prices**, even after the 1992 reform, through their mechanism remained complicated. Agenda 2000 brought more substantial changes, by the measures taken by the cut in intervention prices and reduction of the number of products that practice price interventions.
- **Compensation payments** have become the main mechanism of action on which farmers receive compensation in the form of payments per hectare and per animal. Compensation payments are conditional on the withdrawal of cultivated areas, number of animals on a farm and system of cultivation and animal husbandry.
- **Market support** in made by the granting of state aid for transformation (processing) and commerce, export restrictions, intervention stocks, guidance bonuses, withdrawals and assimilated operations, consumer aid, etc.

The essence of market reform is:

- ✚ grant access to markets through internal measures and reduction of customs tariffs;
- ✚ reduce national support to eliminate hard marketable surpluses hard to sell and increasing competitiveness in the market;
- ✚ reduce subsidized exports and other trade-distorting forms masked (export credits, food aid etc.);
- ✚ reducing and eliminating export subsidies.

European Union supports basic update of the rules given by the World Trade Organization and strengthening of international trade as an important tool of development, with measures of generalization of trade preferences with more than 120 developing countries and elimination of customs tariffs for over 300 products. European Union uses the Common Customs Tariff which provides a complete integration of member countries in the single market by the free

movement of goods, persons and capital, combined with the harmonization to the Community legislation.

*** Single Area Payment Scheme**

In the new phase of CAP reform, single area payment scheme was introduced and its generalization in all sectors of agriculture. To do this, Member States have limited some elements coupling the production to direct payments, per hectare and per animal. The grant was made by single payment obligations in respect of the beneficiaries and will be managed and monitored at national level and Community funds will be controlled by the European Commission. Application of the single payment is made according to following rules:

- * Setting the right to receive payments;
- * Titles of payment may be transferred between farmers in the same state, with or without land (lease, concession, and rental) they have the obligation to maintain the land under appropriate conditions both in terms of agriculture and the environment.

Due to the single payment scheme, the farmer can choose how to use the land, crop structure, and also ensure the necessary conditions for agricultural technique and the environment protection.

3.2. Rules of conditioning or cross-compliance

Application of single payments enforce binding rules for all farmers receiving direct payments. These rules are included in a list of priorities, summarized in 18 European standards in the following areas: environmental protection, food safety, animal health. Any failure to comply with these requirements entails penalties for farmers. These rules related to all support for farmers aim to promote the implementation of efficient agricultural practices, including regulatory rules.

3.3. Measures to strengthen rural development

Rural development policy aims to strengthen and diversify so to restore agricultural sector, so as to ensure overall development of the countryside, to reduce dependence on subsistence of the agriculture sector and creating alternative employment and the economy rural communities through integrated multilateral approach to the countryside: Member States must focus their actions towards the rural population, rural development policy complements market policy, accompany and promote the multifunctional character of agriculture and as part of regional policy, ensure territorial harmonization and expansion of social – economy. In the new reform stage it becomes important the unified approach of the two pillars of the CAP, namely, market policy and rural development policy. The accomplishment of the rural development policy is linked to the regional policy and adds the new orientation towards the development on a multifunctional European agriculture.

4. Common agricultural policy (waiting for) the future

Analyzing the moments and objectives of the CAP reforms, we see that it aims at increasing flexibility, to reduce bureaucracy, to verify that European agriculture is connected to the needs of European society, and regulating Single Area Payment Scheme, associated measures on eco-compliance, technical simplification of main marketing schemes, changing the role of Pillar 1 and Pillar 2, and the issues related to softening climate change, increasing the role of biofuels and management of water resources. CAP major changes are expected after 2014, because the future financial allocations are in doubt, EU spending on agriculture will record a downward trend, because we will compete with other interest groups that will support the allocation of higher amounts of EU budget for environmental protection, innovative research, and new jobs. Moreover, we will see a significant funding change from Pillar 1 towards Pillar 2. It is expected that farmers' incomes from agriculture, the sustainability of sectors, the quantity of agricultural products to bear a loss, which will bring negative social and environmental effects.

For the Common Agricultural Policy to maintain a long tradition in supporting agricultural activity, one should bring strong arguments regarding:

- ✚ Agriculture is an exceptional case for the importance of financial allocations;
- ✚ Common Agricultural Policy must have clear objectives for future developments of agriculture and rural policy;
- ✚ CAP actions should pursue the fulfillment of objectives, which will precede the next steps;
- ✚ ensuring sustainable food security, having regard to support for production, so as to spare consumers and food industry from dependence on the market in a world, where uncertainty is increasing;
- ✚ enhancing regional importance of agriculture, which has a social and environmental characteristics;
- ✚ increased attention to rural needs and expectations of these areas from the rest of society.

Among the strong arguments that the CAP must have, to preserve the exceptional status, it is necessary to consider the sustainability, equity among objectives, development of the poorest areas of the community, protection of biodiversity, equitable distribution financial funds, a more active participation for the benefit of the public interest and a more selective approach to Pillar 2.

References:

1. Ahner Dirk - *The Future of European agricultural Policy*, Sofia, 2004.
2. Alexandru Cecilia - *Aderarea României la Uniunea Europeană – provocare pentru agricultură și mediu*, ASE Publishing House, 2005.
3. Fischer Boel Mariann – *the European Model of agriculture*, National Parliaments Conference, Helsinki, 2006.
4. Hazell Peter - *Agricultural Economics*, no. 19/1998.
5. Malone Joseph - *The Common Agricultural Policy and Enlargement*, Conference PAC Sofia, 2004.
6. Miron Dumitru, Gabriela Drăgan, Laura Păun, Florin Ilie, Mihaela Cibian - *Economia Integrării Europene*, ASE Publishing House, 2002.
7. Rusu Mărioara – *Politica Agricolă Comună sub presiunea schimbării*, Colecția Studii și cercetări economice, Romanian Academy, 2008.
8. Zahiu Letiția - *Politici și piețe agricole, Reformă și integrare economică*, Ceres Publishing House, București, 2004.
9. Institute for European Environmental Policy – *Towards the CAP Health Check and the European Budget Review*, 2007.
10. EC Regulations 1253, 17/05/1998.
11. <http://caphealthcheck.eu/2007>.
12. www.euractiv.com
13. <http://commonagpolicy.blogspot.com>

Influence of Public Investment in Tourism Development on Constanta County

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Abstract

The overall strategy of sustainable development for Constanta, supporting and promoting tourism was a priority. In this respect, the main concern of local government was, along with the modernization of urban infrastructure, rehabilitation of Mamaia, an integral part of the city and major tourist magnet in the region. That's why investment in this area is important locally.

Key words: local public investment, regional development, grants

In the local public sector, local authority which has administrative autonomy while regional development initiatives is local government. Local government is an essential agent of local development especially by solving wide range of needs for economic development: policies of the new business location and existing development, offering tax incentives for small and medium urban planning, land leasing and services, etc. At regional level there are many factors that determine competitiveness and therefore growth potential and creating new jobs. Therefore, efficiency and effectiveness of local public administration at regional level is the key factor in attracting investments to determine local economic development. Making local public investment in Constanta County in the main general economic interest services will drive growth and development of regions, which implies a better life for citizens.

South East region of Romania, to which it belongs the county of Constanta, is a magical corner due to the people who receive and give so much because of their soul and hospitality, but especially given the unique nature of the forms of relief. It is the only region in Romania where all forms of relief come together and merge into divine perfection. Whether you are a tourist or an ardent lover of nature and its beauty here's the place much sought. Constanta County is famous also because of the taste of Dobrogea wine and perfume, in this respect there are no fewer than five Viticulture and winemaking research stations of the famous vineyards like Murfatlar, Odobeşti or Pietroasa. All this makes the Southeast region and Constanta county to have a human potential very well trained and qualified, which is an asset before any investor interested in developing business in the region.

Being the second largest region of Romania, South East region covers 35,762 km², i.e. 15% of total territory the country and in the context of EU integration will be an important border with Moldova and Ukraine, thus constituting the eastern extremity of continental Europe. The border with those countries, but also with Bulgaria to the south, and opening the Black Sea, both in Romanian seaside and the mouth of the Danube river, it provides the South East geopolitical and geostrategic importance particular, both for the EU and for NATO. From geographically and historically point of view, the South East is the place of combination of Moldova, Muntenia and Dobrogea, located at the junction of national history and culture. Administrative structure of the region includes 6 counties: Constanta, Tulcea, Braila, Galati, Vrancea and Buzau. South East region's population is concentrated, according to statistics reported in 2005 in 35 urban centres and 354 common, according to the following:

Table 1

Development Region / County	Number of Cities	Number of communes	Number of villages	Number of inhabitants
Brăila	4	40	140	370.428
Buzău	5	82	475	494.052
Constanța	12	58	188	715.148
Galăț	4	60	180	620.500
Tulcea	5	46	133	252.485
Vrancea	5	68	331	393.766
South East Region	35	354	1.447	2.846.379

Source: Statistical Yearbook of Romania, INS, Bucharest, 2006 edition

Region's economy consists of industries with traditional character - such as agriculture, trade, tourism and services. The region faces a number of issues concerning environmental protection, both because of natural factors and the anthropogenic: forest degradation, marine pollution, beach erosion, pollution caused by industrial substances or pesticides and chemical fertilizers.

Regional Development Agency South East has the role of Intermediate Bodies to implement the Regional Operational Program 2007-2013 in South-East part and Constanta County and was created in order to facilitate the absorption of structural funds in the six counties, both through the promotion of regional identity and the management of European programs that are part of pre-accession strategy developed by the European Union. In the South East Region has been established the **Regional Committee Strategic Assessment and Correlation South East**, regional partnerships without legal personality structure. The role of this body is to assess the extent to which projects funded under the Regional Operational Program 2007-2013 contributes to achieving the objectives of the Regional Development Strategy (related South East Regional Development Plan 2007-2013) and matching the level Regional publicly funded projects. **Regional Operational Program 2007-2013 (Regio)** is one of seven Romanian Operational programs agreed with the European Union as an important tool for implementing the National Development Strategy and regional development policies. The program is opened to all of the 8 development regions of Romania. Regio strategic objective is to support economic development, social, sustainable and balanced territorial, of all Romania regions, according to specific needs and resources, with emphasis on supporting sustainable development of urban growth poles, improving the business environment and basic infrastructure to make from Romanian regions, in particular the least developed, attractive places for investment.

Romania Regional Operational Program is funded by European Regional Development Fund. It supports European regions with a GDP per capita below 75% of EU average. The total budget allocated by Regio is approximately 4.4 billion Euros in the first 7 years after accession (2007-2013). EU funding represents about 84% of the Regional Operational Program. The rest comes from national funds, public financing (14%) and private financing (2%). Distribution of funds on development regions was achieved so that supporting the Regional Operational Program objective of supporting a balanced development of all regions of Romania. Regional Operational Program will be implemented through a coordinated central management, with support from Regional Development Agencies and the Department of Tourism of the Ministry for Small and Medium Sized Enterprises, Trade, Tourism and Liberal Professions. To this end, regions and less developed areas have received more money to prevent economic growth and social disparities already existing between regions. Total financial allocation for the South East region between 2007 - 2013 is of 563.4 million Euros, representing approximately 13.25% of the total funding allocated to the ROP. This distribution of funds is an indicative guidance and, as funds can be reallocated from one region to another, depending on absorption capacity. Balanced development of all regions of the country will be achieved through an integrated approach, based on a combination of public investment in local infrastructure, active policies

to stimulate business activity and support recovery of local resources, on 6 thematic priorities as follows :

Priority axis 1 "Supporting sustainable development of cities - urban growth poles"

Priority axis 2 "Improvement of regional and local transport"

Priority axis 3 "Improvement of social infrastructure"

Priority axis 4 "support regional and local business"

Priority axis 5 "Development and promotion of tourism"

Priority axis 6 "Regional Operational Program"

Tourist vocation of Constanta is also conferred by its geographical location and its cultural and historical profile of the region. Located at the confluence of several pan-European transport corridors and with the generous proximity to the Black Sea, the city should develop several types of tourism products such as: summer tourism, health tourism, tourism for rest and recreation, sport and tourism sports, business tourism and cruise tourism and the itinerary. Mamaia resort is located in the north of Constanta, having a beach with a length of 8 km and a width of 100-200 meters. Mamaia recreational boating are 8 bases, 4 to 4 on the Black Sea and Siutghiol Lake. They offer tourists a wide range of specific services: riding a bicycle, lifting paragliding, windsurfing and yachting school, diving, water scooters, banana inflatable towing, towing the float, pleasure boats sail catamaran type and Caravels. These bases require investment approval from the City Hall maintenance to ensure safety of tourists visitors.

The overall strategy of sustainable development for Constanta, supporting and promoting tourism was a priority. In this respect, the main concern of local government was, along with the modernization of urban infrastructure, rehabilitation of Mamaia, an integral part of the city and major tourist magnet in the region. That's why investment in this area is important locally. The first step in achieving the desire beauty of the resort was the achievement of the related infrastructure able to support and encourage tourist activities in this area. Thus was launched a comprehensive modernization and rehabilitation program designed to record Mamaia between tourist circuits reference by rehabilitating street tram, the alleys and parking lots around the hotels; rehabilitation of public lighting and bring it to European standards; investment in lighting architectural buildings in Mamaia.

Since June 2008 has been materialized the rehabilitation of public spaces by setting Mamaia Casino Plaza and Plaza Perla, rehabilitation of pedestrian promenades and sea wall. Also, 7 barriers were installed to limit car access to the promenade and over 3.5 kilometres of border which prevents vehicles parking on green areas. In the two plaza furnished in the Casino and the Perla area were built two shows scenes organizing artistic events and outdoor events for tourists during summer season. Through the efforts of local government in the investment on the decorative elements were planted for the first time in Mamaia 146 palm trees, but which during summer require stimulating investment and cleaning, and through the winter provide artificial environmental conditions.

Other investments that have brought a new breath western resort are: location indicator panel in the front of the hotels, arranging 8 playground for children from hotels, arranging 5 water fountains and modern ornamental ponds; reconsideration of motor traffic by setting 4 components return to roundabout, rehabilitation of road signs and markings performance, building a beach volleyball arena which allows organizing professional competitions.

All these public investments in the region were both hypothesis and support necessary for private investment. Thus, in the last four years, in Mamaia have completed a whole series of private investment having as a benchmark either upgrading accommodation capacity and improving the range of relating services, or to increase the attractiveness of the perimeter by establishing new sites of tourist interest. In the same context, in order to diversify the range of services and attractions offered by this area, were created and launched new tourism products, unique in the region :

- **Aqua Magic** - the largest aquatic amusement park in Central and Eastern Europe, an area of 27,200 square meters which can receive 2,500 visitors per day, was a project initiated by the Town of Constanta and the Ministry of Transport, Constructions and Tourism in 2003. Investment in this project was four million dollars; major investor in addition to Hall of Constanta being Aqualand SA Constanta Company with the main activity is the construction and operation of the aqua-park Mamaia. The investment made will be recovered without time limit, only by the share of profits.
- **Telegondola** - cable transport complex facility, open to all persons who wish to admire the panorama resort of Mamaia. Transport capacity is 600-1.500 people / hour, and tourists board in the two stations. Equipment used with last generation, in accordance with international standards, the maximum degree of safety. The total investment amounted to 3.5 million Euros, of which EUR 1.5 million were incurred by the City of Constanta, the equipment being purchased from the Austrian company Doppelmayr, and the remaining amount will be paid in instalments over a period of five years. This is due to the issuance of bonds by the mayor of Constanta for co-financing the project having a single participant in the purchase of bonds, namely SC. Mamaia LLC, amounting to 5,749,894.31 lei, which is 55.71%.
- **Investing marina - Tomis Marina** is worth 6.5 million Euros, having to fund local budgets, private sources, and public - private partnership in a little government funding. The influence of this investment on city development occurs by increasing the capacity of the tourist port, default coastal tourism growth achieved by yacht.

A project started since 2006 but which will re-enter again on the table authorized to advise ministries is "increasing the attractiveness of interest to the cliff Tomis-Mamaia (coastal road)." Sources of financing this project mentioned in the study of opportunity are Priority 5 - Implementation of adequate infrastructure to natural hazards in areas most exposed at risk DMI 2 reduction of coastal erosion -Axle 1 ROP DMI: integrated development plans (PID) , total about 2 million €.

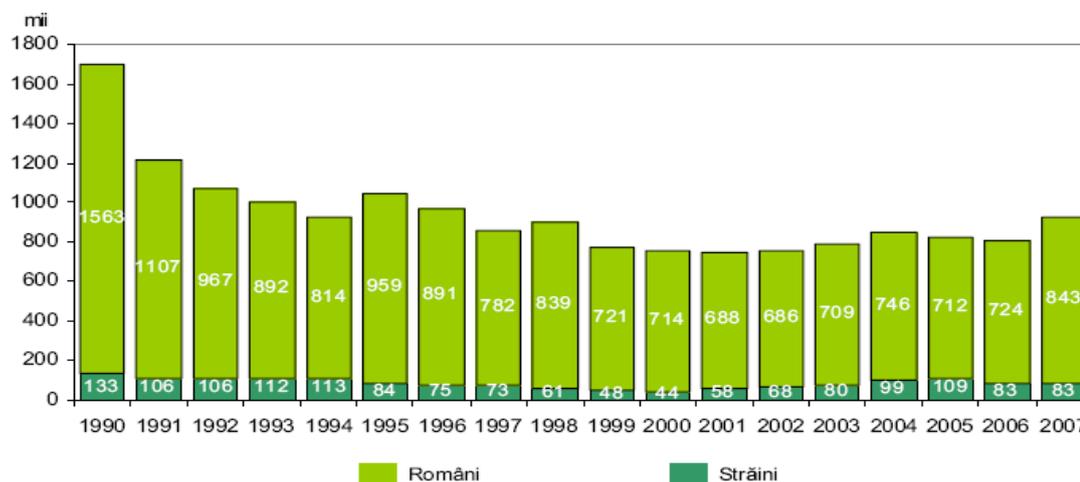
The overall strategy of sustainable development for Constanta, to support and encourage tourism, Constanta City Hall approved the feasibility study for the investment objective "Passage Mamaia." So is continuing the program of rehabilitation of Mamaia, on the near completion of related infrastructure able to support and encourage tourism activities in this area aims also the achievement of objectives / attractions designed to include the resort in the worldwide reference circuits. Estimated cost of the project is 8 million Euros (stage I - 4 million Euro, Stage II- 4 million Euros), and the source of funding will be from European structural funds under the Regional Operational Program and budget Constanta Municipality. The main problem of the project is the unavailability of 10 hectares of land of the state owned public and in administration of the Ministry of Transport, Construction and Tourism. To resolve this impediment Constanta City Hall sent a request to the central government for leasing this land, so that investment can be achieved.

Constanta City Hall plans for city development to carry out urban regeneration projects, with the co-financing grants of local budget funds and some private sector partnership. Among these projects we can mention: marina-fishery, increasing the attractiveness of the lake Tăbăcărie and Ovidiu, building small town lake, modern lift system implementation Shipping. As a point of tourist attraction in 2008 investments were made to organize the national premiere of the stage world championship speed boat "Class One Romanian Grand Prix", from which are expected to contribute to an increasing number of tourists passionate of this area. The novelty this year consists in the amount invested by the City Hall in providing free entertainment on the Cazino Mamaia plaza stage by contracting samba school in Brazil and providing genuine entertainment.

To facilitate the visit and view as many tourist attractions, Constanta City Hall has purchased ten double-deckers, four meters high. Buses are equipped with audio system with automatic translation headphones in nine languages for foreign tourists; they have bodywork produced in

Spain and costs 280,000 Euros each. In the 2008 financial year were allocated 2,562,000 lei to honor the lease term, funding sustained of working capital. Following the investments made and the beauty of the resort management an increase in attendance at the resort has been known, the situation is rendered best in the following figure:

TURIȘTII SOSIȚI



Given that tourism is an important link in Constanta city's economy we felt it appropriate to achieve a SWOT analysis in this area:

Strengths	Weaknesses
<p>Natural environment conducive to development of tourism activities (black sea, fine beaches and sunshine, and sandy seabed is completely free of stones, with very little slope, no tides);</p> <p>Accommodation capacity high in full extension (cca.1 / 3 of the total accommodation capacity at national level, 1st place in the country);</p> <p>The great tradition of nature tourism activities (over 100 years);</p> <p>High spa potential;</p> <p>keen interest of local authorities and citizens to develop the tourism sector;</p> <p>Mamaia is classified as national interest resort;</p> <p>emergence of new tourist products, unusual for this region (Aqua Magic, Telegondola, Mamaia decorating with exotic palms, water fountains, development of modern plaza where there are different art events, casinos and amusement parks);</p> <p>favorable geographical position to develop new tourist products (tourism itinerary, cruise tourism, business tourism, etc.) ;</p> <p>historical and cultural heritage of great value;</p> <p>qualified and experienced human resources in tourism;</p> <p>Accessibility of tourist areas, modern access roads (highways, national roads, railways) connected to the main European transport corridors;</p> <p>area is well furnished in terms of catering establishments and tourist service;</p> <p>modern lifeguard services and other specialized services for safety and protection of tourists, leading to the eradication of crime in the area.</p>	<p>Mamaia-over-crowding during the peak summer season and on weekends;</p> <p>insufficient parking, reported the number of tourists during summer;</p> <p>lack of permanent tourist products;</p> <p>economic agents practice high prices that discourage the infusion of foreign tourists, who could have the market to choose the best tourist destinations in terms of value for money;</p> <p>lack of adequate infrastructure development of cruise tourism (tourist and leisure ports);</p> <p>weak recovery in terms of historical and cultural tourism potential available area;</p> <p>presence of industrial and commercial port platforms around areas of interest creates the image problems and comfort and is an important factor of environmental pollution;</p> <p>lack of a common strategy in the long term investor in tourism and local and central government on sustainable and integrated development of this sector;</p> <p>tourist information and promotional materials scarce and of poor quality.</p>

Strengths	Weaknesses
<p style="text-align: center;">Opportunities</p> <p>Position in the territory at the confluence of three major geopolitical areas, paves the higher recovery of the tourism potential of the city;</p> <p>local market presence of large international tour-operators;</p> <p>Delta's neighborhood, Macin mountains, the monasteries in northern Dobrogea, the region's potential and capacities of Agrozootechnical folk of rural areas, is an important support for tourism development in general and in particular tourism route;</p> <p>Danube River and the Danube-Black Sea in November can be the arteries of interest in perspective planning of ports in coastal recreational tourism, contributing to the development of cruise tourism;</p> <p>economic development of the coastal zone generates a beneficial service to business tourism;</p> <p>EU accession and increasing opportunities for access to Western products.</p>	<p style="text-align: center;">Threats</p> <p>competition exerted on the regional market of tourism and local economic low capacity to adapt to a single competitive market;</p> <p>low interest of Romanian tourists for domestic products;</p> <p>erosion of beaches and cliffs can affect long-term development of tourism activities in this area;</p> <p>vicinity of industrial platforms and commercial port is an important risk factor contributing to environmental degradation and pollution still generates air and water, thus decreasing the area's tourism potential;</p> <p>allocating public funds for tourism development based on political affiliation;</p> <p>absence of coherent policy and strategy development, integrated coastal zone discourages foreign investors wishing to invest in tourism in the area.</p>

Research has shown that urban areas in European countries have, in recent decades, issues of debate for meetings of government, for regional bodies, but also for local governments. In the debate has sought to establish new guidelines for regional development in order to find the best courses of action for use of resources in these areas, environmental protection and balanced development of human settlements. Orientation of regional development is today after conceptions and new methods that dominate the third millennium society, particularly by including in the investment processes of emerging technologies to ensure a minimum consumption of natural resources and are in communion with nature. All this leads to high costs in the short term but long term beneficial implications.

The new regional development that has demonstrated a greater capacity to absorb funds to priority projects in local communities, involving local government from Constanta to future Leveraging project preparation, so they can attract more funds grants for the development of Constanta.

The forthcoming integration of our country in the European Union, administrative decentralization and regionalization, the chance of local communities is to be solidary around joint projects aimed at promoting their interests within a climate of global competition and new social realities and economic. Constanța metropolitan area is intended to be an effective administrative tool to promote joint projects for integrated development of the area and minimize disparities in development between localities, a facilitator for attracting investment and structural funds, a platform of cooperation between administrative units regional development component and a core public services.

In this respect the main policy objectives of Constanta Metropolitan Area are:

- ✚ improving and developing public transport infrastructure, telecommunications and energy and increasing the accessibility both inside and outside the towns;
- ✚ reducing disparities between localities in the metropolitan area;
- ✚ developing new residential areas and residential districts;
- ✚ develop and improve local public services;
- ✚ environmental protection and sustainable development at local level;
- ✚ developing and promoting tourism and the tertiary sector;
- ✚ integrated economic-development;
- ✚ increasing citizen safety and public order;

- ✚ human resource development, increasing employment and combating social exclusion and social imbalances;
- ✚ attracting new investment and increasing access to resources.

In economic terms, the formation of Constanta Metropolitan Area would provide a clear signal to investors wishing to invest in the region, in that development area will be achieved in an integrated way, based on strategy, objectives and joint action plans. By definition the main functional areas in the metropolitan area will stimulate investment inflow distributed in a balanced manner throughout metropolitan, and the current pressure currently existing investment in Constanta will diminish. The first step must be to adopt a joint decision on the determination of those specific areas to be dedicated exclusively to the development of economic activities, including type of activities to be permitted and any incentives offered to investors. This joint decision shall be subject to approval in each of the fourteen local councils of territorial administrative units that form the metropolitan area of Constanta. After setting clear those areas of land that will be intended for supporting economic activities, should be initiated for removal of these areas of care aside (if any) and their fiabilizării in terms of basic infrastructure, especially with how such activities can be financed through the Structural Funds (Regional Operational Program Priority 3, the Sectoral Operational Program Environment Sectoral Operational Program for increasing economic competitiveness). After setting clear those areas of land that will be intended for supporting economic activities, should be initiated for removal of these areas of care aside (if any) and their resistance in terms of basic infrastructure, especially with how such activities can be financed through the Structural Funds (Regional Operational Program Priority 3, the Sectoral Operational Program Environment Sectoral Operational Program for increasing economic competitiveness).

Developing a plan for economic development Constanta Metropolitan Area is intended to encourage both local companies and foreign ones to invest in this area without risking the future to restrict the activity of its proximity to residential areas or the incidence of other environmental rules (noise, pollution, etc.). In the future metropolitan development associations can also be a department that promotes investment in the area and to maintain contact and relationships with potential investors, while fulfilling the role in popularizing the opportunities, resources and potential areas both nationally and at internationally level. From a technical standpoint, the formation of Constanta Metropolitan Area will create possible development and implementation of large joint projects of interest code and even regional levels.

The viability of projects and areas of land in terms of basic infrastructure, expansion and rehabilitation of water supply and sanitation and their integration into the sewage treatment system and extend the gas, upgrading and rehabilitation of infrastructure transport are treated in isolation in each territorial administrative units. This approach is wrong, and urban plans to link the various towns that comprise the metropolitan area, was first to show certain anomalies concerning integrated and harmonious development of the region restricted within the meaning of entering residential areas with agricultural and livestock or economic and storage, and on the other hand generated a strong discontinuity planning and furnishing planning (various projects for expansion and modernization of basic infrastructure were stopped at the administrative-territorial limits of settlements).

A different approach by integrating the technical point of view of various local projects could generate significant savings in local budgets and would leverage a lot work in the fields stated. Since many of these projects may be proposed for financing under the Structural Funds and in other national or international funding schemes, which require compliance with specific rules imposed by them, the integrated approach and collaboration among various stakeholders of implementation of these projects, in addition to being an undeniable added value, is also a significant issue in the decision of donors to fund such projects.

When referring strictly to the Structural Funds, the rule of pre-funding of projects would create great difficulty in finding funding sources, especially for small towns and their eligibility in terms of obtaining loans from banks would be affected by potential local low budget and lack of other resources available that could provide collateral in granting such loans. If you add to that the evaluation of the financing of administrative capacity is a prerequisite and the applicant prior to grant funding, we will unequivocally conclude that small towns will be excluded from the start of the chance to obtain funding under the Structural Funds, if it will join the common structure, able to promote and to make credible their actions and projects. In this context, Constanta Metropolitan Area will facilitate the creation of technical design and implementation of joint projects at regional level, by building expertise in this field by improving administrative management of such claims and the employment in sharing of resources.

Vision development of Constanta Metropolitan Area regards especially its imposition of a competitive multifunctional center of Romania and the main economic polarizing Black Sea, while taking into account the sustainable development of all areas and reduce existing discrepancies in development between the 14 municipalities making up the growth pole.

References:

1. Anthony E. Boardman, David H. Greenberg, Aidan Vining, David L. Weimer - "Cost-benefit analysis. Concepts and Practice ", Arc Publishing House, 2004;
2. Bebeselea Mihaela- "Financial management of public institutions", Ed Muntenia, Constanța 2008;
3. Cistelcan L. - "Economy, efficiency and investment financing, Economic Publishing House, Bucharest 2002
4. Constantin Roman, Aureliana Geta Roman, Vasile Tabără - "Financial management of local public entities", Economic Publishing House, Bucharest 2007;
5. Daniela Luminita Constantin - "Introduction to the theory and practice of regional development", Economic Publishing House, Bucharest 2000;
6. Dumitru Porojan, Cristian Iftimoaie – „Sustainable local development in a globalized world ", Ed Irecson, Bucharest 2008;
7. Iuhas Valeriu - „Regional economic development and social-economic implications", EMIA Publishing, Bucharest, 2004;
8. Laura Iacob - "Local finances and regional economic development", Ed ExPonto, Constanta, 2005
9. Răzvan Cătălin Dobrea - "Investment and economic and technical modernization, Eficon Publishing Press, 2009

Strategies of Maintaining the Enterprise Profitability by Using the Break-Even Threshold With Various Balance Points

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Abstract

The present paper analyses the evolution of the enterprise in an environment, plagued by economic-financial crisis and therefore highly expected to remain on the market. Various strategies are being suggested so as to give to the enterprise the possibility to maintain itself at an acceptable level of profitability by valorizing the pattern of break-even threshold with various balance points. The main factors of influence over the economic risk of the enterprise, calculated according to the break-even threshold, are being identified. By using these results, profitability indicators of the enterprise are presented and due to a numerical-based example, the product/services portfolio of an economic agent is calculated and classified from the point of view of their profitability. Capitalizing the previous results, more strategies of evaluating the profitability of an enterprise by using the break-even threshold with various balance points, are being generated.

Key words: break-even threshold, balance point, impact factors, profitability level, product (services) portfolio, economic-financial crisis

JEL Code: G32, L11

1. Introduction

Obtaining a break-even and subsequently a greater profitability has always been a goal of the managerial activity in an economy belonging to the competing market. This has been materialized by the request of economic-financial departments of enterprises to inform their management about the level of profitability of their enterprise. This aspect has now even a greater priority in the present economic-financial crisis characterized by a drastic decrease in the volume of market-capitalized goods and services, and by an increase in costs of the credit firm.

According to appreciations made by different countries, the present economic-financial crisis unleashes its effects over many years. While studying the interrelations between the main impact factors (production cost, sale price, turnover) upon the efficiency of the enterprise, analyzed schematically in what is called *break-even threshold*, our work aims at getting relevant information for an economic agent's evaluation of profitability.

In order to study the aforementioned interrelations, we will use the *linear model of break-even threshold with various balance points*. Using more types of information, we will define conclusions regarding the way in which the enterprise is expected to intelligently use the production capacity that it exploits, so that it can ensure an acceptable profitability, able to at least maintain a share market for its activity. Moreover, the economic agent ought to offer on the market some other products / services, including the capitalization of that part from the production capacity which might not be used because of the lack of orders.

2. Break-even threshold – linear model; influence factors on the economic risk of the enterprise

2.1. Break-even threshold – general presentation

In competitive market economies, risk is a constant of the economic agents' activity. In the business environment, they directly cope with numerous changes of different influence factors, such as:

- ✚ modification of request volume: the more unstable the request for the products of the firm is, the greater the economic risk proves;
- ✚ sale price variability;
- ✚ modification of entrance costs;
- ✚ capacity to adjust the sale cost of products to the entrance cost. Thus, the more adjustments can be made, the lower the economic risk is.

The problem here is the *cost* of these adjustments. The weight of fixed expenses in the total expenses of the firm. A great weight of these ones could allow the accomplishment of technically higher products / services, but if this type of expense does not decrease simultaneously with the requests for the products (situation specific to periods of economic-financial crisis), then the economic risk of the firm will increase. Consequently, there is a direct interrelation between fixed expenses, payment volume and use of production capacity of the firm. The point where the income or turnover (T) is equal to total costs shows that the firm will have losses and then profits. This point also called *balance point* indicates that the firm has zero profit, by using a part of its production capacity that it disposes of.

Hereinafter we will use the following notations:

TC = volume of total costs of the firm;

FT = volume of fixed costs of the firm;

VC_u = unit variable costs (per product / service); Q = number of sold products;

SP_u = unit selling price of a product / service

In the balance point where we have zero profit, we describe the following relation:

T (turnover) = TC (total costs)

But $TC = FC + Q * VC_u$ and

$T = SP_u * Q$.

Resulting therefore: $SP * Q = FC + Q * VC_u$;

$SP * Q - Q * VC_u = FC$;

$Q (SP_u - VC_u) = FC$

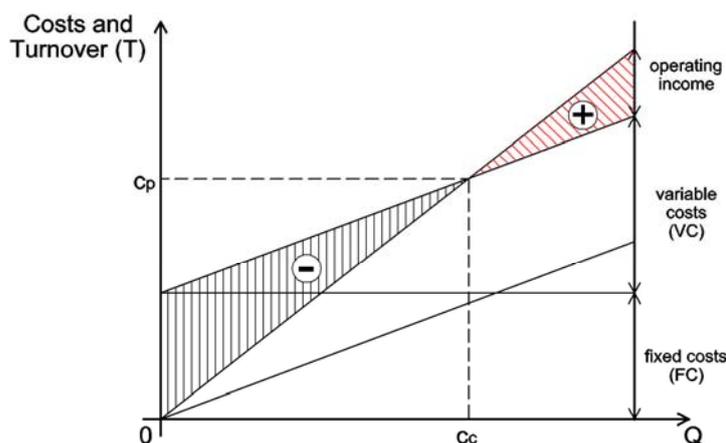
$Q = FC / (SP_u - VC_u)$.

In our situation Q represents the quantity of product / services that ought to be accomplished / provided so that the total costs of the firm equal the incomes (all products are expected to have their capitalization on the market). This value represents the break-even threshold of the

company that is c_c . It is undoubtedly natural for the firm to wish to gain profit. In this situation, the quantity of products that must be accomplished at the break-even threshold is $c_c = (FC + Profit) / (SP_u - VC_u)$.

But $SP_u - VC_u = mgp$, where mgp is the gross profit margin obtained by the firm.

Thus, $mgp = (FC + Profit) / c_c$. If the economic agent considers that he will be able to sell a certain quantity of products / services and maintain his total profit, then the selling price is $SP^*_u = VC_u + mgp$.



Graphic no. 1

Graphic no. 1 illustrates all these interrelations between impact factors on the break-even of the firm. One may notice that c_c represents the volume (quantity) of products or services that the firm is expected to capitalize at a certain price – c_p so that it can cover its expenses from the obtained income. Taking into account the zero profit the management of the firm ought to take the necessary decisions in order to obtain profit (in fact, this is exactly the target that any corporation has in its entire developed activity). Only after achieving some quantities of goods which are greater than those from c_c , assuming that they are destined to be sold, will the firm really get profit.

2.2. Influence factors on the break-even of the firm; calculating the profitability per product

Usually, economic agents accomplish more products that have different types of profitability. Subsequently, it is managers' task to decide for their variable quantity and therefore choose their selling market. This situation is to be found very often in any economy where a company keeps three different types of services (S1, S2 and S3), and the level of influence factors corresponding to each service is presented in Table 1: We must precise that fixed cost $FC = 1135$ thousands lei belongs to the firm as a whole. Moreover, one may notice that the turnover (T) is $T = 5893$ thousands lei (the values in column 4 are totaled).

Table no. 1
 Thousands lei

Influence factors Services	Hours q	Unit Selling Price, SP_u	Payment value / service	Unit variable costs, VC_u	Variable total costs, VC	Fixed costs, FC
S1	1000	3.056	3056	2.375	2375	1135
S2	1000	1.642	1642	1.137	1137	1135
S3	1000	1.195	1195	0.736	736	1135

Taking into account the aforementioned conditions, we can calculate the break-even threshold for each product, service in our situation:

$$c_c (S1) = \frac{1135}{3.056 - 2.375} = 1667 \text{ hours}$$

$$c_c (S2) = \frac{1135}{1.642 - 1.137} = 2248 \text{ hours}$$

$$c_c (S3) = \frac{1135}{1.195 - 0.736} = 2473 \text{ hours}$$

Starting from the data presented in Table no. 1, the profitability of each service can be determined. Therefore (Table no. 2):

Table no. 2
 thousands lei

No.	Indicator	S1	S2	S3	Total value
1.	SP _u	3.056	1.642	1.195	-
2.	VC _u	2.375	1.137	0.736	-
3.	m _{gp}	0.681	0.505	0.459	-
4.	Total gross margin	681	505	459	1645
5.	FC	-	-	-	1135
6.	Total cost of production	-	-	-	5383
7.	Level of profitability / service	I	II	III	-

But economic agents wish to obtain profit, even if its level is lower than the predicted one. If the economic agent that reaches the above written indicators and wishes to obtain a certain level of profit $P = 2383$ at a level of production of 1500 hours / service S1 – in the situation previously exemplified – thus:

$m_{gp} = (FC + P) / c_c = (1135 + 2383) / 1500 = 2.34$ lei but the level of selling price will also be modified:

$$SP = VC + m_{gp} = 2,375 + 2.340 = 4.715$$

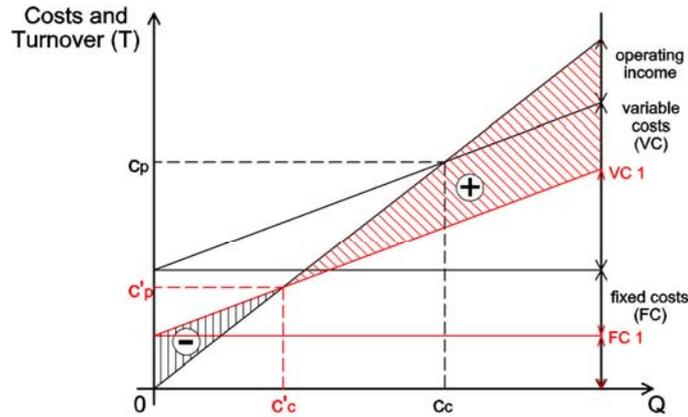
After analyzing the information from the previously mentioned case study the conclusion is that in order to obtain the expected profit, the economic agent ought to obtain on the market a unit selling price per an hour of 4.715 lei in comparison to 3.056 lei as it was initially predicted and to perform 1500 hours / S1 in comparison to the initial 1000 hours / S1.

Performing the verification $c_c = (FC + P) / (PS - VC) = \frac{1135 + 2383}{4.72 - 2.375} = 1500$ hours / S1 .

3. Strategies of evaluating the profitability of a firm by using the model of the break-even threshold with various balance points

In the present conditions, the manager of the company must elaborate and especially fundament as many strategies as possible by means of which he can correlate the levels of the main economic indicators: products to be carried out (hours to be performed), selling price, variable costs, fixed costs, profit (per product / service and per firm). In the environment of economic – financial crisis which has been affecting the economic world for approximately a year, economic agents are expected to create a *portfolio of strategies regarding the profitable development of the activity* so that they can take permanent decisions meant to ensure them the development of a profitable activity. We will furthermore present *strategies used to valorize the potential of the firm in order to obtain profit during economic-financial crisis by using the break-even threshold with various balance points.*

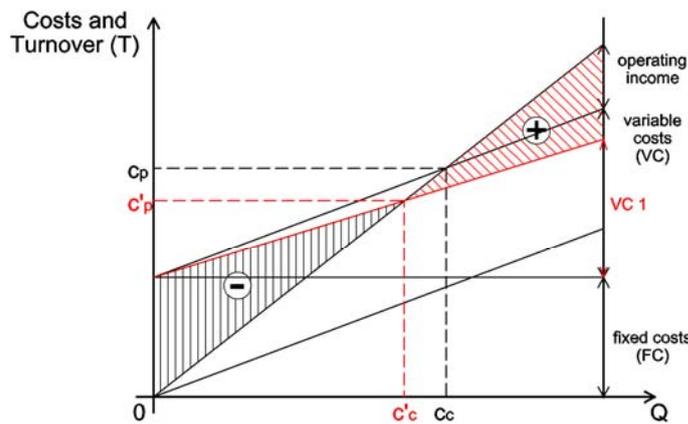
Strategy I : *reducing fixed costs (FC) and maintaining the variable costs and the turnover at the same level.* (Graphic no. 2)



Graphic no. 2

If we initially have a break-even threshold c_c after reducing FC we obtain a new break-even threshold c'_c . We notice the following relationship between them: $c'_c < c_c$ that is we will achieve less products / services, while keeping the same volume of incomes.

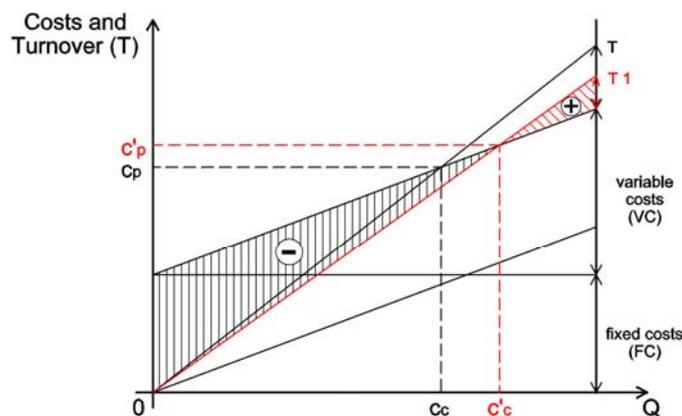
Strategy II: *reducing variable costs (VC) by maintaining the fixed costs and the turnover (T) on the same level.* (Graphic no. 3)



Graphic no. 3

Consequently, as it happened in the first variant, the result $c'_c < c_c$ is in favor of the economic agent.

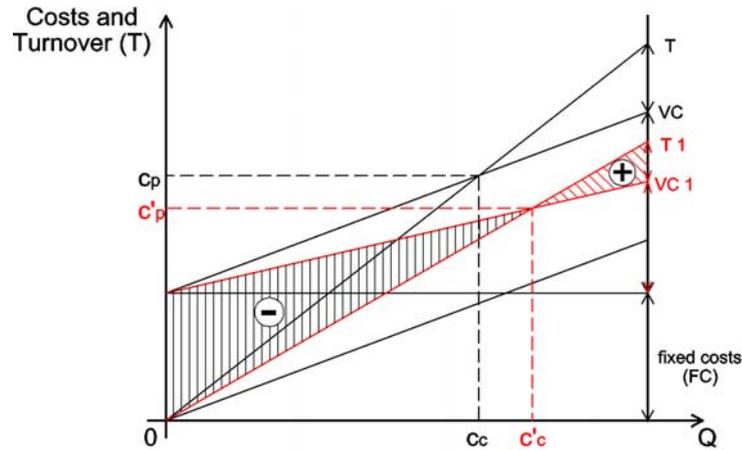
Strategy III: *maintaining the FC and VC at the same level, but with a lower level of the turnover.* (Graphic no. 4)



Graphic no. 4

The result is $c'_c > c_c$ showing that the operating effort of the firm increases and consequently its economic risk.

Strategy IV: reducing variable costs by maintaining fixed costs constant and diminishing the turnover (Graphic 5)



Graphic no. 5

4. Conclusions

In the present situation characterized by a strong decrease in the volume of the goods which are sold and implicitly that of the economic agents' income, a solution to diminish the effects of the crisis is to highly reduce variable costs (raw material, utilities, labor force) while keeping the level of technical endowment of the firm. We may notice that $q'_{cr} > q_{cr}$, therefore the economic risk of the company increases. In such a situation the company is expected to try to achieve some other products / services required by the market, while keeping its technicalness level. A conclusion drawn regarding the above mentioned strategies is that the economic agent, who is normally expected to obtain a certain level of profit, must permanently know the dynamic of the main impact factors on the minimum level of break-even threshold that is the volume of achieved products selling price, fixed costs, and variable costs. By synthesizing the levels of these economic indicators in the break-even threshold scheme, managers can obtain important information for taking decisions, meant to assure a profitable functioning of the firm. In this linear model the maximum profit to be obtained, represented by the surface framed between the income line and that of the total cost, seems to be limited only by the capacity of installed production, namely the capacity of fix means and the professional level of employed force labor that the initial investment has materialized in. In reality, reaching and maintaining this limit unleashes a substantial increase of production costs, the firm being therefore threatened by financial losses. The explanation is given by the inherent increase expenses made for maintenance, repair and labor force, proportional with the supplementary effort. Another aspect that has to be taken into account, especially during economic-financial crisis, is that of reducing the demand whose direct effect is the decrease in the payment volume and in the selling price of the product / service. The immediate consequence will be the drastic reduction of the gross profit margin (m_{gp}) and implicitly, the profitability of the firm.

References

1. Dragota V., Ciobanu, Obreja L., Dragota M. (2003): *Management financiar (vol. I)*, Ed. Economica, Bucuresti
2. Onofrei M. (2006): *Management financiar*, Ed. C.H. Beck Bucuresti
3. Strassman P.A. (1985): *Information Payoff : The Transformation of Work in the Electronic Age* New York, The Free Press
4. Lucey T. (1991) : *Management Information Systems* London DP Publications

Issues on Hedge Effectiveness Testing

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Abstract

The starting point for risk management and hedging lies in understanding a corporation's exposure to different risks. Hedging is vital for corporate risk management, involving reducing the exposure of the company to particular risks. Hedge effectiveness testing permits firms to assess if they match the timing of the gains and losses of hedged items and their hedging derivatives. In principle, a hedge is highly effective if the changes in fair value or cash flow of the hedged item and the hedging derivative offset each other to a significant extent. This article reviews the concepts of accounting and economic hedging, and presents the requirements for testing the hedge effectiveness.

Keywords: hedge accounting, hedging effectiveness, hedging ineffectiveness, highly effective, effectiveness test

JEL Code: G11, M41

1. Introduction

Earnings volatility can be a significant source of concern for a company, putting pressure on its capital base and share price. Prudent management of these risks typically involves hedging solutions. The exposure to a particular risk reflects how that risk affects performance. For example, the company's exposure to currency risk will generally be through its foreign currency revenues, costs, capital expenditure, debt and/or assets. These exposures determine how foreign exchange volatility influences corporate performance in terms of cash flow, net income, balance sheet, debt covenants and the value of the firm. According to Coughlan (2004), understanding the corporation's exposure to different risks, and how this feeds through to performance, may lead to an appropriate risk management strategy and create value.

2. Hedging and Hedge Accounting

Generally, hedging is a tool for transferring price, foreign exchange or interest rate risk from those wishing to avoid it to those willing to assume it. Specifically, *hedging is the act of taking a position in a hedging instrument, especially derivatives such as futures, forward, options or swap market, opposite to an actual position that is exposed to risk.* Thus, results a decreasing of the risk of loss from adverse price or rate fluctuations that may occur in owning or owing items over a period. Hedging may limit the gain from favourable changes. Among the items hedged are:

- Owned assets including financial instruments or commodities such as grains, metals and livestock;
- Existing liabilities such as foreign currency-denominated borrowings;
- Contractual (firm) commitments to buy or sell items such as commodities or financial instruments;
- Anticipated, but not contractually committed transactions such as purchases or sales or the issuance or refinancing of debt.

Volatility in interest rates, foreign exchange rates and other prices has created a demand for instruments that could help borrowers, lenders, financial institutions, manufacturers and other industrial companies reduce their risks, that if not properly managed could threaten the very survival of their companies. This volatility, combined with increased internalisation, competition, global deregulation, technology, sophisticated analysis techniques and tax and regulatory changes, has promoted an almost unbelievable explosion of innovative financial instruments that may be used as hedging “vehicles”.

The need for some special accounting for hedges arises in part because of the historical cost, transaction-based accounting system. Under this system, the effects of price or interest rate changes on many existing assets and liabilities are not recognized in income until realized in a later transaction. If the gains or losses on the underlying assets or liabilities are reported in a different period from that of the losses and gains reported on the instruments used to hedge these assets and liabilities, the accounting result could be reporting related, offsetting accounts in income during different reporting periods. This reporting would tend to cause fluctuations in income, implying increased exposure to price or interest rate changes when, in fact, the exposure has been reduced.

Under traditional accounting, the unrealized gains or losses associated with future transactions may not be reflected in the financial statements until realized. The accounting challenges are to develop special or different accounting (hedge accounting) that addresses these issues and then to specify the conditions under which hedge accounting is appropriate.

Some authors illustrate a major difference between the concepts of “**economic hedge**” and “**accounting hedge**”, pointing out that the starting point for any risk management decision should be whether *the proposed hedge is economically sensible*. That is, “does the hedge reduce risk in economic terms at an acceptable cost?” (Coughlan, 2004).

Hedge effectiveness from an economic perspective is usually measured in terms of the amount of risk reduction achieved through the hedging relationship, with direct reference to a particular risk metric such as volatility or value-at-risk. For the effectiveness result to make any sense, the risk metric used must be a statistical measure, as risk essentially reflects the uncertainty of different outcomes. The economic effectiveness test involves comparing the risk associated with the underlying hedged item against the risk of the portfolio formed by the combination of the underlying and the hedging instrument. For a hedging relationship to be “highly effective” in economic terms, the risk of the portfolio must be considerably lower than the risk of the underlying. The actual degree of economic effectiveness achieved by a hedge will depend on the risk characteristics of the underlying and both the hedging instrument, as well as the correlation between them. In fact, for any given underlying and hedging instrument

the level of hedge effectiveness can be maximised by carefully selecting the so called “hedge ratio”, as the amount of the hedging instrument that is used to hedge one unit of the underlying. In principle, accounting effectiveness should be evaluated in exactly the same way as economic effectiveness, and the accounting regulations provide scope for doing so. However, the reasons why accounting effectiveness is not always the same as economic effectiveness are related to three characteristics of the accounting standards:

- Only certain types of hedge relationships are allowed to be designated as hedges under the standards;
- The arbitrary choice of thresholds for hedges to be considered “highly effective”;
- The fact that accounting effectiveness must always be measured in terms of “fair value”.

Nevertheless provided a highly effective economic hedge is a qualifying hedge under the accounting standards, and provided it is appropriate (from an economic perspective) to measure hedge effectiveness in terms of fair value.

Economic effectiveness and accounting effectiveness should be evaluated in exactly the same way. Furthermore, unless the effectiveness thresholds are unreasonably high, the result of a properly designed accounting effectiveness test should be the same as that of the corresponding economic effectiveness test. Hence, corporations and auditors should be guided by economic effectiveness when designing appropriate hedge effectiveness tests.

As regards hedge accounting, it can be defined as a method of reflecting a commercially hedged position in the accounts, so that the revaluation of the derivative does not pass through Income Statement until the transaction concerned occurs (Lopes, 2006). Thus, hedge accounting can mitigate volatility when there are balanced positions – so that only real exposures give rise to income volatility. Hedge accounting is an exception to the usual accounting principles for financial instruments. Therefore, *IAS 39 Financial Instruments: Recognition and Measurement* requires hedge relationships to meet certain criteria in order to qualify for hedge accounting. The specific conditions are:

- a) The hedging relationship and the entity’s risk management objective and strategy for undertaking the hedge must be formally designated and documented from the inception of the hedge. IAS 39 requires that hedge documentation includes the identification of the hedging instrument, the hedged item or transaction, the nature of the risk being hedged and how the entity will assess the hedging instrument’s effectiveness;
- b) The hedge must be expected to be highly effective in achieving offsetting changes in fair value or cash flows attributable to the hedged risk and this effectiveness can be reliably measured;
- c) The effectiveness of the hedge must be assessed regularly throughout its life.

Charnes, Berkman and Koch (2002) emphasize that it can be critical for businesses that use derivatives for risk management to qualify for hedge accounting treatment. Failure to qualify can have considerable tax consequences. Furthermore, without hedge accounting the mismatch in the timing of income recognition may induce income volatility that does not accurately reflect the underlying economics of the hedging relation. This income volatility can have a substantial impact on other managerial decisions and contractual obligations faced by the firm, and might influence the choice of the hedging instrument, or even the decision to hedge at all.

3. Hedge Documentation and Effectiveness Testing

The concept of hedge effectiveness is one that is crucial in determining whether hedge accounting treatment may be applied or not. Hedge documentation needs to be in place from the date at which the reporting entity wants to apply hedge accounting. Equally, a prospective assessment of hedge effectiveness must also be performed. This may appear straight-forward and merely an administrative matter (Keeping, 2003), but the consequences of making mistakes at the assessment stage are significant as hedge accounting may be denied and the volatility of the mark-to-market valuation of the hedging instrument will consequently impact the income statement.

The hedge documentation is generally straightforward. It is necessary to identify clearly the hedged item and hedging instrument and to document how the hedge complies with the company's risk management policy and objectives. Additionally, the hedged risk and the hedge effectiveness method that will be applied are decided up front. The potential obstacles here are threefold.

a. The Hedged Item and the Hedged Risk

The requirements that must be met to achieve hedge accounting go beyond mere documentation of the hedge. Firstly, identifying the hedged item requires greater detail than, for example, simply "Bond A, B or C". In order to minimise ineffectiveness, it may be better to identify the portion of the hedged instrument that has been designated as the hedged item. Secondly, the hedged risk must be clearly defined in detail. "Interest rate risk" may be hedged but the reference to which curve must be mentioned.

b. The types of hedging relationship

When the objective is to cover the risk of changes in the fair value of:

- a) a recognised asset or liability, or
 - b) an unrecognised firm commitment, or
 - c) an identified portion of such an asset, liability or firm commitment,
- that is attributable to a particular risk and could affect profit or loss, this hedge is a fair value hedge under IAS 39 terminology.

When the objective is to hedge the exposure to variability in cash flows that is attributable to:

- a) a particular risk associated with a recognised asset or liability (such as all or some future interest payments on variable rate debt), or
- b) a highly probable forecast transaction, that could affect the Income Statement, this hedge is a cash flow hedge according to IAS 39 terminology.

Both IAS 39 and FAS 133 (classified as *FASB Accounting Standards Codification Topic 815 Derivatives and Hedging*) and the accompanying implementation guidance treat fair value and cash flow hedges in considerable detail. For these types of hedges, effectiveness has two distinct but related meanings, revealed by Capozzoli (2001). These correspond to the following questions: 1) "Is the hedge highly effective? Does it qualify for hedge accounting?", and 2) "What is the exact amount of hedge ineffectiveness?"

Answering the first question means providing a numerical basis, an assessment, of why it is expected the hedge to be highly effective. This numerical basis must be fixed in advance and

becomes a hurdle that the hedge must clear in order to receive any special accounting treatment at all. In addition, it is required that this question be addressed at the initiation of the hedge and on an ongoing basis, at a minimum once a quarter. In advance of a quarter, the reporting entity must assess the hedge effectiveness for the coming quarter. At the end of a quarter, it must also assess the hedge effectiveness for the past quarter. These two assessments, which are going to be explained in detail, are called "prospective" and "retrospective".

For the second question, the change in value of the hedged item due to the risk being hedged must be measured. For fair value hedges, this determines the amount of change in the hedged item's value that is accelerated and included in current income to offset changes in the derivative's value. For cash flow hedges, this will determine the amount of the change in fair value of the derivative that can be offset and thus not affect current income.

c. Assessing the hedging instrument's effectiveness

IAS 39 requires two kinds of effectiveness tests, as it can be seen in Figure 1:

a) A prospective effectiveness test – this is a forward-looking test. At the inception of the hedge and in subsequent periods, the hedge is expected to be highly effective in future periods. The effectiveness test must be predetermined. It is not within either the requirements, or indeed the "spirit" of the standard to select the effectiveness measurement method at the reporting date, nor is it acceptable to find later the method that "works" (Keeping, 2003). It is sensible therefore to perform some scenario analysis ahead of designating the hedge in order to determine the most appropriate and effective way of measuring hedge effectiveness for the particular relationship.

b) A retrospective effectiveness test – this is a backward looking test. When the firm prepares its interim or annual financial statements, a test of whether a hedging relationship has actually been highly effective in a past period.

Some authors' opinion is that current definitions of prospectively effective hedges under FAS 133 and IAS 39 remain quite loose. In contrast, the actual and retrospective tests for effectiveness are both direct and tight. Some important implications of this difference have not been widely recognized. A possible reason for this prospective failure, emphasized by Bodurtha (2004), is the FAS 133 short-cut method exception for certain interest rate hedges. IAS 39 does not provide this exception for interest rate risk hedges. The result is that many interest rate risk hedges that qualify for short-cut method under FAS 133 (and are deemed 100% effective hedges), fail the retrospective effectiveness test of IAS 39. This is inconsistent with FASB and IASB convergence objectives. Furthermore, Bodurtha argues that since interest rate risk is, by far, the most hedged risk, this inconsistency has been part of the motivation for EU Accounting Regulatory Committee to postpone adoption of certain portions of IAS 32 and IAS 39.

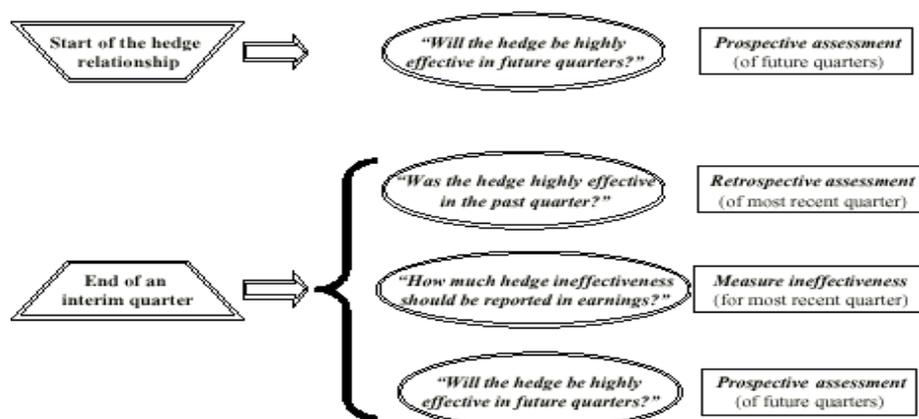


Figure 1. Prospective and retrospective effectiveness test (Capozzoli, 2001)

As it can be seen in the figure above, there is a clear distinction between a forward-looking approach to measure expected effectiveness as opposed to a backward-looking approach to measure realized effectiveness. We express the opinion that the key here is that a consistent method should be applied in both cases for similar instrument types. It is unclear how one can consistently apply a scheme based on comparing historical data to measure ex-ante hedge effectiveness, especially if no historical information exist at the inception of the trade-to-hedge relationship. The obvious inconsistency is that some instruments may have "proxy" data and others do not. The alternative is the consistent application of forecasted correlations based on a variance/covariance matrix calculated from observable historical data (Lee, 2000).

4. How to Measure “Highly” Effectiveness

A highly effective hedge substantially offsets the change in the fair value (or the cash flow) of the hedged item. That is, if the hedged item in a fair value hedge appreciates by €100, then there is some range of decline in values of the hedge that can be defined as substantially offsetting this change. Defining this range is a matter of subjective judgment (Finnerty and Grant, 2006). A highly effective hedge has been suggested as offsetting at least 80% of this change and no more than 125%. Then the acceptable range of the change in value for the derivative would be between –€80 and €125. This method of testing for effectiveness has the additional merit that it leads directly to the accounting treatment of the change in value of the derivative. Highly effective hedge substantially offsets risk associated with the change in the fair value (or the cash flow) of the hedged item. A widely accepted measure of risk is variance. Estimating variances requires multiple observations.

A hedge is "highly effective" only when the change in the fair value of the derivative substantially offsets the change in the fair value of the hedged item or cash flows attributable to the risk being hedged. While it appears straightforward in theory, evaluating hedge effectiveness under the new derivatives accounting standards, FAS 133 and IAS 39, is fraught with pitfalls. The implementation guidance provided by the standards is limited, and even accountants admit that the practical development and interpretation of appropriate hedge effectiveness tests is far from clear-cut (JP Morgan, 2003). Furthermore, seemingly minor aspects in the design of the tests can have a significant impact on hedge effectiveness results. Corporations must therefore design their hedge effectiveness tests carefully to ensure that the economic reality of the hedging relationship is aligned as closely as possible with the accounting requirements.

In order to qualify for hedge accounting, and thereby avoid unwanted earnings volatility, a derivative must be formally designated as a hedge at inception and the effectiveness of the hedging relationship must be regularly evaluated and verified with a numerical effectiveness test. Generally, any hedging application follows a few steps (adapted from JP Morgan, 2003).

Step 1: careful definition and documentation of hedging objectives. This includes first defining the underlying hedged item and then the designated risk to be hedged. A clear specification of the designated risk is particularly important, involving four main elements:

- Performance metric: e.g., fair value or cash flow;
- Risk class: e.g., interest rate risk, foreign exchange risk, commodity, price risk, etc.;
- Amount of the underlying being hedged: how much of the underlying exposure is being hedged;
- Desired risk characteristics: this refers to the risk characteristics which are desired after hedging, e.g., for a fair value hedge of interest - rate risk, the desired risk characteristics might be 3 - month Libor, etc.;

Step 2: defining the hedging instrument and the hedge ratio. The hedge ratio determines how many units of the hedging instrument are used to hedge one unit of the underlying. Ideally, one should select the optimal hedge ratio, corresponding to the maximal reduction in risk.

Step 3: selecting the methodology for evaluating hedge effectiveness. This is in many ways the most important and challenging step, since an inappropriate choice of methodology can lead to spurious and misleading hedge effectiveness results.

Step 4: the implementation step, which means actually evaluating the effectiveness test, as defined by the methodology selected in the previous step. This step is conceptually very simple, but it is typically extremely time-consuming to perform. It involves first using historical data to generate scenarios for prospective and/or retrospective testing, then evaluating the changes in fair value in each scenario, and finally actually performing the test.

Step 5: interpretation. The effectiveness results need to be interpreted in the context of the hedging objectives set out in Step 1. This interpretation is usually facilitated by defining "effectiveness thresholds", which provide an easy translation of the numerical results into a "pass" or "fail" signal. Different types of tests have different types of thresholds. Note, however, that the linkage between effectiveness thresholds and the true level of effectiveness of a given hedge is highly dependent on the effectiveness methodology, in particular, how much historical data is used, and what type of test is being performed. Hence, caution needs to be exercised in setting appropriate threshold levels for different tests in different hedging situations.

The specific method of how one is going to assess the effectiveness of a hedge must be detailed up front in the formal documentation. There are a number of potential methods for measuring hedge effectiveness, not all of which will be appropriate to each type of hedge, and hence it is necessary to give some consideration to which method will be applied as this could prove crucial when the test is performed. The most common methods used are:

a. Critical terms comparison

This method consists of comparing the critical terms (for example, notional or principal amounts, term, pricing, timing, and currency) of the hedging instrument with those of the hedged item. If all the principal terms match exactly, the hedge is expected to be highly effective.

b. The dollar-offset method

Provides a strict test of whether the hedge fulfils the requirements of paragraph AG105 in the foregoing period. The test is effective but can easily disqualify a high quality hedge due to uncharacteristic behaviour in a single testing period.

This method consists of comparing the change in fair value of the hedging instrument with the change in fair value of the hedged item. This ratio, typically calculated as a percentage, should be within a range of 80-125% or 80-120%. Otherwise, the hedge is not highly effective, and it should be discontinued. In practice, many use the 80-125% range. This test can be performed either on a cumulative basis (with the comparison performed from the inception of the hedge), or on a period-by-period basis (with comparison performed from the last testing date), both being acceptable. The cumulative period is recommended since the dollar-offset ratio over a longer period should be more stable than the ratio over a shorter period and thus less likely to fall outside of the range (Wallace, 2003). There is a risk, particularly in complex interest rate hedging, that small changes in interest rates will cause small changes in the dollar-offset's numerator and denominator that will result in large numbers wildly outside the 80-125% range, even though the small changes are immaterial by themselves.

Finnerty and Grant (2006) emphasise that anyone choosing this test should be aware that researchers question its reliability because of its excessive sensitivity to small changes in the value of the hedged item or the derivative.

c. Regression analysis

This is the most common statistical method, according to Wallace (2003). Briefly, it allows regressing on price levels, rather than changes in prices, since one could have highly correlated prices but not highly correlated price changes. This method consists of measuring the strength of the statistical relationship between the hedged item and the hedging instrument. According to Lopes (2006), regression analysis is a means of expressing how one variable (the dependent) varies with changes in another variable (the independent). In the context of hedging effectiveness, the dependent variable reflects the change in the value of the hedging instrument and the independent variable the change in the value of the hedged item. Then, critical tests determine the effectiveness of the hedge. Market practice agrees that the R^2 must be 80% or better to be considered highly effective. One important factor to consider is the period of time over which the regression analysis should be conducted. Clearly, one would want a period sufficiently long to "dampen" any current period volatility that could cause an $R^2 < 80\%$ (Wallace, 2003).

d. Value-at-risk like approach

This is an alternative to regression analysis that is known either as the "volatility reduction method", or as the "variance reduction method" (VRM). It calculates the reduction in the volatility after the hedge compared to the volatility of the hedged item alone. As with regression analysis, this statistic is calculated over an historic period using historic rates, consistent with how both changes are defined in the hedge documentation, which is generally going to be on a full market value basis. If this was greater than some agreed-upon parameter, say 80% (in other words, the volatility of the position has been reduced by the hedge by 80%), then the hedge relationship would pass this test.

Generally, it is better to use any kind of statistical test, rather than the dollar-offset method, for hedging relationships in which there is basis risk or relatively large imperfect matching of the critical terms or, especially, when there is portfolio hedging.

IAS 39 does not specify a single method for assessing hedge effectiveness prospectively and retrospectively. The IASB accepts that the method an entity adopts depends on its risk management strategy. FAS 133 requires the “consistent application of a defined method both a) at inception and on an on-going basis for measuring expected effectiveness and b) for measuring the ineffective part of the hedge”. Likewise, IAS 39 states that “the method an enterprise adopts for assessing hedge effectiveness will depend on its risk management strategy.” The key concept introduced by both Statements is consistency with respect to the entity's risk management strategy (Lee, 2000). Any change of measurement method will need to be justified and the trade-to-hedge relationship will need to be designated anew. Moreover, “an entity should assess effectiveness for similar hedges in a similar manner; use of different methods for similar hedges should be justified.”

A hedge is regarded as highly effective only if both of the following conditions are met:

a) The hedge passes the prospective test. That is, at the inception of the hedge and in subsequent periods, the hedge is expected to be highly effective. This expectation can be demonstrated in various ways: a comparison of past changes in the fair value or cash flows of the hedged item that are attributable to the hedged risk, with past changes in the fair value or cash flows of the hedging instrument, or by demonstrating a high statistical correlation between the fair value or cash flows of the hedged item and those of the hedging instrument. In this test, IAS 39 does not require a hedge ratio one to one. In order to improve hedge effectiveness, the amount of the hedging instrument may be greater or less than that of the hedged position;

b) The actual results of the hedge are within a range of 80% –125%; for example: If actual results are such that the loss on the hedging instrument is €120 and the gain on the cash instrument is €100, offset can be measured by $120/100$, which is 120%, or by $100/120$, which is 83%. In this example, assuming the hedge meets the condition in a), the entity would conclude that the hedge has been highly effective.

The Discussion Papers (jointly developed by the IASB and a number of national standard setters) and the Exposure Drafts (the FASB and IASB each had their own version) originally intended to prescribe a specific hedge effectiveness test. The test was thought to be a straightforward measurement of the statistical correlation between the hedge and the hedged portfolio. Subsequently, such a position was reversed due to controversies over the difficulty of implementing such a measure and the lack of consensus over a "proper" measure of correlation. Since observed correlations are known to break down during volatile market circumstances, such a scheme can be seen as imposing artificial constraints on hedgers by encouraging hedges that may be biased in favour of accounting treatments instead of hedging economics (Lee, 2000). Furthermore, the fact that a hedge and its hedged portfolio may be highly correlated statistically does not necessarily immunize the portfolio from unexpected large fluctuations that the Statements intend hedging entities to recognize in earnings.

5. Recognition of realised ineffectiveness

The accounting standards regarding accounting for hedge require that all ineffectiveness in a hedging relationship is captured and reported immediately in earnings. The entity should be able to demonstrate the ineffectiveness, whether systems-based or manual. A further point is

that where cash flow hedge accounting is being applied, the entity will need to ensure that the re-cycling from equity is taken to the income statement as and when appropriate.

To assess the exact amount of hedge ineffectiveness, the corporation needs to define the risk being hedged and to describe the method to measure the change in value of the hedged item due to the risk being hedged. Once the amount of change in the underlying is known, the effective portion of the derivative's change in value can be calculated. Hedge ineffectiveness is then nothing more than the difference between the full change in fair value and the effective portion of that change (Capazzoli, 2001). Figure 2 illustrates this relationship.

6. Conclusion

We express the opinion that designing appropriate hedge effectiveness tests is a challenge.

The requirement to reassess and report hedge effectiveness is sometimes seen as a very complex and costly task. Coughlan (2004) argues that putting hedge effectiveness testing into practice is not straightforward for several reasons. First, the accounting standards provide considerable flexibility in how hedge effectiveness tests are designed and implemented. While this leeway is essential to align the test with the company's risk management strategy, the lack of explicit implementation guidance provides insufficient direction for all but the most sophisticated corporations. Secondly, the high level of complexity attached to the standards, together with considerable uncertainties concerning implementation and interpretation, have made it difficult to identify hedge effectiveness methodologies that are consistent with the accounting standards and yet still sensible in economic terms. Third, it is easy to end up with inappropriate effectiveness tests by overlooking small, but significant, elements in the testing methodology.

HEDGED ITEM	DERIVATIVE
CHANGE IN REPORTED VALUE (Depends on hedge type and effectiveness measure. ³)	CHANGE IN FAIR VALUE (The same under any effectiveness measure.)
-----	<i>DIVIDED INTO:</i>
CHANGE IN VALUE DUE TO THE RISK BEING HEDGED (May depend on the effectiveness measure.)	EFFECTIVE PORTION (Depends on the effectiveness measure. Is equal to the change in value due to the risk being hedged. ⁴)
-----	INEFFECTIVE PORTION (Depends on the effectiveness measure. Is equal to the balance of the change in fair value of the hedge.)

Figure 2. Hedge effectiveness and ineffectiveness (Capazzoli, 2001)

Another problem is that reporting changes in the fair value of a derivative in earnings each quarter could create a matching problem. If the derivative is being used as an economic hedge, changes in the value of the derivative might increase (or decrease) reported earnings one period while the opposite change in the value of the hedged item affects earnings in a later period (Finnerty and Grant, 2002).

Hedges must be proved effective in advance and retrospectively, with the IASB insisting on "almost perfect offset" being proved at the outset. Failure means the net change in the value of

the derivative is immediately and fully recorded in current earnings, with different treatments for the effective portions of cash flow and fair value hedges. More commonly, at least at the start of the compliance effort, treasurers are focused to qualify existing hedges, by any means necessary, but as soon as there are trades that don't fit, more "creative" assessment methodologies are tried. With both IAS 39 and FAS 133 demanding prospective as well as retrospective demonstration of hedge effectiveness, firms must declare in advance the methodologies they intend to use, constricting the treasurer's room for manoeuvre in the future. We conclude that it is very hard to state the procedures with sufficient specificity to qualify and yet to have flexibility to make the adjustments that might later be necessary.

Finally, we emphasise that, according to a survey made by Schraeder and Walterscheidt in Germany 2009, of the three financial risks examined - currency, interest and commodity price risks - the currency risk assumes on average the greatest importance for the interviewed companies. 62% of companies attribute to this risk considerable or extreme importance.

Interest risks are considered on average to be the second most important financial risks to which companies are exposed and commodity price fluctuation is considered the risk of least importance, but the assessment also showed that these results are dependent on the type of companies' activities. Barely two thirds of all interviewed companies apply hedge accounting in accordance with IAS 39 to disclose their financial economic hedging activities.

However, clear differences were observed in relation to company size. The survey illustrates that whilst almost all large corporations (94.7%) apply hedge accounting to some of their securing activities, this proportion is reduced to just over one third (34.2%) in the case of smaller companies.

The most important influencing factors for the decision, concerning the use of hedge accounting, are the expected effectiveness of the securing methods, as well as the volatility of results which would be anticipated without the use of hedge accounting. A critical point, in addition to the lack of practicability, is the administrative expenditure incurred by application of IAS 39, which is considered excessive particularly by non-users in relation to the benefit derived from it.

In the real market environment, a hedge relationship is dynamically changing, as volatilities may change independent of each other - making adjustments necessary. Thus, a dynamic hedge optimization targets to optimally modify the contribution of hedging instruments and hedged items and to adjust this effectively according to their offsetting capabilities, in order to keep the hedge relationship stable. The conclusion is that in order to ensure the highly effectiveness of hedging strategy, the following are necessary: an optimal selection of the most effective hedging instruments that are offsetting the risk exposure of the hedged items is necessary, and an optimal selection of the hedged items that can be hedged by the available hedging instruments.

References

1. Akkizidis, I., 2006, *Hedge optimization with IAS 39*, B&F Banking Solutions, September, www.riskwhoswho.com/Resources/AkkizidisIoannis2.pdf
2. Bodurtha, J. N., Jr., 2004, Rev. 2005, *Divergent FAS-133 and IAS 39 Interest Rate Risk Hedge Effectiveness: Problem and Remedies*, http://faculty.msb.edu/bodurthj/research/Divergent_FAS-133_and%20IAS_39_Interest_Rate_Risk_Hedge%20Effectiveness.pdf

3. Capozzoli, A., 2001, *What Is FAS 133 Effectiveness and When Does It Matter?*, Bank of America Journal of Risk Analysis, February, <http://www.gtnews.com/article/2701.cfm>
4. Bunea-Bontas, C. A., 2009, *Basic Principles of Hedge Accounting*, Economy Transdisciplinarity Cognition, July, <http://ssrn.com/abstract=1440221>
5. Charnes, J. M., Berkman, H., Koch, P., 2002, *Measuring Hedge Effectiveness for FAS 133 Compliance*, School of Business Working Papers, <http://home.business.ku.edu/finance/doc/koch.pdf>
6. Coughlan, G., 2004, *Corporate risk management in an IAS 39 Framework*, JP Morgan,
7. Finnerty, J. D., Grant, D., 2002, *Alternative Approaches to Testing Hedge Effectiveness under SFAS No. 133*, Accounting Horizons, Vol. 16, <http://www.questia.com/googleScholar.qst>
8. Finnerty, J. D., Grant, D., 2006, *Testing Hedge Effectiveness Under SFAS 133*, <http://www.nysscpa.org/cpajournal/2003/0403/features/f044003.htm>
9. IASB, 2008, *International Financial Reporting Standards (IFRSs), including International Accounting Standards (IASs) and Interpretations as approved at 1st January 2008*, IASCF, <http://books.google.com>
10. JP Morgan, 2003, *HEAT™: A framework for evaluating hedge effectiveness*, <http://www.jpmorgan.com/pages/jpmorgan/investbk/heat>
11. Keeping, B., 2003, *IAS-39 - A Challenge Today, Not Tomorrow - Part Two*, Financial Instruments Tax and Accounting Review, July, <http://www.gtnews.com/article/5087.cfm>
12. Lee, B., 2000, *A Consistent Approach to Measuring Hedge Effectiveness*, Financial Engineering News, February, <http://www.cs.trinity.edu/~rjensen/readings/EffectivenessByBernardLee.htm>
13. Lopes, P. T., 2006, *Accounting for electricity futures under IAS 39. A report by Faculty of Economics - University of Porto*, October, <http://www.omip.pt/conteudos/docs/>
14. Schraeder, T., Walterscheidt, S., 2009, *Hedge Accounting in accordance with IAS 39: Driving force or impediment to economically meaningful risk management?*, Corporate Treasury in Germany, <http://www.treasury-management.com/articles/4/1/TMIGermany09%20P20%20Hedge.pdf>
15. Wallace, J., 2003, *Made to Measure*, Greenwich Treasury Advisors, April, <http://www.gtnews.com/article/4959.cfm>
16. *Hedge Accounting: IAS 39 & FAS 133*, 2004, <http://www.gtnews.com/feature/67.cfm>
17. www.fasb.org

The Optimization of the Sales Force Efforts Assignment in Order to Maximize the Profit Using Winqs Software

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Abstract: Our paper emphasizes the concrete manner in which it can be solved a linear programming problem - the optimization of the sales force efforts assignment in order to maximize the profit using WinQSB software. In order to reveal the value of WinQSB software in the process of the simulation concerning the optimization of resource allocation, we created a model of linear programming that we applied to an insurance company, taking into account two variables (two types of services packages of private life insurances) and three constraints (the budget assigned to the sales agents' training, the contribution margin and the number of sales agents). The results obtained after the simulation process put in evidence the financial impact of the constraints associated to a linear programming problem on the decisional variables included in our model.

Keywords: resource allocation, optimization, linear programming, variables, constraints

JEL Code: C61, M21

1. Introduction

In the strategic planning, resource allocation represents a plan for using available resources, for example human resources, especially in the near term, to achieve goals for the future. It is the process of allocating resources among the various projects or business units. The plan has two parts: firstly, there is the basic allocation decision and secondly there are contingency mechanisms. The basic allocation decision is the choice of which items to fund in the plan, and what level of funding it should receive, and which to leave unfunded: the resources are allocated to some items, not to others.

The linear programming represents an efficient method which includes more decisional variables within a single pattern in order to determine the best solution. The patterns of mathematic programming and especially their subclass – the patterns of linear programming – occupy an important place, both in the economic theory and the practical one. The economic theory benefited of the contribution of the interdisciplinary approach which allowed the profound study of the maximal efficiency analysis of the complex systems and the discovery of some new concepts of the economic optimum, it improved the knowledge and research methods while the management practice has enriched with an extremely useful instrument of the economic analysis and decisions fundament.

The structure of a linear programming problem includes an objective function, decisional variables, constraints and parameters. The objective function implies the planning of a set of performance parameters described by means of the decisional variables. The constraints are represented by linear equations that describe the restrictions referring to the available resources, while the parameters are designed by the numerical values that describe the assignments of resources.

2. Simulation of the linear programming problem associated to the optimization of the sales force efforts assignment in an insurance company

Resource allocation may be decided by using computer programs applied to a specific domain to automatically and dynamically distribute resources to applicants. It may be considered as a specialized case of automatic scheduling.

With computers able to solve linear programming easily, the challenge is the problem formulation – translating the problem statement into a system of linear equations to be solved by the computer. The information required to write the objective function is derived from the problem statement.

We carried out a simulation on a concrete situation specific to the life insurances in order to emphasize the way in which the method of the **linear programming** can be applied in the optimization processes of the resources assignment. We focused our attention on a multinational company specialized in the life insurances domain that wants to reach the Romanian insurances market, offering two types of services packages of private life insurances according to the first paid by the clients: **Life Insurance Standard** (a short term insurance that covers exclusively events resulted from an accident and offers financial protection in case of death as a consequence of an accident, total or partial invalidity as a result of an accident, hospitalizing or operation as a result of an accident) and **Life Insurance Premium** (a product of life financial protection on a medium and long term to which the client can choose the contract period that best suits his financial plans - 5,10, 20 years and offers the protection to the diagnosis of critical illnesses, the protection in case of death and invalidity, as a result of an accident, the protection in case of total or temporary incapacity of work and the possibility to increase the benefits along the contract without evaluating the health condition).

The insurance company's manager must decide the appropriate assignment of the sales force efforts in order to maximize the profit. The company's specialists in the financial plans domain estimate that a sales agent of the **Life Insurance Standard (LIS)** package will have a medium profit of 1.100 EURO, while a sales agent of the **Life Insurance Premium (LIP)** package will have a medium profit of 650 EURO. The training for the sales operations of the **Life Insurance Standard** package will require 230 hours while for the Life Insurance Premium, it will involve 410 hours; the company's manager decides the assignment of a maximum 1.650.000 EURO budget for all the training operations that support the sales of the two insurance packages. The contribution margin is 530 EURO for a **Life Insurance Standard** sold package and 320 EURO for a **Life Insurance Premium** sold package. The **contribution margin** is determined as a difference between the incomes resulted from the sale of a life insurance package and the afferent variable costs. The optimization of the company's total contribution margin requires the exceeding of the minimum level of 1.480.000 EURO. The maximum number of sales agents for the **Life Insurance Standard** basic package who will be recruited from the persons with university studies in the sales management domain is of 5000 in order to fit the budget assigned to human resources by the company's manager.

In order to solve this problem of linear programming, we must identify the decisional variables in a first stage which are represented by the two life insurance packages: **Life Insurance**

Standard and Life Insurance Premium. We will assign the X_1 symbol to the sales team of the **Life Insurance Standard** services package and the X_2 symbol to the sales team of the **Life Insurance Premium** services package. The next stage involves the setting of the **objective function** by means of the linear programming method, which is thus formulated:

$$\text{Maximization } \pi \text{ (profit)} = 1.100 X_1 + 650 X_2 \quad (1)$$

After the setting of the objective function, it is necessary to define the set of constraints: the budget assigned to the sales agents' training, the contribution margin and the maximum number of sales agents. The conversion in formulae of the three types of constraints will be carried out according to the two decisional variables.

The formulation of the constraint referring to the budget assigned to the sales agents' training (1.650.000 EURO maximum) will take into account the number of hours for the development of the communication and sales abilities (230 hours in the case of the **Life Insurance Standard** package, respectively 410 hours in the case of the **Life Insurance Premium** package):

$$230 X_1 + 410 X_2 \leq 1.650.000 \quad (2)$$

The second constraint of the decisional problem must ensure, according to the objective imposed by the insurance society's manager, a minimum contribution margin of 1.480.000 EURO by means of the contributions brought by the unitary contribution margins (530 EURO in case of selling a **Life Insurance Standard** package, respectively 320 EURO in case of selling a **Life Insurance Premium** package).

$$530 X_1 + 320 X_2 \geq 1.480.000 \quad (3)$$

The third constraint refers to the maximum number of the sales agents who will be recruited in order to accomplish the sales objective; we will assign the coefficient 1 to the sales team of the **Life Insurance Standard** package and the coefficient 0 to the sales team of the **Life Insurance Premium** package because the share of the first team must be bigger than the one of the second team.

$$1 X_1 + 0 X_2 \leq 5.000 \quad (4)$$

Due to the fact that none of the decisional variables can have negative values, we will impose their constraint too: $X_1, X_2 \geq 0$. We will appeal to the **Linear and Integer Programming** function of the **WinQSB software** (The free trial version of the **WinQSB** software was downloaded from the website: <http://www.ascib.ase.ro/soft.htm>) in order to solve quickly this problem of linear programming.

The access of the linear programming application from the WINQSB software menu imposes the introduction of the entry data basis, the user specifying the number of decisional variables (the two packages of private life insurances **Life Insurance Standard** LIS and **Life Insurance Premium** LIP) and the number of constraints (the budget designed for the training of the sales team, the contribution margin and the number of sales agents). The arguments of the objective function are introduced in the first line and the coefficients specific to the three constraints will be introduced in the next lines. The values in the R.H.S. (right-hand side) field are represented by the optimization functions of the resources assignment under the conditions of the two decisional variables and the three constraints (the equations (1), (2) and (3), while the Direction field indicates the sign corresponding to the optimization functions. (figure no.1)

Variable -->	L.I.S.	L.I.P.	Direction	R. H. S.
Maximize	1100	650		
Salesforce training budget	230	410	<=	1650000
Contribution margin	530	320	=>	1480000
Number of sales agents	1	0	<=	5000
LowerBound	0	0		
UpperBound	M	M		
VariableType	Continuous	ontinuous		

Figure no. 1 – Entry database for the problem concerning the optimization of the sales force efforts assignment in order to maximize the profit in an insurance company using WinQSB software

The **Solve the Problem** function from the **Solve and Analyze** menu of the **WinQSB** software provides the results of the problem that we will analyze and interpret in detail. The value of the solution for each decisional variable, the value of the unitary profits and the total contribution to the objective function are presented in the columns of the results data basis. (figure no. 2)

Decision Variable	Solution Value	Unit Cost or Profit c(j)	Total Contribution	Reduced Cost	Basis Status	Allowable Min. c(j)	Allowable Max. c(j)
1 L.I.S.	5.000,0000	1.100,0000	5.500.000,0000	0	basic	364,6342	M
2 L.I.P.	1.219,5120	650,0000	792.682,9000	0	basic	0	1.960,8700
Objective	Function	(Max.) =	6.292.683,0000				
Constraint	Left Hand Side	Direction	Right Hand Side	Slack or Surplus	Shadow Price	Allowable Min. RHS	Allowable Max. RHS
1 Salesforce training budget	1.650.000,0000	<=	1.650.000,0000	0	1,5854	1.150.000,0000	M
2 Contribution margin	3.040.244,0000	>=	1.480.000,0000	1.560.244,0000	0	-M	3.040.244,0000
3 Number of sales agents	5.000,0000	<=	5.000,0000	0	735,3658	548,3647	7.173,9130

Figure no. 2 – The results of the problem concerning the optimization of the sales force efforts assignment in order to maximize the profit in an insurance company using WinQSB software

In many organizations the sales force is the company's most expensive promotional resource, and too often companies fail to maximize return on that investment. Numerical measurements will always dominate any measure of sales force effectiveness, but a manager must look beyond that to drive superior performance. The linear programming problem concerning the sales force optimization can be equally important as the quantitative factors.

3. Analysis of the linear programming problem results provided by WinQSB software

The results obtained after the simulation of the linear programming problem emphasize the fact that 5.000 sales agents of the life insurance package, **Life Insurance Standard (LIS)** contribute each of them with 1.100 EURO to the value of 5.500.000 EURO from the argument of the objective function while the difference of 792.683 EURO up to the total of **6.292.683**

EURO is obtained by the contribution of 1.219 sales agents of the life insurance package, **Life Insurance Premium (LIP)**, each of them with 650 EURO. The '0' value in the 'Reduced Costs' field indicates the fact that there can't be brought improvements to the objective function without changes of the constraints from the entry data basis.

The 'Allowable Minimum c[i]' and 'Allowable Maximum c[i]' columns illustrate the value interval in which the decisional variables can be framed. In this practical example, the profit brought by every sales agent of the life insurance package, **Life Insurance Standard** can't be lower than 364,63 EURO, but it can be as high as possible and the profit brought by every sales agent of the life insurance package, **Life Insurance Premium** can't be higher than 1960,87 EURO.

The inferior part of the results chart emphasizes the constraints, the values that can be assigned and their effects on the objective function. We remark the fact the two constraints 'Sales training budget' and 'Sales agents number' present equal values in the 'Left Hand Side' and 'Right Hand Side' columns and the value associated to the 'Contribution margin' constraint differs in the two columns, which determines us to analyze the situations of 'slack' variable, 'surplus' variable, 'shadow prices' and feasibility intervals.

The 'slack' variable appears when the optimal values of the decisional variables are assigned to a constraint of „ \leq ” type and the value resulted in the 'Left Hand Side' column is smaller than the value in the 'Right Hand Side' column. The 'surplus' variable appears when the optimal values of the decisional variables are assigned to a constraint of „ \geq ” type and the value resulted in the 'Left Hand Side' column overpasses the value in the 'Right Hand Side' column.

The shadow prices show the measure in which an increase with a unity of a constraint value in the 'Right Hand Side' column contributes to the increase of the arguments' values in the objective function while the feasibility intervals designate the constraints values in the 'Right Hand Side' column over which the shadow prices remain constant.

Another method that can be used in order to solve this problem is represented by Simplex Tableau, revealed by the menu **Solve and Display steps**, which supposes several iterations in the goal to achieve the objective function . (figure no. 3)

Basis	C(j)	L.I.S	L.I.P	ack_Salesfor	is_Contril	Slack_Number of sales agents	Artificial_Contribution	R. H. S.
Slack_Salesforce training budget	0	230,0000	410,0000	1,0000	0	0	0	1.650.000,0000
Artificial_Contribution margin	-M	530,0000	320,0000	0	-1,0000	0	1,0000	1.480.000,0000
Slack_Number of sales agents	0	1,0000	0	0	0	1,0000	0	5.000,0000
	C(j)-Z(j)	1.100,0000	650,0000	0	0	0	0	0
	* Big M	530,0000	320,0000	0	-1,0000	0	0	0

Figure no. 3 – Simplex Tableau – alternative method to solve the linear programming problem in the insurance company

We observe from the results chart that only the 'Contribution margin' constraint is positioned as 'surplus' variable, with a value of 1.560.244 EURO; this denotes that the contribution margin can reach 3.040.244 EURO maximum without affecting the arguments of the objective function.

The value resulted in the 'Shadow price' column indicates the fact that every sale agent who is supplementary employed can improve the profit with 735,36 EURO. If the number of the sales

agents weren't restricted to 5.000, the company of private life insurances could hire 7.173 sales agents, which would generate an additional profit of 1.597.937,28 EURO (2.173 x 735,36). In the same time, the company couldn't hire a smaller number than 548 sales agents.

4. Conclusions

In order to decide the appropriate assignment of the sales force efforts in order to maximize the profit, our simulation of the linear programming problem took into account the following aspects: the identification of the objective function and its specific variables and constraints, the problem statement planning using proper coefficients to the decisional variables and constraints and the arrangement of the equations system in a form suitable for solving by WinQSB software.

The main **strength** of this optimization model of the resources assignment in an insurance company, besides the one referring to its projection, is the one that allows the user to simulate the financial impact of the constraints referring to variables such as the budget assigned to the training of the sales team, the dimension of the sale force and the contribution margin generated by it.

Our model reveals the fact that tightening a binding constraint can only worsen the objective function value. Once an optimal solution is found, managers can seek to improve that solution by finding ways to relax binding constraints. This model can be personalized to any type of business activity, revealing the interdependences between its variables and constraints and emphasizing the value of the linear programming approach in the formulation of a business problem.

References

1. *Freeman L.* – “*Optimize resource allocation with linear programming*”, John Willey & Sons, Second Edition, New York, 2002, 2001
2. *Nistor R., Capatina A.* – “*Simulari si proiecte de management – marketing*”, Ed. Academica, Galati, 2005
3. *Norton Scott M., Kelly L.* – “*Resource Allocation – Managing Money and People*”, Pearson Education, London, 1997
4. *Ozcan Y.* – “*Quantitative Methods in Health Care Management*”, Jossey-Bass, San Francisco, 2005
5. *Quinn J.* – “*An Introduction to Nearly Optimal Programming an Extension of Sensitivity Analysis in Linear Programming*”, John Willey & Sons, New York, 2002
6. *Tate W.* – “*Mathematics applied in Business – Creating Opportunities to Learn*”, Sage Publications, London, 2005

Remarks on the Impact of Cultural Differences Relating to Business Ethics and Tourist Behaviour of Service Suppliers and Consumers in Romania

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Abstract

Business ethics and organizational culture are frequently addressed domains in specialist literature. In practice, these concerns are not only topical, but also of ever higher interest for organizations. Searching answers to the issue of increased competitiveness, including our country, we aim to correlate the two dimensions within tourism, while identifying the following: the impact of national culture, specifically of cultural mix, in the frame offered by multinational companies; the impact on management practices and ethical behavior in doing business (with focus on tourism); the role played by ethics and culture in defining tourist behavior (the perspectives of service suppliers and service consumers).

Keywords: ethics, tourism, culture, tourist behavior, cultural differences

1. Introduction

Contemporary tourism is a social process, it is today's lifestyle in a way. But before everything else, tourism is one peculiar form human behavior takes. Man is the very subject of tourism. The tourist industry can only be explained after the human beings have been understood. Tourism cannot just be one manner of spending free time – in spite of many holidays being connected with fun time – since many other goals may be simultaneously attained, such as cognition, socializing, pilgrimages, knowledge acquisition. Hence, one often hears that world tourism can trigger social and cultural changes at destination, in the wake of economic, social and cultural interferences created by peoples in different corners of the world.

By the side of beneficial economic and social effects, numerous negative effects have been pointed out by some scientists, among which a decline in traditions, gross materialism, an increase in crime rate and drug consumption, social conflicts, overcrowding, environmental damage and dependence on industrialized countries (from where comes the main finance for actions such as travel and investments). All of the previously-mentioned have been identified as negative social costs of tourism in destination areas which can ultimately be badly affected in their very image. Tourism by itself cannot be labeled as good or bad, positive or negative; however, its diverse consequences may be evaluated as such. The effects of tourist activities, both at an economic level and at a social level, are dependent upon the behavior of everyone involved, as well as upon the observance of certain norms in ethics. The real reasons for all negative repercussion lie in man's attitudes toward tourist activities which are often in conflict with ethical norms. The genuine benefits of tourism (be they economic, social, cultural) might grow considerably bigger if ethical norms were more closely observed.

2. The impact of ethics on management strategies and business practice

These past years' experience shows that, at least in the developed world, organizations have become aware of the importance of ethics for management strategies and business practice. In other words, those organizations have become increasingly moral in attitude. In fact, it has been said that, if late in the past century one identified a time of corporative greed, the current decade is one of responsibilities. On the other hand, at the same time with an acceleration in globalizing developments, it has become obvious that ethics is not neutral culturally speaking, even though one comes across moral values of universal opening. Simultaneously, the impact of culture on moral behavior plays a substantial role and depends on the manner of grasping certain ethical issues of great importance resulting from what is bestowed by society, in general, and organizations in particular. Thus, for instance, within an individualistic culture, moral liabilities are essentially meant for persons, whereas a collectively biased culture generates problems belonging to the group; in weakly-contextualized cultures, moral norms are explicit and written down, while, in strongly-contextualized ones, the norms are rather implicit. In universal cultures, rules are applied likewise to all, whereas, in particular cases, cultures grant a special weight to circumstance and people involved.

The ethical impact of one culture is also function of the degree of its integration, the manner in which it imprints the ensemble of social existence. As a rule, the stronger one culture is (firm in its assertion and promotion of values), the more tempted its managers trying to impose high ethical standards. In recent years, it is more and more manifest that ethics should be taken into account in tourist developments as well. That is why, in 1999, World Tourism Organization (WTO) drafted and made public an ethical code for tourism. The Yellow Code of Ethics for Tourism represents a complex document including principles guiding all stakeholders in tourism: central and local administrations, local communities, suppliers of tourist services, as well as tourists at home and abroad. Considering the WTO prognostication indicating a tripling of tourist circulation in the world for the next ten to fifteen years, this code proves its necessity, for it must help toward minimizing the negative impact of tourism on the environment and cultural heritage and toward maximizing benefits for the populations of the countries of destination. Specialist literature grants special attention to this domain, cumulating a multitude of articles and studies concerned with the relationship tourism-ethics-cultures. For example, a 1999 study built on interviews with tourism experts pointed out the importance of ethics in business inside the tourist sphere, showing that its absence means a destructive behavior in nature or the disappearance of tourist trust.

Being provided with ethical codes, both employers and employees will display acceptable conduct. It is believed that managers and hired hands with a long past at work have higher standards for ethical behavior. It is equally true that people prefer business relationships with persons and companies they trust. Dishonesty and cheat cause harm in business, with a vengeance in tourism, and that is why professionals in the business have to adopt fair play. The organizations, in their turn, show a preference for loyal honest employees. Thus, moral values are associated with employee behavior, especially when it is a question of having a direct relation with a customer. A number of scientific studies approach the significance of national cultural values when choosing a destination. The national culture decides on the assessment of tourist services and the intention of a customer to compare or to recommend destinations for tourism. Culture is more and more exploited as a facility in selling a destination. Its role in the motivational process of buying is particularly significant. What has also been analyzed is a number of cultural stereotypes and their impact on activities in tourism.

3. The impact of ethics and culture on consumers of tourist services

Tourists travel the world over in order to enjoy the company of other people in other places, and tourist consumption is achieved in a spiritual sense. The factors motivating a tourist are hard to decipher, even by the tourist himself. It is little known what a tourist actually strives for. Another aim for specialist studies is to establish the importance of professional training in

promoting an ethical type of conduct in tourist activities. Trainers have to stimulate in each and every trainee the development of their own work values and to encourage analytical insight into problems that require a solution. Moral values, by the side of cultural ones, describe the interaction occurring between visitors and hosts. A tourist's travel will bring about opportunities for meeting people, cultures, natural spots and, at the same time, opportunities for deeper self-knowledge. First of all, the tourist should make an effort to get to know what is really important, so as to know better those people who reside at the destination, understanding their culture, lifestyle and thinking. He should avoid exclusively looking for what has been stated in advertising materials, which most often focus on a few tourist attractions and propose a false picture of the visited places. This effort from the part of the tourist must be seen as a moral duty to be felt previous to the beginning of the trip. From the point of view of the tourist's freedom, the person is free of any obligation, whether in the profession or in private life. He or she can travel any place, can do anything – without trespassing the law or common sense. The attitude of tourists towards residents must be characterized by tolerance, by acceptance of the multiple differences (in religion, education, living standards, and so on). It is very important to show respect for values that are of special importance to the locals, and so forth.

In very frequent cases, the impact of tourist activities is felt on the local population and no other: the host communities will take upon themselves the effect of the new crowds, their pressure on resources and the challenges to the local culture to be preserved. The intensity of impact is dictated by a series of factors, such as time and increased rate of tourism, increased rate of visiting numbers, seasonality, etc. However, these effects are to be less felt when tourist activities bring benefits to the community relative to the economic and financial sides. In the contrary situation, the locals may exert pressures on tourists that tell of hostility. The attitude of the residents toward visiting guests must feature hospitality and goodwill. Tourists have a right to correct and useful information and enjoyment of services paid at reasonable costs. It is unethical to cheat or steal, but unfortunately the tourist can experience that too. For the same reason of good gains in tourism, genuine cultural values may often become commercialized, they are put 'on sale' or they are falsified, drawing on the gullibility of visitors. Another aspect to be considered is the non-acceptance of discriminatory practices on the grounds of race, religion, nationality, and others.

4. Duties of service suppliers in tourism from the cultural and ethical points of view

Economic agents in tourism cover all the institutions involved in preparing the trip, ensuring transportation, organizing the stay, taking visitors around, either developing specific services (accommodation, catering, sightseeing) or offering a diversity of supplementary services. Along the same lines, mention must be made of local authorities or governmental authorities. Hotels are expected to see about the safety of the visitors, a degree of comfort matching the star rating, amenities answering requirements of hygiene, quiet and high-quality services. There is also an expectation that special needs are taken into account, and we mean people with handicap. Principles in ethics prescribe that the hotel personnel should be honest and never practice deceit on guests. According to the same principles, certain immoral practices are not allowed.

The most important duties of tour operators and travel agencies refer to a safe and comfortable journey, granting security to travelers and protection of their legal rights, observance of contracts signed with the hotels and of obligations assumed toward tourists. Moreover, they are supposed to ensure a complete briefing of the tourists before their purchase of the package of services.

The local or regional tourist administration is held responsible for tourism policies, for planning and setting up the conditions required by development in tourism. From the ethical point of view, it is imperative that all the effects of tourism are well known, at economic, social, cultural, educational levels; it is equally imperative that the planning for developing tourism should reflect the welfare for all regions. Correspondingly, facilities should be created for attracting tourists to all places of destination beginning with infrastructures and ending with very good information on tourism. Governments have accepted to get committed and are still under a commitment to fight back negative processes, adopting new regulations. An important role is played by schools and teaching staffs. It is their responsibility to educate future tourists, influencing the youth toward respect paid to other people, to nature, to one's own culture, to other cultures.

5. Conclusion

The tourist sector is characterized by a close relationship with the client or the consumer of specific services, the client effectively participating in the performance of services. Under such circumstances, the ethical behavior of employees is a peculiarly weighty contribution to the reputation of the agency and to the quality of the performance. And a moral vein in all that is strongly induced, among others, by organizational culture and by the personal example set by the manager. In the conditions in which Romania wishes for herself, once admitted into the European Union, an economic and social integration within the European context, and also an economic rise in the domain of tourism, we consider that there cannot be an anticipation of increased competitiveness for Romanian units unless ethical principles in business have been appropriated. The whole tourism with its activities ought to go along with moral principles, at the same time answering the demands for long-term developments. Even though it is not always true that a breach of ethics be followed by sanctions, more or less promptly applied, every participant in the tourist event is expected to act with a sense of duty and a feeling of respect toward any human being.

References

1. Cohen, E. (1988). "Authenticity and Commoditisation in Tourism", *Annals of Tourism Research*, Vol. 15, No. 3, 371-386.
2. Fritzsche, D. J. (1997). *Business Ethics: A Global Managerial Perspective*, Curs MBA, McGraw-Hill Companies.
3. Ghiselli, R. F. (1999). "The ethical inclination of foodservice managers and hospitality students", *Journal of Hospitality & Tourism Education*, 1-1 (2-3), 92-98.
4. Matilla, A. S. (1999). "The role of culture and purchase motivation in service encounter evaluations", *The Journal of Services Marketing*, Vol. 13, Iss. 4/5, 376-389.
5. McCarthy, R. T. (1996). "The way I see it: It's time to look at industry ethics", *HSMIA Marketing Review*, 13 (1), 47-48.
6. Mc Donald, T. (1996). "Real results: To tell the truth: In business, honesty really is the best policy", *Successful Meetings*, 45 (3), 26.
7. Minciui, R. (2004). *Economia turismului (The Economy of Tourism)*, Ed. Uranus, București.
8. Popa, I. & Filip, R. (1999). *Management internațional*, Ed. Economică, București.
9. Ross, F. G. (2006). "Ethical, Career, Organizational, and Service Values as Predictors of Hospitality Traineeship Interest", *Tourism, Culture & Communication*, Vol. 6, 121-136.
10. Sharp, D. (1998). *Business Ethics Cases*, University of Western Ontario.
11. Stevens, B. & Fleckenstein, A. (1999). "Comparative ethics: How students and human resources directors react to real-life situations", *Cornell Hotel & Restaurant Administration Quarterly*, 40 (2), 69-75.
12. UNWTO (2006). *World Tourism Barometer*, vol. 4, no. 1.
13. Autoritatea Națională pentru Turism (2006). *International market studies: Austria, Germany, Holland, United Kingdom, United States of America, and Sweden*, <www.mturism.ro>

Generations of Development – Simultaneity and Lagging

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Abstract

This paper describes some characteristics of development process in Romania from a complex perspective – demographic, economic, politic, social, administrative, urban and territorial planning. The various generations of developments are identified according with there speed and inertia, using statistical data and empirical prospective analysis. The focus are limited to the last twenty years where is segregating at least two generations of developments and many generations of micro-changes, respectively as many generations as types of factors are involved in spatial planning, through economics, urbanization, demography and politics. Along with the political changes the last two decades have represented for Romania the entrance in a new generation of systems: demographic (ageing), economic (liberalization), political (democratic diversity), social (segregation), which have different speeds and inertias and so different effects upon the generations of individuals, upon the generations of development, respectively.

Keywords: development, generation, Romania

JEL code: O18, O29

1. Introduction

Development as stage is quantifiable by means of consecrated indices, and as a process is revealed by the correct articulation and functioning of the major components of geosystemic complex (economy, politics, social, urbanization, population, biodiversity, ecological balance, etc.). Given the complexity of process, its measuring and interpretation is often approached unilaterally and specialized. The assertion that the effects of the development generated by a generation are enjoyed a generation later has become almost axiomatic. Along with the political changes in the communist block, the last two decades have represented for Romania the entrance in a new generation of systems: economic (of liberalization), political (of democratization), social (of polarization and segregation), demographic (of demographic ageing and accentuation of migration) which have different speeds and inertias, in other words different effects upon the generations of individuals, upon the generations of development, respectively. Inevitably, the references to the new generation need the identification of its structural parameters and their connection with all socio-economic and organizational aspects mentioned above. The succession of ("micro-") generations of political and economic changes over the nearly past twenty years occurred after the conclusion of the great process of demographic transition.

Since the 9th decade of the past century Romania has entered a stage of equilibrium that characterizes mature population and divides the “new generation” into two cohorts. First, the persons aged 18 years (majority) after 1990 who were able to manifest their political option and to influence changes. Their percentage has been increasing from year to year (19 micro-generations already). The second group, the one of the “radically new generation” born under the sign of changes and political and economic transition, has sub-unit growth rates in a continuous decrease.

But this simultaneity of generations in demographic terms corresponds to generations of industries, policies, urbanization, etc., whose successions and progress are delayed one another

2. Generations of industries – from heavy industry to Hi/Tech and NTIC

Romania belongs to the European group of countries “in transition”. Beyond the political connotation based on ideological, political and administrative changes, transition presupposes a much ampler process which practically encompasses all segments of the contemporary society, going up to changing mentalities, which represents by excellence a dimension of the generation seen as a system. From an economic point of view transition meant not only changing the decisional infrastructure, but also the integration of new generations of technologies, a gradual renunciation to the infrastructure specific to forced industrialization and to the strict social division of labour corresponding to it. The generation of post-war industry apparently located according to the economic logic of the extremes (maximizing the profit and minimizing the costs) but politically understood and transposed (“the even distribution of the production forces within the territory”) is followed by incipient technopolitan formations, industrial and software parks.

Entering a new stage of the industrial phenomenon occurs amid a world-class transition otherwise unaccomplished in both the advanced countries, which are in the process of further integration of high technology and NTIC and industrial transformations resulting there from. The distance between the two extreme ages of industrial development, proto-industry and NTIC is shorter in Romania than in the case of England or France and less dense than in Germany, but at the almost secular scale of the dynamics of the industrial phenomenon as a whole, this gap can be perceived more like a local nuance.

The effects are not diminished and the obvious differences of development between echelons are not cancelled but yet we get the "neighbourhood series" fostered by globalization, technological and political dynamics. The coexistence of at least two generations of industry - still seen as a primary engine of development - is confirmed by the industry policy in Romania which makes a clear distinction between traditional sectors and emerging sectors. The first group (refinery, chemical, machine-building, metallurgy, and synthetic textiles) has been targeted for substantial restructuring and privatization efforts after 1990. The second group (communication equipment, electric machines, fabrics, furs, leather, and furniture) is now largely in the private sector, and is the focus of new horizontal policies to stimulate investment and growth. The latter group has been the engine for growth in recent years, whilst in the former, performance has been declining, and restructuring efforts have led to employment losses. Product quality and price competitiveness are problems that are to be tackled in both groups.

Romania sets out its industrial policy approach in the Medium Term Strategy for Economic Reform, presented in July 1998. The main objectives of Romanian industrial policy are broadly compatible with the EU's industrial competitiveness policy. Progress has been achieved in this

field. A "National Strategy for Informatization and rapid implementation of the information society" was adopted by the Government in February 1998, aiming at the strategic improvement of the information infrastructure, developing the information technology industry and developing information technologies for the public administration. A State Secretariat for the Information Society has been created for policy development and monitoring while the independent Romanian Authority for Informatics supervises the market and personal data processing. With regard to information society regulations, implementing legislation in the field of electronic commerce has been approved in 2002 referring to electronic currency issuing, payment instruments and insurance as part of information-society services.

3. The Economic criteria and structural reforms define generations

"Romania has made considerable progress in the creation of a market economy, but it would face serious difficulties coping with competitive pressure and market forces within the Union in the medium term." This is the first phrase in most country reports made by the Economic Commission in Brussels. The data in Table 1 reveal the main trends between 1992-2007 for some indicators covering the following fields: population (total population / young population in continuing education), economy (GDP growth rates, inflation, GDP structure on major branches) and the socio-political one (reforms and legislative dynamics, urbanization). By comparing the partial trends of the selected indicators at least two periods can be noticed, equivalent to two "generations" of demographic and socio-economic changes: the first one, until 1998, is characterized by the beginning of general demographic decline on the background of some actions such as: the coming into economically active life of growing cohorts of young population, the inflationary economic growth, the moderate urbanization and under-regulated legislative framework, the gradual change of the main economic shares in GDP structure.

After 1998, a new generation of attitudes appears, justified partly by the political class maturation and the rejuvenation of concepts, along with a legislative and structural process stimulated by the interaction with the European context. Young people aged 15-29 years is a key-echelon considering psychosocial traits of this category (initiative, adaptability, favourability to change, habit of using digital images, the NTIC, etc.) whose evolution matters in understanding the succession of internal changes. The law-like inertial gap that exists between the waves of social-economic and demographic change is not clearly confirmed, but especially reversed in terms of causality: the young echelon reaches a peak in 1998. That year largely coincides with the start of most economic and social changes.

Until 1998, the macroeconomic difficulties largely reflect the lack of sufficient progress in the field of restructuring of the large state-owned banks and enterprises. Progress on creating a legislative framework for a market economy has been ambivalent. There has been clear progress achieved through the adoption of laws on land circulation and registration. But the law on land restitution has not been enacted and the law on public property will only enter into force once the law on local public administration is adopted. There have also been repeated changes to the legislation on privatization and foreign investment. Restructuring of the large public enterprises has not progressed much. The authorities have implemented a costly program to reduce the labour force in the mining sector through severance payments, and many "Régies autonomes" have been transformed into commercial companies. In the spring and summer of 1998, further encouraging steps were taken, including the transformation of a number of additional "Régies autonomes" into commercial companies and the approval by the government of restructuring plans for the Electricity Company and the Railways Company).

Despite an acceleration of privatization, the public sector continues to play a predominant role in many sectors of the economy (60% of total ownership in industry at the end of 1997, down from 65% in 1996), due to the slow pace of privatization of medium- and large-sized companies. *The private sector is predominant in the economy.* The share of the private sector in GDP amounted to 66.8% in 2002. The slight decrease from the respective share in 2001 of 67.9% was due to shrinking production in the largely privatized agricultural sector. In 2002, the share of private-owned capital rose above that held by the public sector for the first time since the beginning of the transition. By end-July 2003, property titles were established for 94.1% of total restituted land. Privatization of state farms had also progressed although it was not yet completed with 174 state farms employing some 7000 workers on more than 5% of the total agricultural area in mid-2007. For the economy as a whole, the latest available data show that, by the end of 2004, private majority-owned establishments accounted for a rising share of all employment, at 76.6%, turnover, at 79.2%, and exports, at 84.4%.

Public companies still accounted for significant shares of enterprise investment and tangible assets, at 50.7% and 72.1% respectively, but these ratios were decreasing and mostly reflected the predominant role of public ownership in the energy sector. More recent but limited evidence suggest the trend towards an increasing relevance of private ownership is continuing. *The legal framework for a market economy has continued to strengthen but its functioning and the enforcement of property rights will remain difficult without significant improvements in the efficiency of the judicial system and public administration.*

4. Governance, Regional Policy and Cohesion

The brutal turn from a centralized system, pervaded with the Marxist-Leninist ideology to a democratic system with neo-liberal, social democratic and even nationalist tensions haven't yet cleared up. The new generation of political ideologies (some reactivated after almost 50 years, others imported from Europe) hasn't brought a radically new generation of politicians. By 1996 at least, the government remains under strong influence of qualified neo-communist practices.

In 1998 the central institutions of the State continue to operate normally in general. There is a Government commitment to continue the reform of the administration at all levels. This is reflected in the creation of institutional structures to oversee reform as well as in the preparation of strategies and legislation to implement it. The public administration reform strategy aims at clarifying institutional responsibilities, establishing an effective coordination and implementation mechanism.

Important progress has been achieved on the decentralization of Government functions and the setting up of administrative structures in line with the organizational and implementation requirements of regional policy supported by the European Union. The Law on Regional Development adopted in July 1998 has created 8 macro regions. In the period following the 1997 Opinion there has been notable progress in the creation of the institutional structures and sectoral co-ordination mechanisms required for Romania's participation in EU structural policy. In particular a Law on Regional Development, drafted with EU assistance and approved in July 1998, has created a framework for the development and implementation of regional policies.

The law constitutes the legal basis for Romania's regional policy, and defines national and regional level policy and programming structures. It now needs to be implemented. A National

Board for Regional Development is the national decision maker on structural policy and cohesion matters, with a National Agency for Regional Development as an executive body. A National Fund for Regional Development is established as the channel for budgetary and EU funds in support of regional programs. The necessary institutional structure is now being set up and inter ministerial co-ordination will need to be strengthened.

Financial and monitoring procedures also need to be strengthened and the financial instruments of regional policy are still weak. In 2003, *progress with regional policy has been slower and Romania does not yet have a clear and consolidated cohesion policy. Work has begun on developing administrative capacity, but continued efforts are needed to design management and implementation systems.*

No further developments can be recorded regarding territorial organization or the legislative framework. With regard to programming, the National Development Plan (NDP) 2004 - 2006 prepares the framework for the new planning context. As regards partnership, in December 2002 the Government issued a decision on the partnership for the elaboration of the Romanian NDP. The decision requires the setting-up of partnership structures at both national and regional levels. Substantial work is needed to enhance the quality of the Romanian National Development Plan in order for it to serve as a valid basis for a future Development Plan, as required by the Structural Funds. The initial steps taken if it is to establish partnership structures are positive, but the efficient functioning of these structures should be ensured in order to closely involve regional and local, as well as social and economic, partners in the practical programming work. A provisional NUTS classification, including eight NUTS 2 level regions, has been agreed with the Commission.

5. Economic and Social Cohesion, Employment, Social Affairs and polarization

After four decades of social uniformity, segregation and polarization are gradually installed in all the Romanian society. The phenomenon is neither new nor isolated, but occurs only with the specific speed of the bygone era of liberalism. Registered unemployment is approaching 10%, in 1998, while there remains substantial hidden unemployment. In addition, Romania has serious problems with long term unemployment and important regional disparities. The development of social dialogue at national level between government, trades unions and employers associations was instituted through a 1997 law regulating the organization and functioning of the Economic and Social Council. Cooperation structures are being established at regional and local levels. Legal initiatives have been launched to strengthen the roles of the social partners. However, due to traditional attitudes and to the weakness of independent employer organizations, tripartite arrangements and agreements still prevail and independent bipartite agreements between the social partners remain rare. The new generation is still far.

In 2003 In the area of **employment policy**, unemployment in Romania was 8.4% using ILO criteria. Long-term unemployment of 21.8% continues to be a serious problem as does youth unemployment of 21.2%. As regards the activity of the National Employment Agency, job placement measures increased in 2002. While training should be an important measure to increase employability, the rigid requirements regarding reintegration upon completion of the course have resulted in reduced provision of vocational training services to the unemployed. The first Romanian National Action Plan for Employment was adopted in 2002 covering the period of August 2002 to December 2003.

6. Urbanization

The evolution and structure of the urban system in Romania is virtually unknown in the international literature. With the exception of some research (Ianos, 2000), the information about the national urban system was ignored into macro-regional comparison due to lack of relevant data.

This paper presents the phenomenon, underlining the fact that in the reported period, the urban system has two generations of change, as well, recorded in the cities. According with the modality of urban growth, there are two ways by which it occurs – natural and administrative way. Among these, in Romania, the second one increased the number of cities with 25% in only one year, 2004, as the results in Table 1. Quality Award for city by law to over 50 towns is due to the need for redistribution and for development through local investment. Challenged and reviewed by specialists, the new wave of Romanian cities redefines urban system through diversity and balance.

The second aspect that distinguishes generations of change in the urban system is that of urban infrastructure. *The quality of infrastructure is low, but slowly improving.* Following years of underinvestment, the public utilities networks are in a poor state. Upgrading of the district heating network is hampered by several factors, including the limited extent of metering (collective meters only cover 37% of supply points for households). The length of motorways and railways has remained the same.

Conclusions

In the last twenty years, Romania has gone through several generations of development, some simultaneous, others delayed. Simultaneity is related to the politically created context while the gap is due to the speeds and rhythms of each system to adapt and work in altered contexts. The most sensitive and the most dynamic systems are the political and economic ones and the most inertial are the systems of settlements and the population. Among these, and as a result of structural differences between them, in some moments of evolution of society, tensions, conflicts and contradictions may occur because of a single factor, usually the most dynamic one. In reality, they are law-like processes derived from the very specificity of each system that sets its cycles of evolution, respectively its succession of generations, depending on the nature of its elements.

Table 1

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Population (thousand)	22811	22778	22748	22712	22656	22581	22526	22488	22435	22408	21833	21772	21711	21658	21610	21565
Young people 15-29 years (thous)	5275	5338	5462	5583	5707	5816	5681	5523	5450	5409	5127	5147	5171	5146	5079	4978
Scholars pop >30 (thous)	-	-	-	-	16	15,3	17,1	18,2	28	34	39,2	45	39	64,6	85	
GDP rate growth (%)			3,9	7,1	3,9	-6,1	-5,4	-2,3	1,6	5,3	4,9	5,2	8,1	4,1	7,7	6,5
Inflation rate	115	145	49,2	32,3	45,6	96	59,1	45,8	45,7	34,5	22,5	12,1	8,4	8,4	4,8	6,5
Unemployment	8,2	10,4	10,9	9,5	6,7	8,9	10,4	11,8	10,5	8,8	8,4	7,4	6,3	5,9	5,2	
Agriculture in prod. structure	24			20,7	20,1	19,5	16,1	15,0	12,6	14,6	13,4	11,3	11,7			7,4
Industry	40			34,5	34,5	33,4	30,4	30,9	30,5	28,5	28,4	28,4			23,8	
Services	26			37,9	38,3	41,4	47,6	48,2	51,5	44,5	45,1	44,6	44		49,7	
Social reform and legisl. process, (number)	1559	1554	1981	2232	3097	3216	2719	3160	3860	4914	5400	5587	7338	6814	7552	4816
Urbanization (towns)	204+ 56	203+ 57	195+ 67	182+ 80	182+ 80	180+ 82	179+ 84	179+ 84	172+ 93	169+ 96	171+9 7	173+ 103	211+ 103	216+ 103	217+ 103	216+ 103

References

1. Ascher, Fr. (2004), *Les nouveaux principes de l'urbanisme*. Ed. de l'Aube, Paris
2. Bold, I. Crăciun A., (1999), *Organizarea teritoriului*, Editura Mirton Timișoara
3. Booth, Ph. et al, (2007), *Amenagement et urbanisme en France et en Grande Bretagne. Etude comparative*, ed. L'Harmattan, Paris
4. Campbell, S. & Fainstein Susan (eds), 2008, *Readings in Planning Theory*, second edition, Blackwell Publishing
5. Campbell, S. & Fainstein Susan (eds), 2001, *Readings in Urban Theory*, second edition, Blackwell Publishing
6. Crampton J. & Elden S. (eds), 2007, *Space, Knowledge and Power. Foucault and Geography*, Ashgate
7. Enache, L. Ianăși, L. Pascariu, G. (2003), *Dezvoltarea resurselor umane în domeniile construcții, urbanism și amenajarea teritoriului Modul 1, Manual de urbanism și amenajarea teritoriului*, ed. UTCB
8. Girardon, J., (2001), *Les collectivites territoriales*, ed. Ellipses, Paris
9. Ianos, I. (2000), *Sisteme teritoriale*, Ed. Tehnică, București
10. Pascariu, G., *Politica de dezvoltare regională n UE și statele membre*, revista *Sociologie romnească* Nr. 3-4/2000, 69-95
11. Platt, R.H. (2004), *Land use and society. Geography, Law, and Public Policy*, Island Press, Washington
12. Pușcașu, Violeta (2005), *Planificarea sistemelor teritoriale*, Editura Didactică și Pedagogică, București
13. Pușcașu, V. (1999), *Urbanism și amenajarea teritoriului*, Ed. Arionda, Galați
14. Ragon, M. (1986), *Histoire de l'architecture et de l'urbanisme modernes*, Casterman
15. Sagan, I & Halkier, H. (eds), 2005, *Regionalism contested. Institution, Society and Governance*, Ashgate
16. Stiftel B. & Watson, V. (eds), 2005, *Dialogues in Urban & Regional Planning*, Routledge Taylor and Francis Group
17. Surd, V. (coord.), 2005, *Amenajarea teritoriului și infrastructuri tehnice*, Presa Universitară Clujeană, Cluj Napoca
18. ***, 2007, *Journal of Urban Design*, vol 12, no 3-4, Routledge, Taylor and Francis Group
19. ***, *Legea 350 /2001, privind amenajarea teritoriului și urbanismului completată de Legea 289 din 07.07.2006*
20. ***, *Legea 315 /2004 privind dezvoltarea regională în România, Cadrul strategic național de referință (CSNR) 2007-2013 la <http://anaf.mfinante.ro/wps/portal>*
21. ***, *HG 243 /2006 privind organizarea și funcționarea Ministerului Integrării Europene*
22. ***, *HG 412 /2004 privind organizarea și funcționarea Ministerului Transporturilor, Construcțiilor și Turismului, completat de HG 1216/2005*
23. ***, *Carta Verde a dezvoltării regionale n România, București (Hansen et. all), 1997, Guvernul Romniei și Comisia Europeană;*
24. ***, *Planul Național de Dezvoltare (PND) 2007-2013*
25. ***, *Rapoartele naționale anuale ale dezvoltării umane (www.undp.ro)*
26. ***, *Legea 351 /2001 privind aprobarea Planului de amenajare a teritoriului național - Secțiunea a IV-a - Rețeaua de localități*

The Role of Organization Informational System in Reflecting Economic Performance

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Abstract

Any process of study and analysis of the informational component of the organization, irrespective of the field in which such operates, should start from a systemic approach thereof, in order to reflect its economic and managerial components.

Keywords: system, information, performance

1. Introduction

Doubtlessly, within the numerous and heterogeneous elements forming an organization in general and the managerial system in particular, a major role is held by the informational aspects of the informational system. Within the context of informational revolution developing with a growing intensity, the impact of the informational system on the functionality and economic and managerial performances of the organization are substantially multiplied.

Evolution towards a new economy – knowledge based economy – tending to accelerate gives new dimensions and role to information and information system, in a sensitively changed view. Within a classification of resources importance from managerial point of view, the second place after the human factor is held by the quality and periodicity of business information. At present, even if information is not underrated, underestimated and underused anymore like in previous years, there are still problems related to its use within the decisional process. In general, these problems refer to the quality and value of information, to the amount of information forwarded to managers and the periodicity.

2. Information quality and value

In an ideal situation, managers should be able to define the type of information they need, and the informational management system should provide it.

In practice, nonetheless, this is not always possible. According to Peter Drucker, "the best decisions should be based on incomplete knowledge, either because information is not possible, either because it costs too much time and money to be acquired".

Nevertheless, in order to make de right decision, managers should be provided with relevant information, allowing to increase knowledge, to reduce incertitude and useful for the task established.

The value of information is also extremely important for managers, value deriving from the changes in the decisional behaviour caused by the information availability. In appreciating the value of the information, one has to consider the cost of its production as well. Therefore, data purchasing, handling, recording, processing, irrespective of the means used, do not produce

value but suppose only costs. Value appears only when data is communicated and understood by the recipient being thus transformed into information.

In evaluating the information from the point of view of created value, the main role is held by its user, as well as the way in which information is used in order to improve the decisional process. Quality information is that information creating value through its use characterized by the following elements:

- ✚ It is relevant for its task
- ✚ It is precise enough for its task
- ✚ It is complete enough for the problem it refers to
- ✚ It comes from a source the user trusts
- ✚ It is communicated in time for its task
- ✚ It is adequately detailed
- ✚ It is communicated through an adequate channel
- ✚ It is understood by the user

3. Amount and periodicity of information

Another problem managers are facing is the great amount of information. A great amount of information may cause not just certain agglomerations of the system, but it can also prevent managers from fulfilling their tasks. Many times, data is mistaken by information, and this leads to cases in which managers are forced to make important decisions in the lack of pertinent information.

A good planning and control of operations through actual decisions have to be based on a constant flow of good quality information and in real time. Data have to be processed and sent to the recipient adequately in real time in order to be able to change or control the entire operational environment. Under these circumstances and considering the accelerated rhythm of businesses, there is the need to use a data processing system that would assist managers. The system should not prevent the rational system of managers, but it has to increase their capacity and become an extension of their reason. In conclusion, in order for the information to be used by the organization to be used as the sixth resource, it has to meet the following requirements:

- ✚ To answer the changes of competition conditions as fast as possible, which causes a fast exploitation of new opportunities and a decrease of vulnerable competition points;
- ✚ To increase the efficiency and internal productivity of the organization, increasing managers' productivity; this requires a better coordination of the organization's functional elements;
- ✚ To improve creativity, productivity and efficacy of individual and group decision makers within the organization; this requires providing the adequate instruments in order to collect real information in time, to improve the analysis of information and quality of decisions, as well as dispatching, assisting and monitoring actions and management decisions implementation.

These three requirements are necessary for the information to be able to get the certitude that it shall provide the competitive advantage for the organization and improve management productivity.

4. Achieving competitive advantage

Competition has become a current and difficult problem for any organization. Hence, the need for companies to get competitive advantages. A way in this direction is the use of adequate information technology, this being the task of data processing systems for top management.

Computers and data communication technology alters the parameters for the development of competition in all activity fields. If information technology used to be focused on data storage, nowadays it has to provide a dynamic vision on the organization, facilitating company's adjustment to environment changes and providing its competitiveness. In this way, information technology becomes an extremely efficient competition weapon in achieving the organization's tasks. Moreover, it applies in any field of activity irrespective of the organization size.

5. Improving management productivity

No competitive advantage can be achieved without increasing labour productivity. In the case of management assisting data processing systems, workers are represented by managers. One of the reasons for which until recently, special significant was given to management productivity is that manager, through its decisions, does not achieve an independent product. Therefore, management productivity is difficult to measure through classical methods, and it has to be measured through information quality and periodicity. A prerequisite for achieving managerial performance is assisting businessmen with information.

In other words, business decision depends first of all on information in all its phases and in any circumstance. Therefore, the higher information density is on the market, the more consistent is the number of present operators with their offer and demand, the more transparent the market is, the better they operate. Market atomizing promotes competition and qualitatively and quantitatively enriches information and helps any operator present on the market to make rational, profitable decisions.

Enterprises and /or department managers, entrepreneurs, and businessmen use information for:

- ✚ Understanding their own enterprise or department and the business environment the enterprise performs in (risks and opportunities on internal and international market);
- ✚ Solving perturbations occurred in the enterprise operation;
- ✚ Improving the performance of their own business

This is why they built relatively simple mental patterns, by answering questions like the one listed next:

- ✚ How is my business today?
- ✚ Which were the parameters of this business in the past? Which was my best and my worst performance in the past and where am I at present compared to these maximum and minimum values?
- ✚ Which could be the company's best performance expressed under the form of turnover, profit, investments, number of employees, international opportunities?
- ✚ How are the company's competitors on the internal market and/or international market?

In order to answer to these questions, managers and businessmen use quantitative and qualitative information expressed under the form of numeric data in most of the cases (indicators). The main indicators reflecting tasks and results achieved are:

- Volume indicators
 - a) efforts
 - *Production capacity* – expresses the maximum production that can be achieved in certain technical, technological, organizational, human conditions.
 - *Patrimony* – reflects the economic value of the company, its ability to face the financial needs at a given time.
 - *Costs* – expresses all the expenses caused by production – direct costs (raw materials, materials, direct salaries) and indirect costs (plants maintenance and operation costs, departments and enterprise management costs).

- *Number of employees* – refer to the necessary or existing personnel (directly and indirectly, technically, economically, administratively productive employees).
 - *Salaries funds* – direct and indirect manpower related costs (for directly productive, indirectly productive employees, and TESA personnel).
 - *Stocks* – circulating assets found in raw materials and materials, running production, finished products, debts.
- b) effects
- *Physical production* – expressed in natural units or naturally conventional units.
 - *Manufactured merchandise production* – determined as product between physical production and selling prices.
 - *Incomes*, including:
 - operation incomes
 - exceptional incomes
 - financial incomes
 - *Gross profit* – achieved as subtraction between turnover and production costs
 - *Added value* – consisting in efforts (personnel costs, taxes, financial costs, amortization), and effects (profit)
- Qualitative indicators (efficiency)

The most used form of efficiency is *labour productivity*, defined as a result of human labour in goods manufacturing process. As mentioned before in order to achieve the fundamental tasks of the organization, in certain conditions of economic performance, human, material and technical resources established as necessary by experts are not enough.

Their rational combination, as well as their achievement, implies a permanent knowledge of the requirements of the environment the organization is part of as well as the status of its own resources. Consequently, it is necessary that the informational system of the organization cumulatively fulfil the following functions¹⁵, according to the following figure:

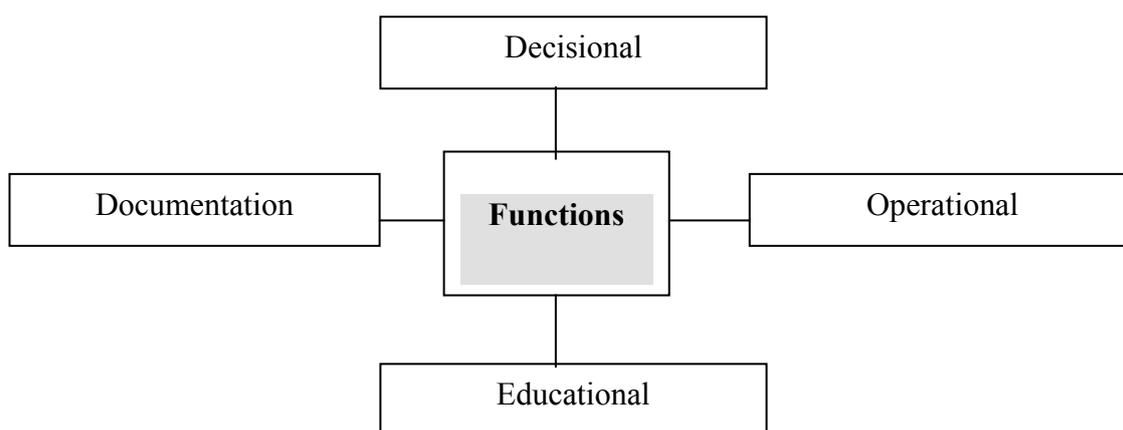


Fig.no. 1- The main functions of the informational system

The first of these, decisional function, expresses the task of the informational system to provide the informational elements necessary for decision making. Taking into consideration

¹⁵ Nicolescu O. (coord.) – „Managerial informational system of the organization”, Economic Press, Bucharest, 2001, page 42

its special significance, there is the tendency to use the name of management informational system (MIS), knowing that decision is the most important specific element of management.

At the same time, the informational system has the purpose of initiating the group of actions necessary for achieving the organization's tasks – meaning operational function. Through this function, the informational system provides operationalization of decisions, managerial methods, achieving the tasks included in the organization's strategy.

Proliferating learning organizations, meaning those organizations where the intense acquisition of knowledge is the permanent concern at the level of the organization, compartments and job holders, with direct effects on performances, has allowed to shape the educational function of the informational system.

In conceiving its components and during its operation, one takes into consideration formative information and their treatment in such manner to determine an increase of educational effects at individual and organizational level. In this context, passing to the knowledge based company is possible only through the intense exercise of the education function of the informational system.

Documentation function of the informational system expresses its gnosiological task, by virtue of which information are recorded serving to enrich the knowledge of the personnel and that can be later used in order to make decisions and perform certain operations. Passing to the knowledge based company causes a substantial amplification of this function significance. In achieving these functions, the informational system faces very complex problems, given the *triple form of information*¹⁶.

Information has *individual form*, meaning that they condition the potential and achievement of employees' personal goals to a certain extent. Information has an *organizational form*, meaning that it is an indispensable premise for establishing and completing the tasks of the organization by shareholders and managers. Also, information has a *social form* resulting from their role in exercising employees' rights and tasks within the organization as citizens. Knowing and considering the multiple sizes of information is essential for achieving the four functions of the informational system at an adequate level. Neglecting one of the information forms, even if partial, is reflected sooner or later in the decrease of organization's performances, along with the existence of an inadequate working environment.

Therefore, the growth of the size, the complexity and importance of the informational system from the last two decades, has led to the occurrence of the *information management*, revealed in literature through the use of managerial principles regarding forecast, organization and employment with personnel, coordination and control in the field of information.

Therefore, users' needs to have access to information shall lead to new functions and introduction of new experts for supporting informational processes within companies. It includes three major components – data resources management, informational processes management and informational technology management. Information management supposes at least the following functions:

¹⁶ Takeuki H., Nonaka I. – „The Knowledge – Creating Company”, Oxford University, 1995, page 184

- Taking over the information in the system;
- Memorizing and finding the information again;
- Processing the information;
- Printing and publishing;
- System control and command.

Information taking over in the system supposes: taking the information from national or international, public or private communications networks; taking over the information from the local data network; manual introduction of data and texts and recording discussions, image and sound with proper equipment. The information introduced in the system shall be immediately processed or memorized for further processing.

Memorizing and finding the information again supposes: internal memorizing for the processed information; external memorizing for the periodically consulted information; electronic archive, for "historical" information or rarely consulted. Information storing capacity and access speed to the data are the main criteria for appreciating the performance of a system.

Through the memorizing process, information is processed or valued by local access or communication to applicants through communications networks.

Information processing supposes: creating and loading the informational base, by making a group of procedures that generate the structure and organization method of the information on the technical support, as well as the actual loading of the informational database; updating the informational base by eliminating useless information, by introducing new information and altering the existing ones in order to comply with the reality; actual use of the information by performing various operation concerning either the form in the case of texts, documents and images processing, either the content in the case of data processing; information access in real time with the help of programs allowing to select and send the information to peripheral devices (desktop, printer, network communication equipment etc.); placing the information in the form demanded through various operations in order to achieve complex relations and cases that shall be transferred to outlet devices for their printing, for displaying them on the monitor or for local or remote communication, through data networks;

Printing and publishing documents within organizations of specialized departments in electronic publishing provided with minicomputers or medium-large computers with adequate software and support that would allow to store large amounts of documents;

System control and command supposes: directing and controlling the operation of the entire system; proper allocation of system resources regarding the equipment; managing the internal memory and program base; controlling taking over processes, processing and release of the information. Through the occurrence and spreading of the multimedia systems adequately combining telecommunications, information technology and the audiovisual, information processing gets new dimensions, both qualitative and quantitative. From the qualitative point of view, numeric information electronic processing has enriched with new forms: texts, documents, graphic, voice, sound and video image. From the quantitative point of view, due to

modern communication systems, the information centre of gravity has moved from data processing experts to informatics products users.

The management system of the organization is defined in the specialized literature as the set of all of the decisional, organizational, informational, motivational elements within the organization, through which all of the management processes and relationships are achieved in order to obtain a higher efficiency.

For the performances of any organization, it is necessary that the informational subsystem be not approached *per se*, but in a correlative manner, together with the other subsystems forming the managerial system.

The systemic approach of the informational component is required because, in the practice of organizations, there is a frequent occurrence of the tendency to ignore or underestimate its correlations with the other subsystems, which generates multiple adverse effects from the functional and economic standpoint. The fundamental assumption underlying the systemic approach is grounded on the transformations occurring within the set subject to analysis, resulting from the more or less controlled changes of the input variables, resulting from other systems or from the environment. These transformations generate output variables which are also taken over by other systems or by the environment.

Starting from the assumption mentioned above, it is assessed that, within the organization, the decisional, informational, operational elements, as well as the elements regarding the methods and techniques of management act in a systemic manner, based on causality relationships, in order to reach a well defined purpose: the exercise of management processes and relationships.

This set – the organization's management system – has the capacity to spontaneously reorganize itself under the influence of its own internal structure, as well as of the environment, functioning based on the self-regulation mechanism. Consisting of four fundamental subsystems, this system which ensures the purpose of existence of the organization is a complex set having certain features. It is worth noting that such features may be found at the level of the entire management system, becoming insignificant or little representative when they appear only at the level of a certain component of the system.

This statement reflects however, the key point of Bertalanffy's theory, which is the fact that "the entire set represents more than the sum of its parts". For instance, the management system has the capacity to adopt the decisions ensuring the development of the organization on a short, medium and long term. Reducing this capacity strictly at the level of the decisional subsystem, it becomes insignificant, because such subsystem is incapable of ensuring the performance of a decision making process in the absence of the information supplied by another component of the entire set, *i.e.* the informational component.

At the level of the organization's management system, the informational subsystem is characterized by dynamism and flexibility, in particular due to its IT component.

Conclusion

The informational system is the main subsystem of the organization management, performing various functions, with high dynamics. Under the circumstances of passing to the knowledge-based economy and revolutionary changes in the field of informatics, the informational system has become more and more important and conditioning for the survival and performances of organizations in all fields of activity.

References

1. Albu C., Albu N.- *"Performance Management Instruments"*, Economic Press, Bucharest, 2004;
2. Drucker Peter – *"Management of the Future"*, Asab Press, Bucharest, 2004;
3. Nicolescu O. (coord.) – *"Managerial Informational System of the Organization"*, Economic Press, Bucharest, 2001;
4. Radu I., Ursăcescu M., Ioniță F. – *"Informatics for Company's Management"*, Economic Tribune Press, Bucharest, 2001;
5. Takeuki H., Nonaka I. – „*The Knowledge – Creating Company*”, Oxford University, 1995;
6. Zorlețan T., Burduș E., Căprărescu G. – *"Organization Management"*, vol. II, Holding Reporter Press, Bucharest, 1996.

Integration Models of the Corporate Social Responsibility in the Policies of the Organizations

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Abstract

In our paper, we emphasize the need of a corporate social responsibility (CSR) approach for any type of organization and the ways in which CSR can be integrated in a business strategy. We revealed four alternatives for the CSR integration that can be used at strategic and tactic orientation on market. One of the most important personal contributions is represented by the analysis of three relevant models used in CSR approach: SIGMA, COMPASS and molecular model, where we underlined our opinions regarding the efficiency of these models in the business integration. In order to have a general image on the approaches of CSR models, it is necessary to have a special department by means of which to coordinate all the activities involved by the implementation of an organizational culture focused on CSR.

Keywords: corporate social responsibility, image, integration models, strategy, marketing

JEL Code: M14, M31

1. Introduction

Corporate social responsibility (CSR) is a huge challenge of the present and has as a main purpose the implementation of the social values in the economic activity. It is an activity that requires management and supports the carrying out of the strategy at the organizations' level. The concept of social responsibility of the organizations may be better approached in terms of the changes regarding the nature of the relations between businesses and society. Thus, the general frame has changed and these relations commuted from a certain type of philanthropy to the profound reexamination of an organization's roles, rights and responsibilities in society.

The public, the civil society consider that it is not enough anymore for a company to state that its only concern is to have profit for shareholders as long as they are based on operations that affect fundamentally the communities' life in which they operate. In this context, a large

number of companies adopt the CSR concept as part of the organizational culture and business strategies. More and more organizations start to be aware that they can contribute to a sustainable development, thus, leading their operations to evolve economically and competitively in order to insure the environment protection and promote the social responsibility, including the protection of the consumers' interests.

Besides the numerous definitions of this concept and their academic form, we can analyze what the American author Maya Angelou said concerning the concept of social responsibility: '....in life you don't have to walk with a glove in each hand to catch the ball; you must also be able to give something back'.

In this context we can also add the Romanian specialists' opinions. Thus, Luminita Oprea reinforces the concept by adding new values, *'We believe that the first social responsibility of a company is to be successful. Unfortunately, in Romania, CSR is not seen as an opportunity to increase efficiency, a financial instrument to reduce the costs, but only as an image component'*.

2. The need of corporate social responsibility

An analysis of the main aspects related to the corporate social responsibility in the present context underlines the fact that it tends to become the development key of a tare from an economic, social, political and ecological point of view. Beyond this noble purpose, the following aspects have been identified for Romania: the studies and programs of social responsibility don't find themselves in the specialized media; their promotion among the public opinion is not very high; the lack of publishing some reports of social responsibility and the tendency to become compulsory in the following years just like the organizations in Great Britain and Japan; the lack of some campaigns that should inform the business environment representatives about the problems of the community; the lack of communication between the business environment and community in order to solve the existent problems; the lack of some information centers to insure the connection between the business environment and community; the unawareness of the business environment regarding the connection between the consumers' trust and loyalty; the lack of balance between the support of the society's different causes, the lack of the legislation to encourage the companies to initiate the social responsibility projects, lack of balance between the proactive management and the reactive one in order to solve the image and the trust problems at the public's level.

The community members' trust and respect affect a company's entire activity, that's why it must contribute in an active way to the development of society. The benefits accomplished are represented first of all by the following terms: acknowledgment, reputation, gratitude. Giving more details, we can say that the effects of the company's involvement in the community are:

- ✚ The improvement of the relations with the community (customers, providers, authorities)
- ✚ The influence of the target public, the opinion leaders, the press, etc.
- ✚ The company's positioning on a superior level in society.
- ✚ A better image / more visibility for the company.
- ✚ The consumers' loyalty to the company and its products
- ✚ The employees' motivation
- ✚ Significant contribution to get high performance in businesses.

Starting from this frame of the benefits offered by the integration of the CSR principles in the organization's policy D. Wood identifies three principles that determine the social responsibility:

- ✚ the companies are also 'social institutions' and this obliges them to use their power responsibly;
- ✚ the companies are responsible for the impact they generate on the environment they operate;
- ✚ the managers are 'moral agents', representing models at the community level, thus, being obliged to exert the decisional prerogatives responsibly.

The studies undertaken at the international level are of huge complexity. Thus, according to the Analysis Centre from Copenhagen, there is a series of indicators that reflect the competitiveness of the corporate responsibility phenomenon. The analysis chart was established based on the following criteria¹⁷:

- ✚ the corporate governing (the transparency degree of the decisions, the application of the accountancy and audit standards, the executives' independence);
- ✚ the business ethical practices (the existence of the ethical codes, the cost of corruption, anti- dumping measures, etc.);
- ✚ the development of the human capital (regulations of the employees' protection, budgets for professional development and training, the security of the work place);
- ✚ the collaboration with the civil society (the civic transparency degree, the public trust in businesses);
- ✚ the environment management (the respect of the regulations regarding the environment, the noxes emissions, the implementation of the waste management systems).

According to this survey, Finland is on the first position, followed by other 6 European countries – Switzerland, Sweden, Norway, Denmark, Holland, Great Britain. For Romania, the criteria of the dissatisfying category (less than 50 points) are: the environment management, the business ethical practices, the corporate governing, and the relations with the civil society. The aspect referring to the development of the human capital was placed in the satisfying category.

An analysis of what the international field offers us at the CSR integration level in the organizations' policies underlines the following aspects: the organizations' social responsibility can be taken in every business environment, there are quantifying possibilities of the social responsibility degree at the organizational level, the social responsibility is more frequently found in the areas that are more developed economically within a country.

3. The corporate social responsibility and the organization's strategy

CSR can be seen as a business strategy that generates results only if it becomes part of an organization's policy. Thus, the organization can involve before its contestants or wait for a general district involvement to act according to the analysis of the costs / advantages report. If the general pressure of society, regulations and markets exerts more and more, it can adopt different strategies:

- 1) The reverberation of the supplementary costs on the final consumer who is willing to accept them hoping to get the expected results at the society's level.
- 2) The integration of the supplementary costs under the effect of the regulation which applies to all the companies. The optimization of this integration can create a competitive advantage.

¹⁷ Responsible Competitiveness Index - Aligning corporate responsibility and the competitiveness of nations - www.accountability21.net/publications.aspx?id=460

- 3) The production of supplementary incomes by increase and innovation, exploiting the expectations and opportunities on the market in what concerns the social responsibility of the corporations.

Most of the times, the organization can choose to define its own strategy combining the three strategic options according to its involvement degree. The elaboration of a plan of strategic action regarding the social responsibility presupposes the following stages:

1. Planning at the organization's level – the stage when the following aspects are defined: the mission and the values of the organization, the definition of the operation domains, the setting of the objectives and development strategies.
2. The planning of the activity strategic units – CSR interest domains and according to the activity domain of the organization.
3. Planning at functional level – activities of social responsibility are included according to the development level of the organization.

We shall present different integration alternatives of the CSR activities in the organization's policy¹⁸:

ALTERNATIVES FOR CSR INTEGRATION	CSR INTEGRATION LEVEL	ELEMENTS IN WHICH CSR INTEGRATION IS ACHIEVED	CSR INTEGRATION RESULTS
ALTERNATIVE 1	ORGANIZATION STRATEGY FORMULATION	VISION MISSION VALUES COMPETENCE	SOCIAL RESPONSIBLE COMPANY CORPORATE IDENTITY
ALTERNATIVE 2	PLANNING OF THE MARKETING STRATEGY	TARGETING POSITIONING DIFFERENTIATION	SOCIAL RESPONSIBLE COMPANY SOCIAL RESPONSIBLE BRANDS
ALTERNATIVE 3	IMPLEMENTATION OF THE ORGANIZATION STRATEGY	COMPETITIVE GOAL	SOCIAL RESPONSIBLE COMPANY IMAGE
ALTERNATIVE 4	MARKETING STRATEGY IMPLEMENTATION	PRODUCT PRICE PLACE PROMOTION	SOCIAL RESPONSIBLE BRAND IMAGE

CSR INTEGRATION	STRATEGIC ORIENTATION ON MARKET	TACTIC ORIENTATION ON MARKET
ORGANIZATION STRATEGY	ALTERNATIVE 1	ALTERNATIVE 3
MARKETING STRATEGY	ALTERNATIVE 2	ALTERNATIVE 4

4. CSR integration models in the organizations' policy

The social responsibility of the corporations covers a wide range of subjects and problems such as man's rights, health, the alternative energies, child labor and eco- efficiency, but despite the fact that it is perceived as being favorable, it is not yet fully integrated in organizations as a guideline of businesses development. Despite the optimistic debates facing the pressure of competition, the demands that are in continuous change or the economic recession, the

¹⁸ INTEGRATIVE FRAMEWORK FOR EVOLVING A SOCIALLY RESPONSIBLE MARKETING STRATEGY, ADEL EL-ANSARY, ANNETTE CERNE, LUND INSTITUTE OF ECONOMIC RESEARCH (7/2005).

corporations can't reconsider social responsibility very quickly. The issue of its rapid integration is out of the question because it is an incremental process. The concept is often seen as being too vague or complicated to be used in practice. Finally, the companies involve in disconnected activities such as partnerships, the emissions' reduction or the dialogue with the groups of interest. When it is truly part of a corporation, social responsibility will be in the center of the business being connected to each decision and value added in the value chain of the different groups of interest. The implementation of the social responsibility in the various organizational domains and their communication in an integrated manner are considered.

A whole range of tested, practical management models was developed as a result of the professionals' efforts who tried to find a way for the companies to cope with the new responsibilities.

4.1. The SIGMA management model

The SIGMA model (The Sustainability – Integrated Guidelines for Management) offer a practical direction, accessible to the organizations that want to improve the social responsibility management and performance. This model is based on a certain management frame in which a series of guiding principles operate, respectively:

- 1) The management frame - allows a systematic approach of the strategy's development, monitoring and communication and the performance of the organization's social responsibility.
- 2) Guiding principles – support the development of the principles specific to each organization and allow the managers to understand how the company could become if it were 'responsible' / sustainable.

The base of the model is represented by Deming's model 'Plan, Do, Check, Act', represented in four stages: Leadership and vision, Planning, Transmission, Monitoring, Revision, Report. They allow the setting of some management processes, systems and standards.

The first stage supports the development of the corporation and leadership identity and offers the possibility to understand and create a 'responsible' vision. The planning stage directs the development of the systems and the priority of the activities, identifying the changes that must be made. The transmission stage has in view the implementation of the social responsibility programs, mentioning and increasing the natural, human, social, financial, fix capital and being responsible of the actions that are carried out. Monitoring, revision and report refer to the process control, continuous study and adaptation, the report of the progress in a transparent manner.

For each stage there are guiding lines organized under the form of charts that answer the essential questions related to the social responsibility of the corporations: what, how, when, why and who?, offering suggestions about the activities a company can rely on, suggestions regarding key questions, the persons that must be involved, a possible framing in time, the expected results, future resources and clues for a better implementation of societal responsibility.

Various activities are already carried out in different rhythms and that involve different persons in many companies. The success of the activities will depend on the seriousness of the corporations' social responsibility program, the available resources, the manner of approach and the strategies adopted. The four stages of the management frame offered by this model proposes a structure that underlines the inter –relation of the activities and the integrative, global aspect of the social responsibility management.

The continuous improvement principle may lead the company in the correct direction but it can't guide it how it should evolve in order to become sustainable.

The difference between the SIGMA model and other management approaches is that it is based on guiding principles that are appropriate to the five forms of the capital and the ability to account for something - which is the base of every CSR activity.

4.2. The COMPASS model

The COMPASS model (COMPANies and Sectors' path to Sustainability) is based on the active involvement of the groups of interests and helps the company to identify and understand its main problems in what concerns sustainability and develop a set of indicators in order to measure and report the progress made in the direction of the corporation's social responsibility.

The main objectives of the COMPASS model are the following:

- ✚ The organizations' assistance to transform the wide concept of sustainability in specific and measurable objectives and indicators that can be applied in the current management decisions;
- ✚ The organizations' support in the responsible performance management;
- ✚ The increase of transparency and responsibility by means of CSR reports;
- ✚ The active involvement of the groups of interests for some decisions based on agreement that increase the credibility of the organization;
- ✚ The possibility of those who have the authority to make decisions to optimize the processes, products and services on the whole chain of value taking into consideration the economic, ecological and social aspects.

Practically, this model should be a methodological innovation by the domain approach of the lasting development. The model was successfully tested in 40 companies in different branches adapting the needs' methodology specific to each domain and company. The advantages at the level of the corporation are: the internal benchmarking, the innovation of the processes and products, the monitoring of the value creation.

4.3. The molecular model

This model has as a purpose the integration of the social responsibility in the corporations' strategies and their daily activity and reflects the fundamental change that takes place now in the debate concerning social responsibility.

First of all, it is necessary to accept the strategic role played by the organizations' social responsibility. The model combines indicators for a long term strategy with specific indicators that facilitate a concrete plan of action. Everything starts from the shareholders and managers' conviction that CSR represents the key of a renewed and distinct competitive position, a necessity but also an opportunity.

Second of all, CSR is a component part of the long term process of the societal and corporate development, bringing its contribution to a sustainable economy. The model contains seven key elements that can be combined, respectively developed step by step according to the figure of a molecule.

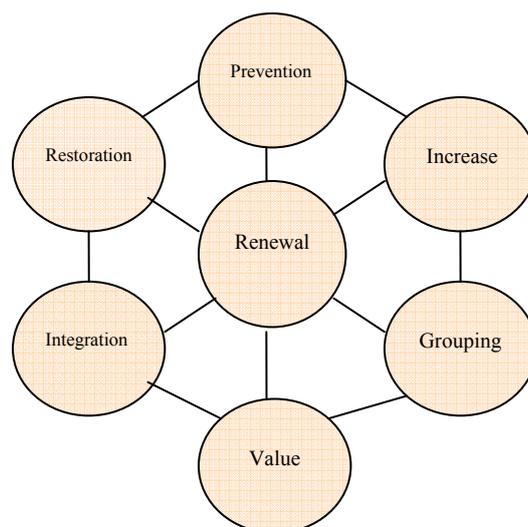


Figura no. 1 – Molecular model
Source: Folkerts, H. & Weijers R. (2004)

Restoration

The first element refers to the restoration, the ‘repair’ of the damages caused to the resources and the natural, social and economic capital. Practically, it refers to a series of actions such as the reduction of the emissions of carbon dioxide, the improvement of the water quality, the restoration of the ecosystems etc. which in the past were considered strictly the authorities’ responsibility. Today, the multinational companies begin to take responsibility for them and even succeed in transforming them into activities that generate incomes and efficiency.

Prevention

This second element guarantees that there will be no damages in the future. It underlines the necessity of prevention which is preferable to the previous reduction of the damages.

Increase

The increase means the exploration of the activities that reinforce and multiply simultaneously the economic, social and ecological capital.

Integration

It presupposes the ability to face different political perspectives on the social responsibility, often being in conflict.

Renewal

This element refers to the renewal of a company’s philosophy, its relations with the groups of interest and the environment. It is based on new principles that will generate a new more proactive identity, a new logic and other strategic decisions.

Grouping

This element presupposes cooperation between organizations both on the vertical, respectively in the supply chain between providers, producers and customers and on the horizontal, among the companies that supply with similar or complementary products or services.

Value

Starting from the necessity of making profit, this element must be conditioned by the fact that it will be the result of a sustainable / responsible strategy. This also implies an awareness of the

value created by the people's loyalty and involvement, the societal respect and the conservation of the natural environment.

Conclusions

The corporations' social responsibility (CSR) has extended in the business environment and it doesn't represent only the attribute of the multinational companies, but it has also transformed in a necessity for all the companies that played the globalization game and want a solid image and reputation. The market extends, the public becomes more and more exigent, the responsibilities multiply and the social responsibility integration is a complex process that requires time. We witness quick transformations of the economic environment that also require a fast adaptation. In this context, the risk management and the social responsibility integration will become essential for every organization.

As it was shown in this paper, CSR can't be a reactive, defensive involvement but first of all, proactive. Thus, CSR becomes an area of strategic exploration, a challenge for managers, a balance instrument of the organization's relation with the environment where it carries out its activity. In order to improve the CSR integration process in the organizations' management systems, different management models were proposed to direct and facilitate these voluntary approaches of the organizations. Still, there isn't a universal model that should allow the companies to reach performance in what concerns social responsibility.

The experience of the multinational companies involved in CSR projects proves that it is useful to combine different guiding standards, principles at the international level with the values and specific of the company and its units. In order to have compact general image on the approaches of lasting development / social responsibility, it is necessary to have a special department by means of which to coordinate all the activities at the group level and to facilitate the organization evolution analysis, the measure and evaluation of its CSR performances.

References:

1. BALABANIS G., LYALL J., PHILLIPS H. 1998. *Corporate social responsibility and economic performance*, *European Business Review*, vol. 98, no. 1, pp. 25-44
2. McWILLIAMS A., SIEGEL D. 2000. *Corporate social responsibility and financial performance: correlation or misspecification?*, *Strategic Management Journal*, vol. 21, nr. 5, pp. 603-609
3. M.Kuhndt, J.von Gieber , *Management Models for Corporate Social Responsibility*, Edit. Springer, 2006

Anatomy of Nowadays Risks

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“Every society has experienced dangers. But risk is the function of a new order. It is not national, but global.”

Ulrich Beck

Abstract

This paper is intended to serve as an overview of risk that contemporary economy faces today. The world seems to suffer the first crisis of the globalization. Prior to this, individual country or regional experience has been accumulated on financial crisis, which taught policymakers how to design remedial policies, but there has not been a World financial crisis in most people living memory. The impact of this financial instability with the economic growth is a potential risk which will never be underestimated in the future. We should look equally to the imbalance of the dynamism of financial leverage versus poor regulation, as to the disequilibria issued from financial globalized markets politically addressed with a constellation of conflicting national regulations. The major quest now is the need for a reconciliation of the democracy with the market. People has been largely disappointed by the freedom that some financial instruments played only to the aim of raising profits, while elected politicians were lately asking for more taxes to protect deposits.

Keywords: the “riskiness” of the world, financial crisis, volatile markets, developing countries, pandemia, human behavior, large-scale spreading, political uncertainty, globalization;

JEL Code: E00, E32, E61, E63, G01

1. Introduction

Risk became a dominant preoccupation towards the end of the 20th century, to the point where we are now said to live in a ‘risk society’ (Beck, 1992), with an emphasis on uncertainty, individualization and culpability. Parton (1996) sees globalization as fragmenting society and creating further uncertainty within social and economic life. There has been a concurrent growing mistrust of professionals in social work and an increased reliance by the profession on complex systems of assessment, monitoring and quality control (Stalker, 2003). The study of the impact of dependence among risks has become a major and nourishing topic: even if in traditional risk theory, individual risks have been usually assumed to be independent, this assumption is very convenient for tractability but it is not generally realistic.

Beck defined risk as ‘the modern approach to foresee and control the future consequences of human action’ which were the ‘unintended consequences of radicalized modernization’ (Beck, 1999). Daniell ‘focuses primarily on the negative concept of risk’, which for corporate strategists impacted on prioritization, resource allocation and opportunity cost (Daniell, 2000). Risk had ‘become a major force of political mobilization’: a discourse that rendered traditional political categories obsolete (Beck, 1999). However, risk is a normal and often beneficial part

of everyday life, but while it enables learning and understanding, in the case of potentially destructive consequences it may need to be monitored and restricted.

2. The continually changing nature of risk

Several factors contribute to make the world increasingly fragile and turbulent. Due to the advances in technology and the progress of globalization, the levels of interdependence and interconnectivity between businesses, markets, people and nations have increased greatly. At the same time, the pace of change has increased dramatically; the effects – and consequences – of a risk event are felt more widely and more quickly than ever before. And conditions not only change rapidly, they change more frequently and in increasingly unpredictable ways. Sometimes it is not even clear whether and when a return to equilibrium will occur, creating great difficulty for business models that may have been applied successfully in the past.

Many of the risks we face today are not new. If we take a large number of indicators that measure the “riskiness” of the world, the world is probably less risky today than it has ever been. But what makes the world seem riskier today are the ways in which interconnected risks can amplify aggregate effects and the speed at which risk can spread throughout the world, disrupt tightly coupled systems, or become known immediately to millions of people or markets – almost instantaneously via the Internet and broadcast media.

3. The financial crisis: a new framework for risks analyze

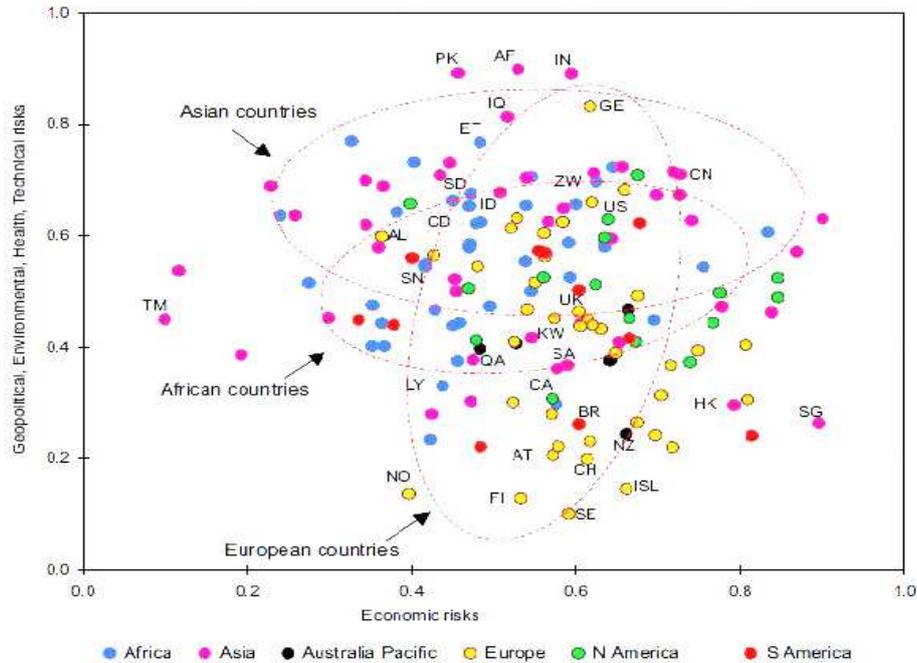
The impact of the current financial crisis has been much deeper and broader than previous crises. The global financial crisis has underlined the central role that financial systems play in the economic development of countries. In particular, the importance of financial stability as a key aspect of financial systems that has implications extending well beyond a country’s border and deep into the real economy has been made painfully clear. The sheer scale of the response required by policymakers to avert a deepening of the crisis has led countries to rethink the mechanisms for governance and oversight of financial systems at the global and local levels. (World Economic Forum, 2005)

Confidence in the financial sector and among lenders has declined to record lows. This lack of confidence and the high level of uncertainty are resulting in liquidity problems for banks and financial institutions, and very tight credit conditions for commercial and private borrowers. The financial crisis is already affecting the real economy at a high level and the risk of a deep and prolonged recession is growing.

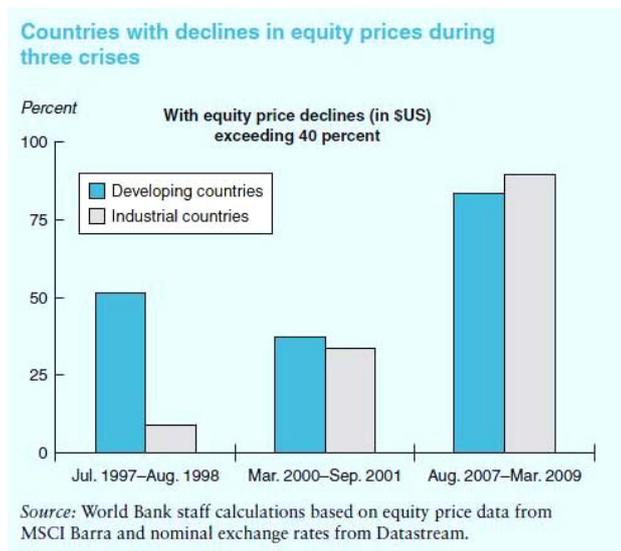
The economic outlook for 2009 is a grim one for most economies; markets remain volatile, liquidity has not returned, unemployment is rising, and consumer and business confidence has fallen to record lows. In this climate, risks become even more potent in their impact and the tendency towards panic and short-term responses are more pronounced. This report explores the dangers of managing out of this crisis, without considering the broader, long-term consequences of today’s decisions. It also stresses the need for a determined, global focus on balancing the response to the immediate challenges with a concerted effort to mitigate longer term risks, not least those relating to climate change and resources (World Economic Forum, 2009). Financial crises in developing countries over the past 50 years fell most heavily on a limited number of countries that had built up significant weaknesses. Other countries also were affected, owing to trade ties with the most-affected countries or the presence of similar weaknesses, which led investors to anticipate similar crises, and to the tendency of investors to withdraw from high-risk assets in times of economic difficulties. Nevertheless, in previous crises many developing countries were able to maintain their growth rates and escape

significant financial disruptions. Although the full impact of the current financial crisis on growth is still unfolding, virtually all developing and high-income countries have suffered deterioration in equity prices and, in the case of developing countries, sovereign bond spreads. The broad scope of the crisis greatly complicates prospects for recovery.

Figure 1: Countries Exposure to Economical, Geopolitical, Environmental, Health, Technical risks



Source: Zurich Financial Services, 2008



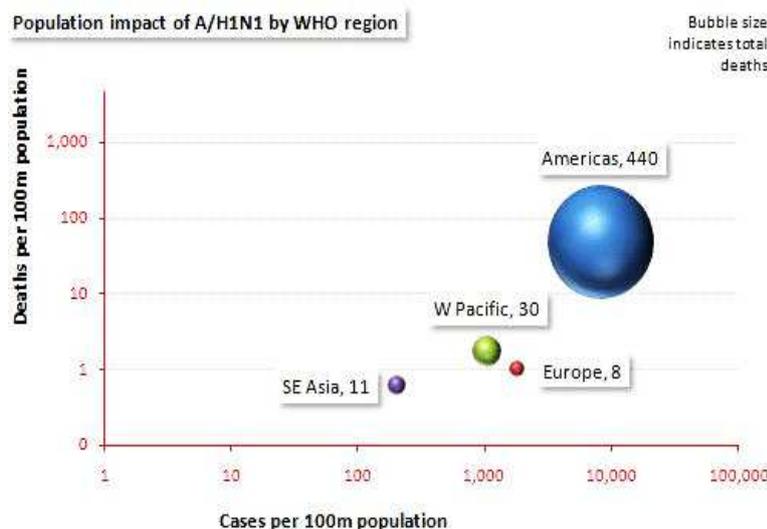
Developing countries' equity prices illustrate the broad reach of the present crisis in comparison to past episodes. Two in three developing countries have experienced equity-price declines of more than 40 percent in local currency, and three in four in U.S. dollars, since the peak reached in October 2007. During the Asian and Russian crises (July 1997 to August 1998), the proportion was just one in two (in U.S. dollars). The average decline in developing countries' equity prices (in U.S. dollars) also has been more pronounced than in previous crises (figure below). This time around, the composite index for emerging markets (MSCI equity

index) has fallen by almost 80 percent from the peak reached in October 2007, much greater than the 57 percent fall during the Asian and Russian crises. (World Economic Forum, 2009)

4. The AH1N1 flu outbreak – doubling the effect of the financial crisis

At this time, the outbreak of AH1N1 has not run its course, although there are encouraging signs that it is neither as deadly nor as easily spread as might have been first thought. Initial estimates suggest that its clinical severity is similar with that Hong-Kong flu of 1968-69 and that while its infectiousness is higher than normal flu it is in the lower range of previous influenza pandemics.

How much will it cost, in economic and human pandemic virus A H1N1? The newspaper "Liberation" presents an analysis made by Pierre-Yves Geoffard, researcher at the National Center of Scientific Research (CNRS) and professor of economics at the School of Paris "However, not the pandemic itself may disturb the functioning of society, but individual behavior caused by panic", explains Geoffard. Anticipating that the virus will come back strong in the northern, the researcher believes that one factor that could limit the consequences for human behavior and hence on economic branches, is the correct information of people without exaggeration. Governments and international organizations are concerned about human and economic consequences of A H1N1 virus spreading. How much will cost the Mexican flu epidemic? And how can this cost be reduced?



Source: Eva Wanda, *Influenza A (H1N1) analysis*

Classical calculation of the cost of disease is based on two elements. First, the "direct" costs of sick people care: medical consultations, treatments, hospital stays, costs that depend on the number of cases and their severity. Then, "indirect" costs of the disease itself: loss in productivity due to sick leave or premature mortality and more difficult to evaluate material damage caused by the suffering of infected people. For many diseases, this method of calculation covers almost all costs. During an epidemic, even if the number of cases remains small, the population reaction can rapid and massive disrupt the economy. If it were enough to put a figure on the resources devoted to vaccination, the exercise should be simple. But anticipating the cost must consider also the costs induced by changed individual behavior due to fear of disease. .

The epidemic of SARS (severe respiratory syndrome), which affected several Asian countries (and, by ricochet, Canada) in 2003 stricken, according to World Health Organization, 8096 people, (including 774 fatal cases). Directly or indirectly SARS' costs remained almost

negligible at the countries scale; however, fear of epidemic has caused considerable individual reactions, often fueled by unfounded rumors: about 10% of Beijing's population had been refugees outside the capital; attractions, exhibitions and first-class hotels have decreased by almost 80% activity and for collective transport, travel agencies and restaurants, the decline was assessed between 10 and 50%. It is considered that in the main affected countries (Hong Kong, Singapore, Taiwan), the abrupt decrease in demand for services has resulted in a decrease in overall production between 1 and 2% of GDP.

History will not repeat the same but it is certain that in autumn, the Mexican A H1N1 flu will come back strong in the northern. Then everyone will be tempted, even at the risk of exaggerated caution, to avoid contamination. Some companies will choose to activate further plans of business, asking their employees to work from home; many tourist or business trips will be canceled or postponed, public transport will be deserted, in the advantage of the private transportation, concerts, exhibitions, restaurants will be empty. Thus, even if the number of serious cases remains small compared to the globally population, individual reactions, less coordinated, give rise to impede and impair the economy and productive activities. However, these behaviors of panic can be avoided through transparent dissemination of objective information. Do not hide anything, to not overdo anything: the credibility of public health messages is essential to ensure that, under the effect of rumor, an epidemic without real gravity to come to a crisis added to the current crisis.

Due to A H1N1 virus threatening the human life and economic productivity, many German companies and institutions already develop an emergency plan if the swine flu will spread widely in the Federal Republic. In Germany, the total number of patients amounted to 2800, and without necessary precautions, swine flu can become not only a danger to human health, but also a serious economic problem. If employees stay home, companies cannot produce at full capacity and therefore, significantly turnover decreases.

So the question which arises is: there are plans to offset the negative effects of large-scale spreading?

State institutions in North Rhine Westphalia have developed a plan that, if necessary, in the company will be present only a small group of people and the remaining employees will work from home. Deutsche Telekom Company considers that emergency, teleconferencing could replace travel. In addition, many companies such as Telekom and Henkel, have provided a reserve of Tamiflu vaccine against the virus, which may be administrated to sick employees; Deutsche Post is thinking even to a preventive vaccination of staff. Pharmaceutical companies take advantages from the H1N1 virus. Pharmaceutical giant GlaxoSmithKline showed an increase in sales turnover by 14% due to vaccine sales. Swiss company Roche has managed to increase turnover by 200% only due to Tamiflu vaccine sales. More than half of the orders came from governments and international concerns.

Influenza A H1N1 has spread so far in about 160 countries and caused 816 deaths confirmed by laboratory tests worldwide, according to the balance sheet published in the last week of July 2009 by the World Health Organization (WHO). North and South America are by far the most affected regions, with 707 dead, according to the balance sheet published by the Internet site of the WHO. Asia-Pacific region has, in turn, a total of 74 deaths. WHO has also recorded 34 deaths in Europe and one in the region east of the Mediterranean (Middle East and parts of North Africa). No death was confirmed in the WHO African region.

March Gregory Hartl, a WHO spokesman, estimated that the virus "is approaching 100%" of world countries.

5. Political uncertainty in the financial crisis

Why would political uncertainty contribute to current crisis?

A central aspect of the global current recession is the crisis of confidence, understood as a worsening of expectations and a rise in uncertainty. The political crisis manifested nationally, but also at international level, where it began to manifest tensions between different states. Thus, locally known political crises in Iceland or Belgium, where economic crisis has led to the collapse of the entire executive apparatus and replacement with another. Also, in some states, some ministers in key areas were replaced because they did not face the pressures involved economic crisis. The case of Germany, for example, where economy minister Michael Glos, has resigned following allegations that had been made on German economic recovery involvement in hard-hit.

Internationally, relations in the European Union are no longer quite so cordial. Following the announcement by French president indicated that he would support the auto industry because automakers will not be forced to relocate in the Czech Republic, Czech Prime Minister has accused France without any caution, showing that this measure is contrary to the principle of a single market that we have the European Union.

A second wave of political tensions in the EU is the request of Hungary and Poland to join the euro zone as soon as possible, these two countries considering that the adoption of the euro is a real protection against crisis. A number of voices in the euro area have protested against this request' the reason is that the euro area may suffer if it will be accepted countries which still don't have a very stable economy and are still not qualify for. Poland, for example, could not yet enter the euro area due to fluctuating reported parity between zloty and the euro. On the other side, there is uncertainty regarding the scope and impact of a crisis. In the midst of a crisis, key macroeconomic variables tend to display unusually high volatility. The resilience of the economic system and the severity of the crisis are uncertain. There is also uncertainty regarding the effectiveness of policies, which depends critically on the perceived credibility of the corrective measures when the reputation of the authorities tends to be at its lowest level. And there is uncertainty regarding the political support for reforms. Policy makers face the additional challenge of quickly mobilizing public support for often unpopular measures.

Against this background of economic and political uncertainty, the policy response is often subject to "ugly" trade-offs. A prime example is the fiscal consolidation that may be required to reduce imbalances or debt burdens. This must be sufficient to strengthen confidence in the sustainability of public finances, but not so much as to undermine medium-term growth prospects. In cases where banking crisis is part of the problem, public support will likely be required to safeguard the functioning of the domestic financial system. But this support can exacerbate debt sustainability concerns and make the previously mentioned tradeoff even more difficult. Moreover, in extreme situations, administrative measures may be seen as unavoidable for quelling a banking crisis - although these risk eroding confidence in the banking system and triggering capital flight and financial disintermediation.

In cases where sovereign debt restructuring is needed, the benefits of alleviating the liquidity or solvency constraint must be weighed against the implications for future access to capital markets. In addition, policymakers may need to factor in the potential costs to the domestic financial system if bank portfolios are significantly exposed to government debt. Public finances may remain vulnerable to shocks. If public debt remains at high levels, gross financing requirements continue to be large, and thus vulnerable to shocks or spells of market drought. Banks may remain vulnerable to debt servicing difficulties of household and

corporate sectors, or because of a large exposure to sovereign debt. And in cases of sovereign debt restructuring, a country may lose access to markets for a prolonged period of time.

Perhaps most importantly, there is always a danger of "reform fatigue". As countries move out of the critical stage in the process of crisis resolution, it is not unusual to see some of them lose their drive towards reform. Several factors contribute to this: a) the erosion of political capital; b) an early positive response from investors that might lead to complacency; and c) the fact that many of the needed reforms do not induce immediately higher growth and wellbeing of the population. But here is precisely where the recurrent crises have their genesis. Once the most urgent measures have been implemented, the tendency is to put aside the important ones for later. It is critical that countries persevere with reforms to "crisis-proof" their economies and avoid recurrence of financial distress (Carstens, 2004).

Also, it should be pointed out the role of the IMF in crisis resolution. A key role of the Fund is to work with members to achieve a durable exit from crisis. The Fund helps members to consider the relevant constraints and trade-offs and to design an appropriate adjustment program that addresses underlying macroeconomic problems, as well as anchors investors' expectations about the formulation and implementation of economic policies. In helping to design this program, the Fund has to form a judgment about the appropriate balance between the availability and scale of IMF financing, the amount of domestic policy adjustment, and securing the support of other stakeholders (official and private creditors). And in forming this judgment, the Fund must also consider the implications a crisis country may have on the stability of the international financial system.

6. Conclusions

Modern society has become a risk society in the sense that it is increasingly occupied with debating, preventing and managing risks that it itself has produced. That may well be, many will object, but it is desired rather of a hysteria and politics of fear instigated and aggravated by the mass media. Global risks know no borders and global solutions are also beyond the realm of any one government. Indeed, they will require not only intergovernmental collaboration but also public-private collaboration. Better and more innovative governance has shown results in the area of global health risks. For AH1N1 treatment were succeeded in making antiretroviral drugs more easily available to populations at risk. The World Health Organization has developed an effective monitoring and information network for pandemics that operates globally. The risk of infectious disease remains high but these examples illustrate that new forms of governance can be effective even for some of the most borderless and tenacious of global risks.

The spread of the financial crisis and the resulting global downturn has increased the risk of retrenchment from globalization in developed and especially in developing economies. Over the past several decades, globalization has meant countries and businesses building economic and societal ties across the world, opening new markets, providing services, generating employment and reducing poverty. A global downturn will undoubtedly place greater pressures on many economies, developed and emergent, but retrenchment, in the form of economic protectionism or unwillingness to engage on climate change, resource or security issues, could create even greater pressures. Now seems like an appropriate time to address governance gaps and thus provide frameworks offering greater certainty to both governments and business and that will enable solutions that will benefit all. Global leaders have mounted an unprecedented response to a financial crisis, the effects of which have rippled across all regions and levels of society. The urgency of the threat to the global economy and our collective prosperity has required pragmatic and at times inventive responses that transcended

the conventions of recent history. As with past crises and episodes of dramatic change, decisions made now has the potential to impact generations to come. New models for global governance and cooperation, that are commensurate with the realities of increasing financial integration and economic interdependence, are needed. It is extremely important to reach dialogue and consensus on the development of new models for global financial governance. It is vital to bring a balanced and rich perspective to bear on these decisions.

Our future goals will be to define needed strategies, in order to improve transparency, risk control and incentive structures.

References

1. Agustín Carstens, Deputy Managing Director, International Monetary Fund, "Improving the Policy Response to Financial Crisis", International Conference on Dollars, Debt, and Deficits, Madrid, Spain, June 14, 2004;
2. Antonella Campana and Paola Ferretti, "Distortion Risk Measures and Discrete Risks", Department of Applied Mathematics - University Ca' Foscari Venice, Italy, 2006;
3. Bob Jessop, "The Rise of Governance and the Risks of Failure: the Case of Economic Development", 2009;
4. Daniell, M.H. "World of Risk: Next Generation Strategy for A Volatile Era", Singapore, 2000.
5. Deloitte, "Global Risk Management Survey: Sixth Edition. Risk management in the spotlight", June 2009;
6. Dirk Willem te Velde, "The global financial crisis and developing countries", Background Note October, 2008;
7. Eugen Dijmărescu, "The crisis goes on: how to respond?", 2008;
8. José De Gregorio, Governor Central Bank of Chile, "Global confidence crisis: the value of waiting and coordination failures revisited", June 2009;
9. Kirsten Stalker, "Managing risk and uncertainty in social work: A literature review", Journal of Social Work, 2003;
10. Mugur Isarescu, "Criza financiara internationala si provocari pentru politica monetara din Romania", 2009;
11. Nigel Parton, "Social Work, Risk and the Blaming System" in N. Parton (ed.) Social Theory, Social Change and Social Work, London: Routledge & Kegan Paul, 1996;
12. Report on the Accenture 2009, "Managing Risk for High Performance in Extraordinary Times. Global Risk Management Study", 2009;
13. Ulrich Beck, "Risk Society: Towards a new modernity", London: Sage, 1992;
14. Ulrich Beck, "Risk Society: Outline of an Argument," Convention Paper, 1994;
15. Ulrich Beck, "World Risk Society", Polity Press, Malden, 1999;
16. Ulrich Beck, "Living in the world risk society", Economy and Society Volume 35 Number 3 August 2006: 329- 345;
17. World Economic Forum, "Global Risks 2009". A Global Risk Network Report, January, 2009;
18. World Economic Forum on the Middle East, "Putting Diversity to Work", Dead Sea, 18-20 May, 2007;
19. World Economic Forum in collaboration with PricewaterhouseCoopers, "A Report of the Global Risk Network", 2007;
20. World Economic Forum , "A Global Risk Network Briefing", 2008;
21. World Economic Forum , "Global Risks to the Business Environment", January 2005;

Communication, Strategy and Functions within the Firm

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Abstract

In the process of transformation and adaptation of the economic mechanisms and structures to the market demands, companies are "compelled" to set new objectives, acquire new methods, new forms of organisation and management, able to provide not only the carrying on of activity, but mostly its revigoration in the circumstances of the increase of the complexity and dynamism in the economic environment. The company is a dynamic, evolving system, but which needs guiding, by elaborating a strategy. Mainly, the strategy represents a coherent answer elaborated by the company according to opportunities and limitations, but also according to the company's potential, and the goal of any strategy is to pool together the company's resources to improve its position as compared to that of the competition on the markets it acts on.

Key words: Strategy; communication, strategic approach.

JEL Code : M 31

Introduction

Communication means almost everything to managers, as long as it is on the quality of communication that the understanding of any problem confronting any employee depends, as well as the durability of social relations, the ability of the manager to motivate and lead his employees, and also the relations with the external environment of the organisation, wherefrom very important information is taken, for the company's smooth running. Essentially, in management the issue of communication is the issue of idea circulation and solutions aimed at achieving the objectives of the organisation, both by channels open within the organisation, and by external ones. Our existence is "touched" by communication which is more or less fragmentary, more or less successful. That is why psychology and sociology show that the main objective in human contact is to understand the other, and the starting point for the development of any type of relationship is communication. Thus it was unavoidable that in marketing, the science of drawing up and sending messages, communication should acquire an essential role as well.

In the actual activity of companies, internal and external communication serves various purposes. As an endogenous variable, under the company's control, communication may have specific forms in the various stages of the process of shaping and exhibiting the consumers' behaviour, taking up as it goes along different objectives, such as: providing information, stimulating certain attitudes, creating a favourable environment, providing services to customers, etc, but the final objective of the entire communication process unerringly is stimulating and supporting sales, which is anyway an essential step in the efficiency increase of any company.

Communication means almost everything to managers, as long as it is on the quality of communication that the understanding of any problem confronting any employee depends, as well as the durability of social relations, the ability of the manager to motivate and lead his employees, and also the relations with the external environment of the organisation, wherefrom very important information is taken, for the company's smooth running. Essentially, in management the issue of communication is the issue of idea circulation and solutions aimed at achieving the objectives of the organisation, both by channels open within the organisation, and by external ones. But in order to achieve its role efficiently, communication should be supported by cooperation and the participation of higher management. Mainly, managerial communication presupposes a superior understanding of the direction of the evolution of the company's external environment, and the implications of these transformations on the company, so that the organisation could identify with the strategic objectives, thus acquiring a genuine social partner.

One should also start from the premise that the ideas of change come from outside the company as well. Essentially, the firm is not the only organism that can determine its commercial success. Thus, customers and business partners, suppliers, competitors, external partners, organisations specialising in managerial consulting, etc. may provide valuable ideas on the directions of transformation, and company development, respectively. On the other hand, it should be taken into account that the more important the company, the more it becomes a "collective personality" of the community, and the stronger its corporate image. By means of external communication, the management acquires a bird's eye view over its organisation, corresponding to the evolution of the external environment, and the company should turn this vision into coherent action strategies. Starting from these considerations, within the framework of the transformation and adaptation of the economic mechanisms and structures to the requirements of the market economy, companies are "compelled" to set new objectives (market development, activity diversification, company behaviour improvement, entrepreneur safety increase) and to acquire new methods, new forms of organization and management, able to provide not only the carrying on of activity, but mostly its redress in the circumstances of the increasing complexity and dynamism of the economic environment.

This context imposes the necessity of forming certain corporate strategies, taking into account that the company is a dynamic, evolving system, but which should be guided by elaborating coherent strategies, suitable for the environment in which it is functioning. Mainly the strategy represents a coherent answer drawn up by the company, function of opportunities and limitations, but mostly function of its potential (actual and prospective resources, force and rigidity), and the goal of any strategy is to pool together the firm's resources in order to improve its position as compared to the competition on the markets it acts on. The companies' business plans and strategies thus acquire a new content, being the expression of the collaboration between the material, human and financial efforts so as to obtain the results expected, by meeting the demands on one or more specific markets. Building new strategies and controlling their achievement efficiently by means of the instruments of strategic planning (business strategies, marketing strategies, business programs on products or product categories) may determine the decrease of the high risk of the company's integration into the competition system.

The evolution of the transition process determines significant changes in the structure of the mechanisms generating the economy, and in turn they determine the reorganisation of the strategies of the economic agents. In this sense, it is necessary for the economic agents to evolve from survival strategies to action strategies, in order to create and maintain competition edge. Firms should take into consideration a series of basic elements for the strategy foundation. In this context, the first thing to be imposed is carrying out a strategic

analysis of the environment factors, the market, the competition in which firms are involved and which influences both their current action directions, and the prognoses of their scopes trends. On the basis of these analyses, they can then proceed to objective grouping and development strategies formulation depending on the current economic conditions. Then, the strategies have to be detailed by selecting the strategic targets for each market, defining the marketing objectives from the point of view of the development, implementation and management of the strategy, of the positioning for the development program, in the order of reaching the target needs of the market.

In most cases, in a market economy, the activity value of a commercial enterprise depends on the economic structure characterising the sector or sectors it belongs to. The specificity of the appurtenance sector is given by the market characteristics covering a certain sub domain of the consumers' needs. Thus, the sector value is conditioned by both the intensity of the intrasectorial variables that define the market, and the intensity of the extrasectorial variables that define the relations between reference markets and collateral markets.

Any sector is mainly defined by dividing the market into participant shares, and any company starts the evaluation of its future prospects from the position it occupies on the market as compared to other competitors. Competition intensity confronting a firm is determined, among other factors, by the number of competitors and the increase of their size, the increase of the market size, the level of capital investment. In turn, these elements are conditioned by the degree of maturity of the reference industry, the barriers imposed to investors and clients (social-economic, social or conjectural restrictions) and by the competition. The measure of competition intensity is given by the decrease of the ratio between the domineering, viz. the owners of the majority market shares, and the domineered, and the implementation of a policy meant to consolidate the position of the company on the market (apparent in the increase of the market share) is risky for the starters. These are the internal sources of the sector.

But a number of extrasectorial variables also act upon firms in competition relations. They derive from the elasticity of the market limits and therefore the sector's limits, being possible for customers and suppliers to migrate from a sector into another. In this sense, one may distinguish four extrasectorial variables, as follows: emergence of new competitors, the danger of specialisation substitution, suppliers hegemony and customer domination. The emergence of new customers only happens when it is easy to penetrate the market or the profitability levels are high, as compared to the other collateral markets. In such situations, any competitor integrated on the market brings along a new production capacity, a higher innovating potential or better selling techniques. For the existing competitors, each of these elements increases the risks of overcapacity or degeneration of the sector or business. Any technological innovation of a competitor, actualised in a substitution product, creates additional risks for the other competitors, as it will limit prices, simultaneously accelerating the need for investment. The consequence is the rapid decline of old technologies and the implicit loss of the market shares for their owners.

Suppliers' hegemony is another source for business risk. By increasing the cost of raw materials and energy resources, suppliers may diminish the profitability of a productive activity or initiate the removal from the market of firms incapable of bearing with this increase on the account of production costs. Customer domination may generate another category of risks. It is characterised by the buyers' tendency to force the price down, to request better quality for the same price or to act on the competition. The effect is a pressure of the downstream markets on the upstream markets, and consequently a risk displacement in the same direction, by powerful pressure on the bidders' costs on the upstream markets.

The relative importance of these extrasectorial sources associated to competition determines in fact the value of a certain domain. Starting from these aspects, companies going through the process of transition to the market economy will be ever more forced to set strategic objectives, able to insure profit maximisation, so that it can become compatible with the optimal return of the invested capital, and to build specific strategies, aimed at reaching the goals proposed, thus contributing to the convergence of efforts towards economic efficiency. At present, for each activity domain, two objectives are to be imposed in the light of strategic importance, i.e. market development and the diversification of production and/ or specific activity scope. The option for market development is determined by the possibility of the economic agents to perpetuate favourable conditions for that activity domain. In this context, there can appear two situations, viz. the situation in which there is a specific market in ascension, a case in which the company is forced to increase its supply, and the other situation, related to developing the market of a firm, which may be generated by the stagnation of the reference market. Thus, the objective is to conquer new reference markets. In this case, the issue will be to set the objective of conquering new markets for the product/ activity existing in the structure of the supply. Opting for such a strategic objective aiming at one or more activity domains allows for decreasing the risk generated by the dependence on a single market, using at the same time the technical and technological resources available to the economic agents involved. It implies however the provision of resources necessary for expanding into new markets. The third strategic development option is creating new products/ activities in order to meet the demands identified on the existing markets.

As compared to the other two modalities of market development, in the case of the third strategic option the economic risk rises, as the diversification of ongoing production or activities requires expensive costs of research-development and production. They take place under the circumstances in which the dependence on a single market is maintained. There is an advantage, viz. for the new product/ activity, the product mix already used by the firm may be extended. In other words, by consuming the already existing product, the distribution channels, the promotional supports, the conditions may arise for obtaining certain competition advantages, on a familiar market. The second strategic objective, aimed at insuring an orientation for the firm's activity in view of maximizing profits, consists of production diversification. This objective presupposes taking considerable risks on the part of the firm, as it involves reorienting the economic agent towards new or collateral domains.

This objective derives from market dynamism, the diverse game of supply and demand, from one market to another. Diversification may have as primordial strategic option the approach of collateral domains related to the current activity domain. It presents the advantage that to a large extent the markets on which the company intends to act are known, since to date they have had the status of indirect markets and have constituted the object of research for the marketing efforts of the economic agent. The most difficult aspect of this option is the cost evaluation of the diversification of production and/ or the activity range. They require an evaluation of future flux, under the circumstances of the uncertain evolution of the money value, affected by the inflationary process. As for the choice of production diversification as a strategic objective, by approaching new activity domains for the firm, this option involves the greatest risks, as the economic agents find themselves in the situation of acting on one or more new markets, assimilating new research-development processes and technologies, and thus using to a small extent the technical, productive and human potential owned.

Generally, any corporate strategy is characterised by six components, out of which the first four define any business, and the rest are specific to those businesses that impose cooperation. They are the following:

- ✚ The market of the product/ range of activities the business competes with – the goal of the business is defined by the products or activities that are provided or selected for provision, through the markets that are targeted, through the competitors that are to be confronted and through its level of vertical integration;
- ✚ Investment level – the alternatives of investment orientation have to be evaluated, taking into account one or more options, such as: increasing, or moving into the market of the product, maintaining the current position, taking advantage of the business by investment minimisation, etc.;
- ✚ Sub strategies on functional domains necessary to compete on the selected market segment –constitute components of the business strategy;
- ✚ Assets and managerial capacity for strategy achievement able to provide the competitive edge—the strategic managerial capacity refers to coordinating sub strategies of functional domains and the accurate assessment of the cost and feasibility of generating and maintaining assets and capacities which supply the basis for obtaining the competitive edge;
- ✚ Allotting resources towards business directions –internal or external financial resources, material and human resources have to be allotted precisely, and this allocation process may become a key strategic decision;
- ✚ Developing synergic effects on various action directions –consists in orienting efforts towards obtaining results from business directions that support and complete one another.

At present companies are confronted with tremendous changes, conditions in which they have to make decisions also focused on establishing a relation between the company and its environment. The environment may influence the company activity by additional costs, mainly related to the assessment of adaptation or their existence itself. Making decisions "step by step" brings into focus the complexity of the environment and the pace of the changes made, context in which the companies have to define their objectives clearly and find the ways and means necessary to reach them. The totality of these options constitutes in fact a strategy, and due to them the company has to own the action and control means necessary. Essentially, the implementation, control and evaluation procedures for the strategies adopted by companies are necessary to transpose the plans laid out on paper into practice. Generally, establishing the best strategy to be adopted by the company in order to accurately and efficiently react to the challenges of its framework presupposes the detailed analysis of its own situation, the capacities it has and whose totality define its competitive force.

The stage of selecting the most appropriate strategy to apply and its formulation in clear terms is followed by the stage of implementing the strategy adopted. In this context, applying the strategy constitutes a relevant proof of the management's ability to run the company, to stimulate the emergence and development of a certain state of mind of the entire staff, favourable to their involvement in the considerable efforts required by the practical implementation of the strategy. The existence of this state of mind of the entire staff of the company is essential for the success of the strategic approach, because, if the strategy formulation stage constitutes the almost exclusive duty of the top management, applying the strategy is the task of the entire staff, the degree of general involvement of all employees and the capacity of collective effort being among the decisive factors determining the success or failure of the implementation.

At the level of small and mid-sized companies, an essential imperative of the successful strategy implementation is given by the conception of an organisational structure able to balance the key success factors, to amplify their influence and to contribute to the overall success of the strategy adopted. The difficulty of strategy implementation within these firms is

determined by the complexity of the pragmatic exercise, which presupposes the carrying out of simultaneous combined actions on multiple levels.

- ✚ Detailing the strategy, settling the necessary policies and procedures, which set the limits within which the results of the implementation should range;
- ✚ Putting in agreement the sub strategies with the requirements of the corporate strategy ;
- ✚ Detailed communication at the level of the whole company, of the strategy adopted and its requirements;
- ✚ Adapting the control system to the specific requirements of strategy implementation in the sense of evincing the progress registered in implementation and the problems that this process constantly generates.

It is certain that the implementation process of each strategy is unique, impossible to duplicate, asking for the knowledge of all the requirements of the implementation process, the careful settling of priority actions to be undertaken and the ones to follow. In this sense, only prompt, appropriate measures will be able to guarantee the conversion of the strategy into a practical and effective attitude.

Conclusion

The evolution of the transition process determines significant changes in the structure of the mechanisms generating the economy, and in turn they determine the reorganisation of the strategies of the economic agents. In this sense, it is necessary for the economic agents to evolve from survival strategies to action strategies, in order to create and maintain a competitive edge. Firms should take into consideration a series of basic elements for the strategy foundation. In this context, the first thing to be imposed is carrying out a strategic analysis of the environment factors, the market, the competition in which firms are involved and which influences both their current action directions, and the prognoses of their scope trends. On the basis of these analyses, they can then proceed to objective grouping and development strategies formulation depending on the current economic conditions. Then, the strategies have to be detailed by selecting the strategic targets for each market, defining the marketing objectives from the point of view of the development, implementation and management of the strategy, of the positioning for the development program, in the order of reaching the target needs of the market.

References

1. E. Dinu, *Strategia firmei – teorie și practică*, Ed. Economică, București, 2000;
2. V. Danciu, *Marketing internațional – provocări și tendințe la începutul mileniului trei*, Ed. Economică, București, 2005;
3. Ciobanu, *Strategii de management*, Ed. Univ. "Al. I. Cuza", Iași, 1998;
4. Popa, R. Filip, *Management internațional*, Ed. Economică, București, 1999;
5. Michael Porter : *Competitive Strategy*, Harvard Business School, 1988;
6. Cliff Pratten : *The Competitiveness of Small Firms*, Cambridge University Press, 1991.

Evolutions of the Romanian Services Sector in Crisis Time

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Abstract

This study investigates the services sector's evolutions in crisis time from the point of view of tariffs, employment and turnover. The paper provides a rational background for finding solutions to the problems encountered by the companies from the sector of services in order to survive the world economic crisis. The findings of this study may be used as a starting point for further investigations on the companies from the sector of services in order to attain a sustainable competitive advantage.

Keywords: services sector, economic crisis, evolution, indicators

JEL Code: L80, M10, M11

1. Introduction

This study examines how the sector of services has evolved during the first eight months of 2009, in a period of economic crisis. Therefore, some relevant indicators are used, such as tariffs, employment and turnover in the sector of services in order to reveal and explain the evolution of this sensitive sector of the Romanian economy. The study was carried out by combining various sources, such as articles, research reports and statistical data. The research question was answered by analysing published sources and interpreting evidence. Another way of approaching this question could be collecting and analyzing empirical data from the companies within the sector of services and comparing the results with the findings of this study.

2. Background

The effects of the international financial crisis expanded into the Romanian economy, affecting all its sectors, from agriculture to industry and services. The impact of the current crisis on the sector of services is very important due to the various economic activities included in this area, such as wholesale and retail, insurance, hotels and restaurants, rental and leasing activities, banking etc. The impact of the crisis on financial activities was not a direct one because throughout the time, the National Bank of Romania (NBR) used prudential and administrative measures. Indirectly however, the international financial crisis and its most evident consequence, the recession in the developed countries, extended on the Romanian sector of services on various channels: the commercial channel, the financial channel, the exchange rate channel, the trust channel, and the wealth and balance sheet effects channel (Isărescu, 2009a).

The commercial channel led to a slow down or even reduction of the exports amount. The financial channel led to limited access to external financing and thus generated a credit amount reduction and difficulties related to the private external debts service. The exchange rate channel led to reduced external financing, which materialized in depreciation of the national currency.

On the trust channel, withdrawal of foreign investors from the Eastern-European countries took place. This led to panic and speculative attacks on the monetary market, as the one from October 2008 in Romania, which required the NBR's intervention. Last, but not least, on the wealth and balance sheet effects channel, a deterioration of the people' and companies' net assets took place, due to the high share of foreign currency credits (correlated with the depreciation of the national currency) and the decrease of speculative, non-sustainable prices for movable and immovable assets. Many specialists claim that the current financial crisis' roots can be tracked back into the dramatic drop of the houses' price or in the failure of the mortgage market. However, this perspective is at least incomplete, as the fundamental causes of the present financial crisis are much deeper, and they have both a microeconomic and a macroeconomic nature (Isărescu, 2009a). We shall further investigate some relevant indicators, such as tariffs, employment and turnover in the Romanian sector of services in order to reveal and explain its evolution.

3. The evolution of the consumer price indices

The consumer prices indices (Figure 1) have increased during the first eight months of 2009 compared to the same period of time in 2008.

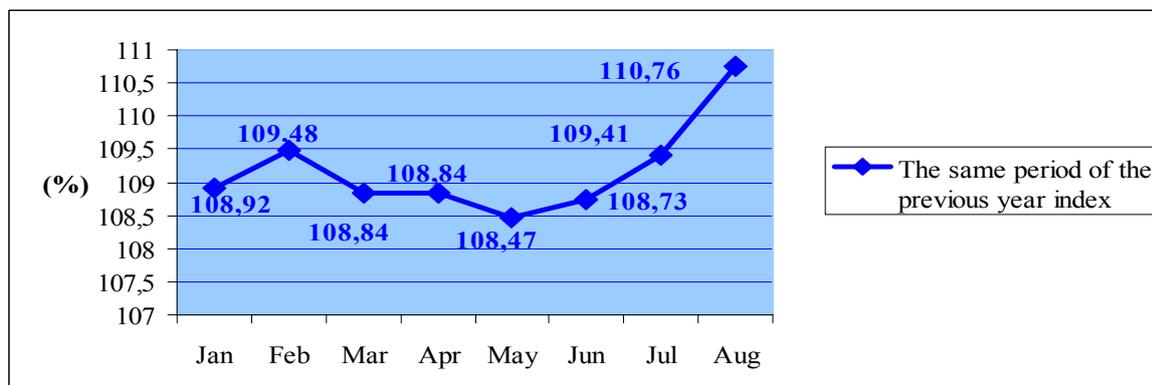


Figure 1 Evolution of the consumer price indices
(Source: INS, 2009)

Moreover, in August 2009, as against the previous month the tariffs for services increased by 0.3%. This evolution of tariffs for services was influenced by the increase in tariffs for water, sewerage, sanitation (+1.4%), urban transport (+0.6%), motor and electronic repairs, photo works (+0.3%), medical care (+0.3%), hygiene and cosmetics (+0.2%).

4. The evolution of employment

The number of employees from the sector of services (in the units having 4 employees and over) decreased by 54.5% in August 2009 as against August 2008 (Figure 2). The biggest reduction of the number of employees was registered in the wholesale and retail, including repair of motor vehicles and motorcycles (-54.5%).

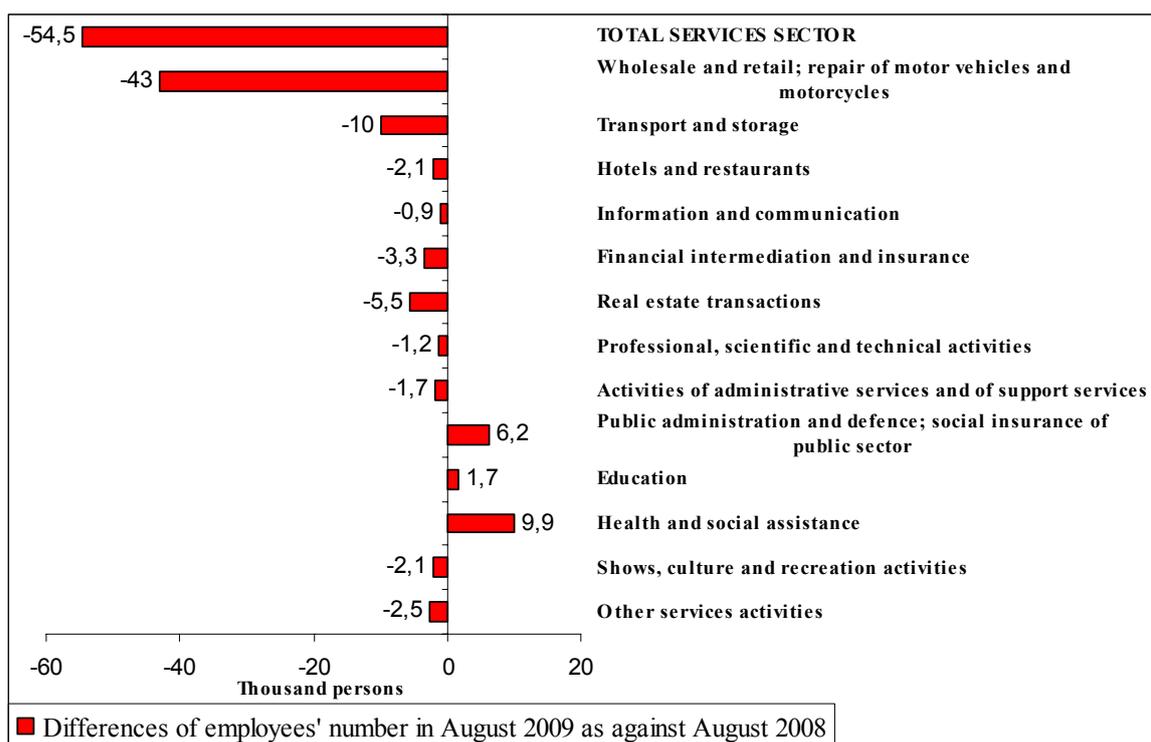


Figure 2 Differences of employees' number in August 2009 as against August 2008
 (Source: INS, 2009)

Unsurprisingly, the only sub-sectors in which the number of employees increased were the ones that include public services, financed by the state. These sub-sectors are the following: public administration and defence and social insurance of public sector (+6.2%), education (+1.7%), and health and social assistance (+9.9%).

5. The evolution of turnover

The turnover volume indices calculated for the period of time 01.01.2009 – 08.31.2009 as compared to the same period of the previous year are illustrated in Figure 3. This figure shows that the turnover volume of the enterprises having as main activity retail except motor vehicles and motorcycles registered a fall of 10.5%. The turnover volume of enterprises having as main activity wholesale and retail, maintenance and repair of motor vehicles and motorcycles registered a decrease of 39.8% during 01.01.2009 – 08.31.2009, as compared to the same period of previous year. The market services may be divided in two main categories: market services rendered to the population on one hand, and market services mainly rendered to the enterprises, on the other hand. The market services rendered to the population are the activities, subject to sale and purchase on the market (having the population as main user) and are produced by companies whose income (50% at least) come from sale of own production, no matter of practiced prices (tariff, tax, selling price). The market services mainly rendered to the population includes the following activities: hotels and restaurants; travel agencies and tour operators activities; tourist assistance activities; gambling and other recreation activities; hairdressing and other beautifying activities; laundry, cleaning textiles and fur products; funeral activities; body building; and other services for natural persons (INS, 2009: 194).

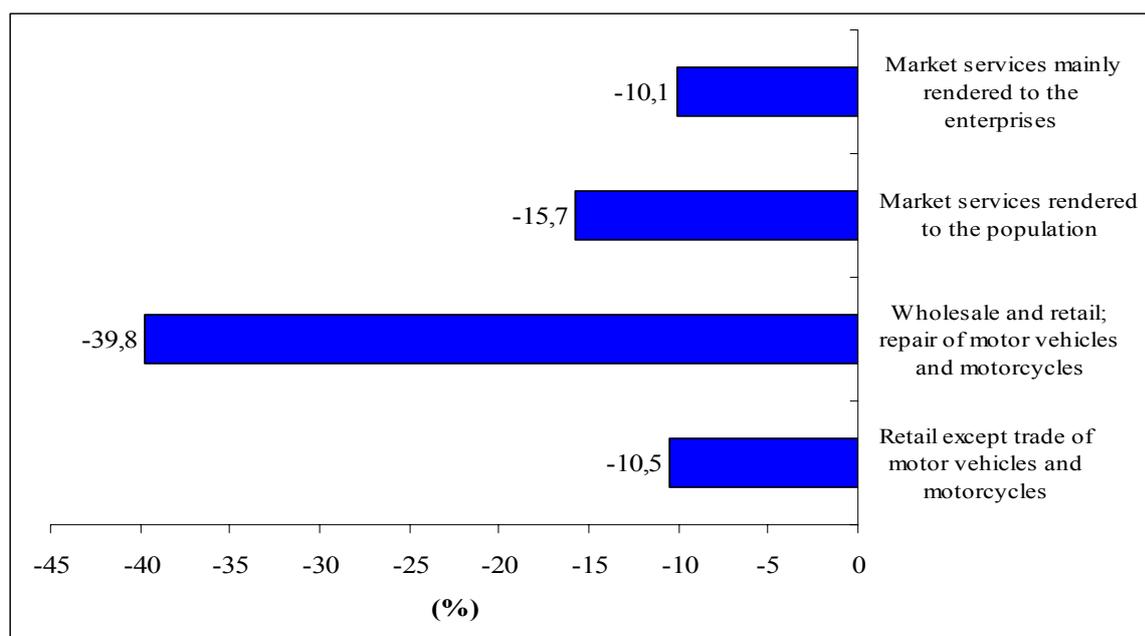


Figure 3 Turnover volume indices
 (Source: INS, 2009)

The market services rendered to the population (Figure 4) registered a fall of 15.7% during 01.01.2009 – 08.31.2009 as against the same period of the previous year. Only gambling and other recreation activities registered an increase of +4.2% and this fact may be explained through psychological factors, meaning that people may have a hope of winning in this period of crisis.

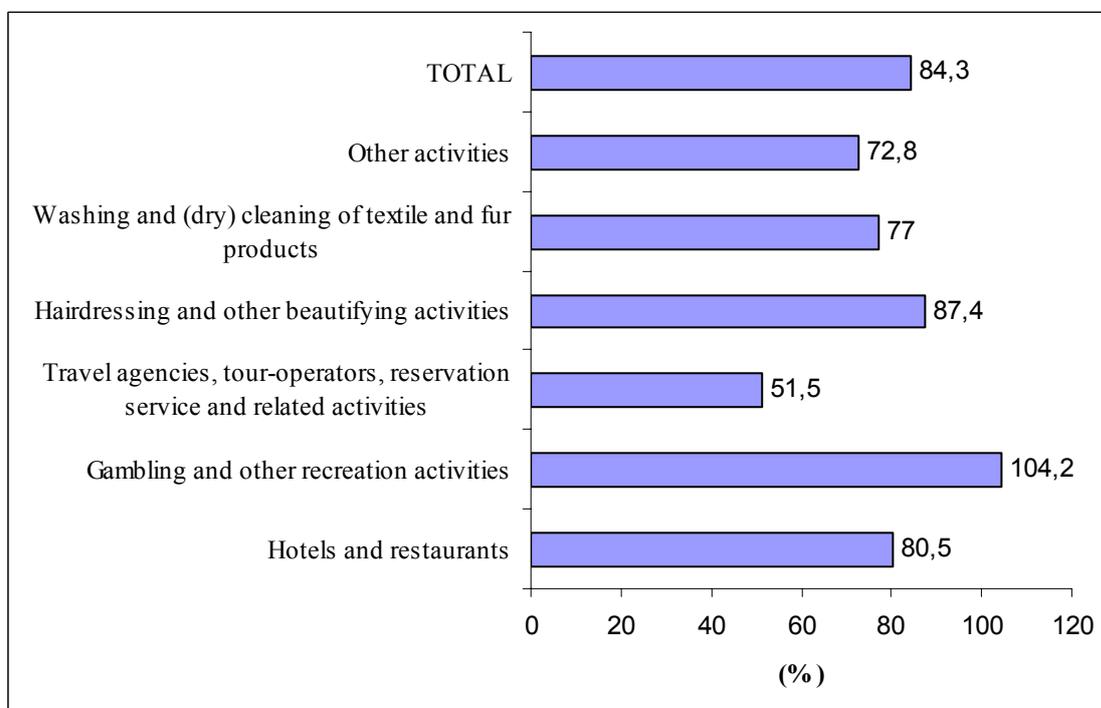


Figure 4 Turnover volume indices of market services rendered to the population
 (Source: INS, 2009)

The market services mainly rendered to the enterprises include the services, subject to sale and purchase on the market and are done by units whose income (50% or more from turnover) come mostly from sale of own production of transport services, post and courier, cinema production, video and TV programs, broadcasting of programs, telecommunications. There are also included activities of services in information technology, legal and accounting activities, architecture and engineering, publicity, professional, scientific and technical activities, investigation and protection activities, cleaning activities, secretariat, support services, real estate transactions, renting and leasing activities, no matter of practiced prices (tariff, selling price) and cashing ways (INS, 2009: 194).

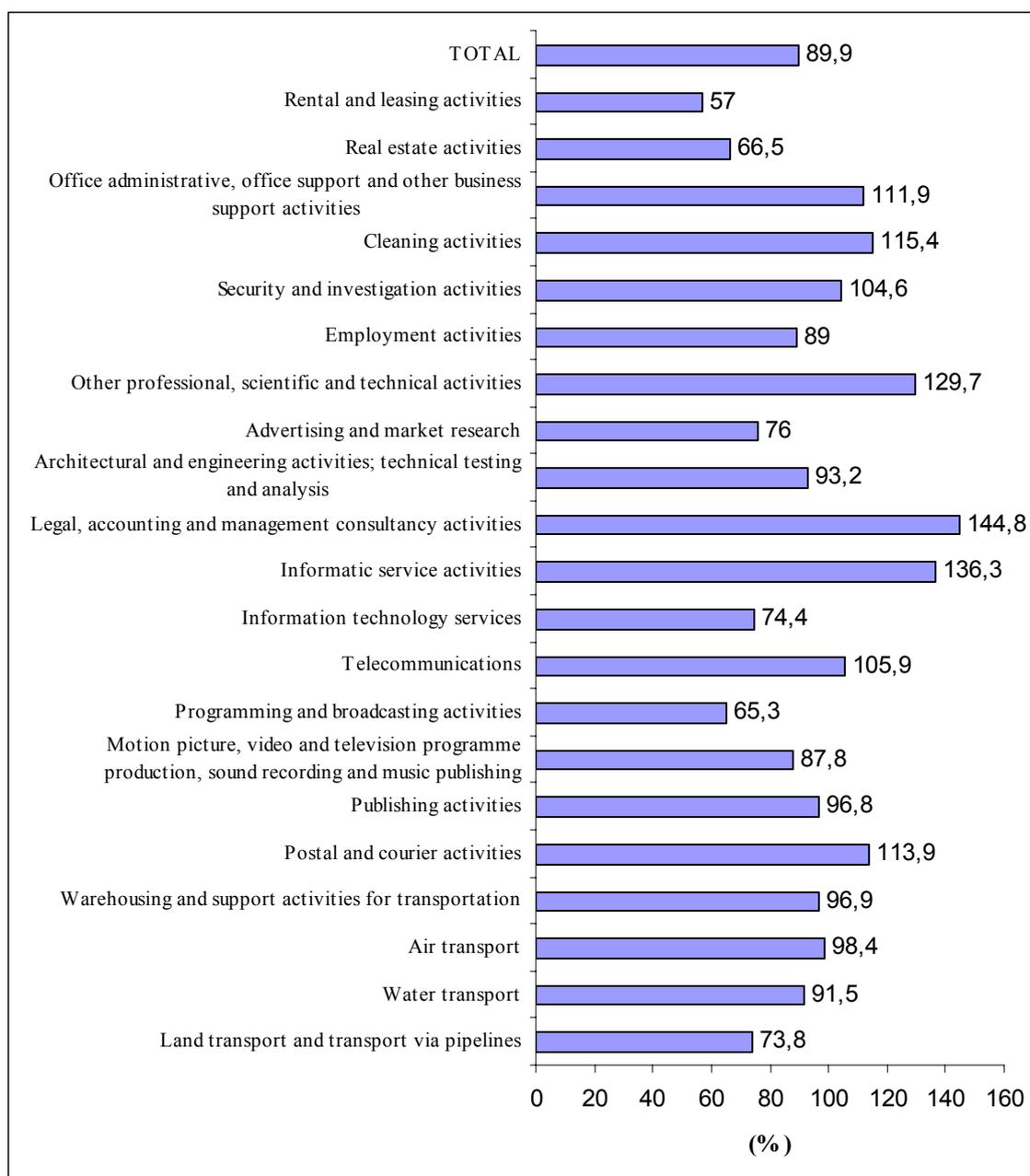


Figure 5 Turnover volume indices of market services mainly rendered to the enterprises
 (Source: INS, 2009)

The services mainly rendered to the enterprises (Figure 5) registered a turnover, in nominal terms, by 10.1% lower in 01.01.2009 – 08.31.2009 period of time than in the same period of the previous year. However, there are some services that registered a turnover, in nominal

terms higher in 01.01.2009 – 08.31.2009 period of time than in the same period of the previous year: legal, accounting and management consultancy activities (+44.8%), informatics service activities (+36.3%), postal and courier activities (+13.9%), telecommunications (+5.9%), cleaning activities (+15.4%), office administrative, office support and other business support activities (+11.9%), and other professional, scientific and technical activities (+29.7%).

6. Public-private partnerships – solution of the current economic crisis

The current economic crisis may be faced by passing to a correlative development of both material infrastructure and human capital. The development of material infrastructures (transportation, environment, telecommunications, and energy) offers a long range of advantages, but also medium range economic advantages such as the major investments that lead to economic growth and urge the development of adjacent economic activities. On the other side, the investment in human capital (by education, training, continuous learning, strengthening the research – development – innovation relationship, effective policies of public health, social and occupational modern policies, and so on) ensures the sustainability of the economic growth, taking into account the fact that a healthy well-educated population is flourishing and adjustable to the European Union's level and the global level as well (Isărescu, 2009b; Romanian Government, 2006).

Taking into account the current economic crisis and the evolutions in the sector of services, some public services may be developed through public-private partnerships. In the past decade we have witnessed all over the world an increase in the public sector's interest for signing public-private agreements, a new way of managing and governing organizations that deliver public services. Public-private partnerships (PPPs) popularity is due to the fact that governments are more and more eager to increase the quality and efficiency of public services, but in the same time they face insufficient budgetary resources to cover investment needs, coupled with public spending restrictions (European Commission, 2003). PPPs are usually seen as the most innovative interface between the public and the private sectors, being an essential legal instrument for the delivery of public services. Therefore, the phenomenon of public-private partnerships has generalised and comprises today many areas covering infrastructure projects, transport, public health, education, public safety, waste management and water distribution.

The growing popularity of public-private partnerships projects is due to the advantages it may bring, such as: rapid infrastructure delivery; cost reduction for the public sector; efficiencies gained in task allocation of large and complex operations; stability gained through commitment to long-term projects; accountability established through involvement of a wider range of stakeholders; use of private management, experience and know-how for service delivery, that could imply service restructuring in order to make it competitive; risk sharing and improved risk allocation; improvement of service quality (Hodge and Greve, 2007).

When talking about public-private partnerships in relation with the current economic crisis, two main types of attitudes emerge. On one side we have "the optimists" and on the other side we have "the pessimists". Optimists see PPP projects as instruments for fighting the economic crisis and for economic recovery. Pessimists instead see the current economic crisis as an important obstacle in the PPPs' evolution in Romania.

PPPs may be important instruments for fighting the economic crisis and for economic recovery, and this is, as already mentioned, the optimists' approach. The arguments that support this approach are related to the advantages of PPPs: (1) PPPs may help redefining the State's direct role in the economy; (2) PPPs have positive impact on public finance; (3) PPPs

may contribute to job creation; (4) there is a special fiscal treatment for PPPs (the "off balance sheet" treatment); and (5) PPPs may lead to a better absorption of EU funds.

Public-private partnerships can have a significant impact on public finance by: (a) generating new sources of income, new infrastructures and new services; (b) allowing new development for existing sources of revenue (public transportation, sanitation); (c) promoting industrial development and as a consequence, increasing fiscal income; and (d) better directing public budgets (United Nations Economic Commission for Europe, 2000).

There are a lot of competing demands on the public purse which makes it difficult for governments to choose which project to finance or not. PPPs make this choice easier and help governments finance more projects than they would usually do by using traditional methods.

Public-private partnerships also contribute to reducing taxation, which is one of the primary measures governments should adopt during critical periods. Thus, the redirected resources stimulate demand and contribute to the country's wealth.

Moreover, public-private partnerships are source of jobs on the medium and long-term and the key of the anti-crisis programs. For example, the 900 billion dollars plan for reviving the American economy adopted in 2009 is aimed at saving 2,5 million jobs in the next two years through public-private partnership infrastructure projects: roads , bridges, schools, ecological technologies, etc. (Vass, 2009).

On the other side, however, the current economic crisis affects projects which are aimed at making the public and the private sectors work together. Thus, the crisis determines a decrease of the number of private competitors and the number of financial institutions willing to get involved and finance such projects. This means lower competition and in the end higher total costs.

Public administration's choice for signing public-private partnership contracts with private companies is not taken into consideration just because the public sector lacks of financial resources. Every public-private partnership project has an impact on the citizens (end-users) through the tax system. Therefore the private partner is expected to provide growing efficiency, technical innovation and better quality.

The significant role of the private partner is the main feature of public-private partnerships. The private partner is involved in the various phases of the project (planning, implementation and operation), is intended to accept risks that are traditionally borne by the public sector and often contributes to financing the project. When deciding whether to enter into a public-private arrangement, public agencies usually focus on two main aspects: price and quality. The public sector will sign the public-private partnership contract if the private partner can deliver the same service at a lower price, or if he can deliver a more qualitative service at the current price or at a lower price.

Public-private partnerships are not anymore a brand new concept in Romania. Several progresses have been made recently. Thus, a Central Unit for Public-Private Partnership was set up within the Ministry of Public Finance in 2005, and in 2006 and 2007 a new enabling legislation was introduced. However, there is a slow PPP deal activity to date if we look at the number of implemented projects. The reasons for the slow pace of activity include: the complexity of the PPP process in terms of preparation and awarding, not very strong, clear and long term political support, a very restrictive legislative framework (the Romanian legislation limits PPPs to service concessions and works concessions), little public sector expertise in

relation to PPPs, etc. However, public-private partnerships may be taken into consideration as a solution to the current economic crisis, because they can stimulate the sector of services.

7. Conclusions

This study has revealed that the Romanian sector of services is very much affected by the current economic crisis. This conclusion is based on the following premises: (1) the tariffs for services have increased during the first eight months of 2009 compared to the same period of time in 2008; (2) the number of employees from the sector of services has decreased by 54.5% in August 2009 as against August 2008; (3) the market services rendered to the population registered a fall of 15.7% during the first eight months of 2009 as against the same period of the previous year; and (4) the services mainly rendered to the enterprises registered a lower turnover, in nominal terms, during the first eight months of 2009 than in the same period of the previous year.

Another conclusion of this study is that public-private partnerships may be a solution for reviving the sector of services because they are important instruments for fighting the economic crisis and for economic recovery.

References

1. European Commission (2003), Directorate- General for Regional Policy, *Guidelines for Successful Public-Private Partnerships*, Brussels.
2. Hodge, G. A., Greve, C. (2007), *Public-Private Partnerships: An International Performance Review*, *Public Administration Review*, 67(3).
3. Institutul Național de Statistică – INS (2009), *Buletin statistic lunar*, No. 8, 2009, last accessed October 20, 2009, <http://www.insse.ro/cms/files/arhiva_buletine2009/bsl_8.pdf>.
4. Isărescu, M., (2009a), *Criza financiară internațională și provocări pentru politica monetară din România (I)*, in *TopBusiness online*, No 755, March 2009, last accessed October 20, 2009, <[http://www.topbusiness.ro/romania/news/article/Criza+financiara+internationala+si+provocari+pentru+politica+monetara+din+Romania+\(I\).html](http://www.topbusiness.ro/romania/news/article/Criza+financiara+internationala+si+provocari+pentru+politica+monetara+din+Romania+(I).html)>.
5. Isărescu, M., (2009b), *Criza financiară internațională și provocări pentru politica monetară din România (II)*, in *TopBusiness online*, No 756, March 2009, last accessed October 20, <<http://www.topbusiness.ro/romania/archive/article/Criza+financiara+internationala++%BAi+provocari+pentru+politica+monetara+din+Rom%EA2nia+%28II%29.html>>.
6. Romanian Government (2006), *Post-adhering Strategy 2007-2013*, Bucharest, December 2006, last accessed October 20, 2009, <http://www.guv.ro/obiective/200701/strategie_post_aderare.pdf>.
7. United Nations Economic Commission for Europe (2000), *Guidelines on private public partnerships for infrastructure development*.
8. Vass, I. (2009), *Parteneriatele public-private, cheia programelor anticriză*, last accessed October 20, 2009, <<http://www.juridice.ro/note-studii-opinii/38688.html>>.

The Impact of e-Banking on Traditional Banking

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Abstract

Providing financial services using the Internet as a delivery channel can change the risk profile of banks and also create new issues in the control and management of banking risk. The implications *e-banking* may have on the general risk profile of the bank are manifested in connection with strategic, operational, reputational, legal, credit, liquidity, market and exchange rate risks. One of the main problems that e-banking is facing is the security. Without customer confidence in the security system, they do not want to use a public network like the Internet, in order to view financial information online and to make financial transactions. Some security threats are theft and violation of individual privacy and confidentiality. Banks that use e-banking offer several ways to ensure a high level of security: identification and authentication: use the username and password to access accounts, encryption: even if the information is intercepted, the hacker cannot decode it and firewall: barriers to protect the servers and the databases of banks.

Key words: e-banking, risk, clients, banking services

1. Introduction

Banking companies around the world have provided long-distance services for their customers long before the emergence of *e-banking*. Electronic Funds Transfer for low level payments, cash management systems at corporation level and machines from where the public can withdraw money were and are a usual presence in countries with banking tradition and even and Romania. However, to provide financial services using public networks like the Internet has produced massive changes in the financial services industry.

2. The impact of e-banking on banking risks

Strategic and business risk

The risk strategy is one of the most important risks that *e-banking* activities pose for banking organizations. Strategic risks differ from other risk categories because they are more general and broader in nature. Strategic decisions taken by the Steering Committee of the bank and members of executive management have implications in other risk categories. Given the growing demand and customer acceptance on a large scale of *e-banking* services and also the growing of potential effectiveness of these services, banks were facing the need to adopt a strategy of using financial services delivery channels mediated by the Internet to provide these services to customers. The rapid changes occurring in technology, the pace of competition with other banks or non-banking organizations and the nature of the adopted strategy may expose the bank to substantial risks if the planning and implementing of the strategy is not correct or

the strategy itself is not well designed.

Many crucial issues in strategic risk are related to time synchronization. The decision of pioneering technology used to provide *e-banking* services can be an important strategic venture especially if the system is not developed and implemented rapidly enough and the new emerging technologies that undo the state of pioneering on which bank strategists initially based on. Contrasting pioneering is the decision to use tested techniques for developing and implementing *e-banking* services, techniques that may be obsolete at the end of the implementation. Most bankers consider that the *e-banking* distribution channel is making it possible to reduce operational costs. However, many *e-banking* customers want to maintain traditional relationships with the bank, making it difficult for the bank to abandon the existing infrastructure in order to reduce operational costs.

This means that, at least in the near future, banks will need to offer multiple channels of distribution for their services and the implementation of *e-banking* will certainly mean another expense for the bank. Reduction of operational costs by implementing *e-banking* can still be achieved in time, but only on medium or large time horizons. In essence, the management of banks should take very carefully into account how Internet-based strategy will help them maintain the competitiveness and profitability of the institution and prevent unexpected increase in the risk profile of the company. This includes the creation of provisions to eliminate or reduce the risk of disintermediation. Supervisory bodies expect banks to weigh the pros and cons at length regarding the strategic decisions they are to take.

Operational risk

Given the link between technology and *e-banking*, operational risk is most affected by the provision of *e-banking* services. To limit operational risk, banking organizations are forced to consider implementing integrated operational architectures organization-wide to facilitate interoperability, to ensure the security, integrity and availability of data and allow management of relations with third party service providers. Moreover, as technology dramatically change the *business* model and operational processes, banks meet the need to implement and maintain appropriate control procedures – including the enforcement of change, and audit processes.

Operational risk arises from potential loss due to significant deficiencies in the integrity and viability of the system. Security considerations are supreme, if banks are subject to external or internal attack on their products and systems. Operational risk may arise from the non-proper utilization of electronic money systems or electronic bank or from the implementation or inadequate implementation of these systems as well. This category consists in the following risks:

a). Technological infrastructure

E-banking brought the issue of the integration of technological systems and applications with existing operations and processes. Many banks now face the problem of integrating the *e-banking* system with the corporate computer system in operation and the multi-system service providers and partners. These banks are exposed to significant operational risks due to errors which may occur in the processing of transactions due to incorrect integration of the *e-banking* system with the existing processing system. Consequently, many banks are investing large sums of money in the development of technologies to create internal control processes and extensive surveillance of risks that come from systems integration.

b). Security

Security risk is the main concern for bankers, related to *e-banking*. Outside threats such as:

hacking, sniffing, spoofing or denial of service, expose the bank to new security risks¹⁹. Open supply channels used for *e-banking* create new security problems for banks in terms of confidentiality and integrity of information, non-disclaiming of transactions, user authentication and access control. A security system that has shortcomings could lead to a reputation risk and even to a legal risk due to the bank's failure to protect customer's data, which will have severe consequences in terms of the bank's reputation. Controlling access to bank systems has become increasingly complex because of the developed computer capabilities, the geographical dispersion of the points of access and the use of various means of communications including public networks like the Internet.

Unauthorized access to the network could lead to direct losses, added customers debts etc. It could also bring a variety of authentication and specific access issues. For example, inadequate checks could lead to successful attacks from hackers operating through the Internet, who would have the possibility to access, save and use confidential information belonging to the bank's customers. In the absence of adequate controls, a third person may have access to the bank's computer system and infect it with a virus. Beside the external attacks on electronic bank systems and electronic money, banks are exposed to operational risks in terms of employee fraud. Employees can clandestinely acquire authentication data in order to access customer accounts or to steal stored value cards. Employee errors could also compromise the bank systems. Particularly important for supervisors is the risk of electronic money counterfeiting, which is an offense under the Criminal Code. This risk may be increased if the banks fail to incorporate appropriate measures to discover and prevent counterfeiting. A bank faces operational risk of forgery and is due to return the whole amount of electronic money that was falsified. Furthermore, the bank may gather other expenses due to repair costs of systems that were compromised.

c). Data integrity

Data integrity is an important component of system security. Banking organizations must improve interoperability within and outside the organization to effectively manage customer relationships with other banks or service providers. Until standards for the management of electronically stored information are created, banking organizations will continue the quest for the most efficient processes to ensure the accuracy and integrity of transmitted and received data.

Risks associated with the design, implementation and maintenance of systems. So, a bank is at risk of disruption or slowdown of its systems, whether the electronic bank or money chosen by the organization are not compatible with user requirements.

Risks arising from the fact that customers misuse banking products and services. The risk is increased when a bank fails to properly educate customers on security precautions. In addition, without the existence of adequate transaction verification measures, customers may reject transactions that they authorized in the past, thus creating numerous financial losses for the bank. Customers who use personal information (authentication information, credit card numbers, etc.) in an unsecured electronic transmission may allow malicious people to gain access to their accounts and to the accounts of other customers. As a result, the bank may

¹⁹ The practice of hacking means to fraudulently access the data stored on a computer without authorization, for malicious reasons to demonstrate that this can be achieved or for other personal reasons. Sniffing implies using a program that is illegally installed on a computer in a network to capture identification data and passwords of users entering the system. When spoofing, someone is trying to obtain access to a system impersonating an authorized user. Denial of service attack means flooding a server with requests so that it can no longer respond to legitimate traffic.

suffer financial losses due to unauthorized transactions. Money laundering can be another source of concern.

d). System availability

To provide a secure internal network for *e-banking* activities it is critical to efficiently plan the resources in order to maintain the availability of *e-banking* products and services. The amount of transactions may be highly volatile due to automation and the lowering of the costs per transaction. Also, competition pushes banks to declare that services are available 24/7 and this has led to considerable increase of customer expectations, meanwhile reducing the tolerance to errors. Finally, a bank must consider, as part of the plan to resolve the adverse situations that may occur, alternatives designed to provide services in the event of a major inconvenience that would shutdown a part of the Internet.

e) Internal Control and Audit

The ability to detect and correct errors is a critical component of the internal control system of any banking operation. Moreover, banking organizations must have sufficient operational control procedures to prevent fraud coming from outside or inside and protect information and assets of the bank. Most of the efficiency and cost savings that come from *e-banking* lie in the ability to implement immediate processing, which is done automatically, without human intervention. While the benefits of automated processing of transactions are numerous, the reality is that *e-banking* alters the way to apply on general access channels, the internal control procedures, sharing tasks and responsibilities and the transaction tracking information for the audit.

f) Subcontracting

The fact that for the development of the *e-banking* industry banks were forced to outsource important parts of the running gear, very much affects the risk profile of banks regardless of their dimension. Banks subcontract more and more activities, as they develop, trying to focus their efforts only to their basic function and competences, any activities outside of the bank's competence are being outsourced to third parties. To properly manage the risks associated with subcontracting, banks must take all precautions and constantly monitor the relationship and work of service providers. Fairness of terms in contracts for the supply of services should also be better evaluated to reduce the risk of law violation. Processing operations and the management of the risk to maintain the security, integrity and availability of services are complicated due to subcontracting. Minor disruptions in the activities of service providers can have major effects in terms of the bank's image, which can lead to significant financial losses and a substantial legal risk. Although currently discontinuities in the activities of the subcontractors seem to be very well managed, their impact can be considerable in the future making them a serious concern for supervisors and participants in the *e-banking* industry. Subcontracting can lead to additional risks of customer data confidentiality. Banks may be unaware of the ways third party subcontractors choose to collect and use data about customers.

Reputational risk

The reputation a bank may be affected by any adverse event that disrupts the supply channels of *e-banking* services. Banks have built their reputation, usually based on confidence that they have strengthened in the relationship with their customers. The ability to provide a robust network, reliable *e-banking* support is critical to maintain a bank's reputation, reputation that can be affected if Internet services are poorly executed or they affect in any way customers or the public. The reputation of a bank is strongly shaken if it fails to provide security, accuracy and continuity for its *e-banking* services in a consistent manner. Also, failure to respond to the posted e-mails, or inability to protect customer data from client data breaches are serious threats to reputation. Major security drawbacks found in web pages of banking or non-banking institutions will reduce the overall confidence of customers in the bank's ability to protect transactions made over the Internet. To protect themselves against adverse situations that may damage the reputation, banks must develop a system for monitoring the performance standards

of *e-banking* activities. In order to implement it, it is necessary to establish a system that regularly tests continuity of service provision, data recovery after incidents that occur, the existence of solutions to incidents and communication strategies in case incidents occur.

Reputational risk is the risk that occurs due to a significant negative public opinion, leading to a critical loss of funds or bank customers. Reputational risk may arise when the bank shares drag major loss of public confidence in the bank's ability to perform critical functions to continue its work. Reputational risk is important not only for a single bank, but for the entire banking system.

Legal risk

Legal risk arising from the *e-banking* activities is another area of intense concern. Currently, supervisors in each jurisdiction examine how the system of laws and rules developed to address real problems in the banking world interact with the new distribution channels involved in *e-banking* and try to detect all ambiguities in the legal system regarding banking transactions. A bank that develops relationships with customers via the Internet and is from other jurisdiction may be unfamiliar with the laws and rules that protect consumers in the jurisdiction the customers belong to and thus the bank is exposed to increased legal risk. A bank that does not intend to provide services to persons in other jurisdictions can be found in the same situation, because the bank's web page can provide information in several languages, and so the bank can receive customer service requests from other jurisdictions.

Improper or unauthorized use of information gathered via the Internet is another source of legal risk. Unauthorized individuals can attack and/or try to infiltrate the *data warehouse* – data storage containing details about clients that are used as a source of information in the *data mining*²⁰ process. These warehouses were created by and stored either at banks or third party *e-banking* service providers. The staff authorized to handle customer data can also use incorrectly the data that they have access to. Strengthening the laws that cover all aspects involved in *e-banking* is an ongoing process that is rather close to its beginning than to its finalization.

In Romania, the law on electronic signature (Law 455/18 of July 2001, published in *Official Gazette* no. 429 of July 31st, 2001), was an important step for the possibility of developing a commercial practice still unknown in our country: contracts made throughout the Internet. The practical applicability of electronic signature transcends by far the borders of *e-commerce*. In addition the MCIT Order that approved *e-banking*²¹ sets the legal framework for payment instruments with remote access, applications such as internet-banking, home-banking or mobile banking.

Legislation of the European Union (*European Community Directive on electronic signature*) was also adopted in order to create a harmonized legal framework for electronic signatures in the European Union. The States of Central and Eastern Europe have approved their own laws for electronic signature, essentially following the recommendations contained in the Directive of the European Council, although the result is not homogenous, neither in the European Union nor beyond. Member States of the European Council were signatories to the International Convention for the Protection of Individuals with regard to automatic processing of personal data, considering that the aim of the European Council is to achieve a greater unity between its members, particularly respecting the law supremacy, the human rights and fundamental

²⁰ Data mining process means gathering information about customer preferences, the inclination they have to risk and more characterizing information, statistics and extrapolations made from the entire collection of information about the client from the beginning of his relationship with the bank.

²¹ MCIT Order no. 389 of June 27, 2007 regarding the procedure for the approval of payment instruments with remote access, applications such as internet-banking, home-banking or mobile banking Published in *Official Gazette* with number 485 dated July 19th, 2007.

freedoms. The signatories of the Convention have found that it is desirable to expand rights and fundamental freedoms for everyone, especially the right to privacy, concerning the increasing traffic across frontiers of personal data that are included in the automatic processing systems at the same time reaffirming their commitment for freedom of information, regardless of frontiers. The purpose of this Convention is to ensure every individual that on the territory of each Member State, whatever his nationality or residence, fundamental rights and freedoms and in particular the right to privacy will be respected, even if automated processing of personal data is performed (data protection).

3. The impact of e-banking on other traditional risk

Supplying *e-banking* services on specific channels has an impact on other traditional risks such as **credit risk, liquidity risk, interest rate risk and market risk**. The impact of *e-banking* introduction does not necessarily mean increasing or decreasing the level of risk to the institution, regarded as a whole, thus the risks can change, sometimes in a very complex manner.

Credit risk may be affected by the introduction of *e-banking* operations in several ways. Using the Internet for banking services allows banks, especially small ones, to increase quickly the number of customers, often forcing the operations and internal procedures of credit quality verification and risk management not to keep up with this rise in the volume of services. Using the Internet allows banks to geographically expand operations outside the traditional area of activity, leading to new work situations that must be managed, as are: the risks arising from specific local market dynamics and specific risks of that geographical area, verifying collaterals and enforcing links with insurance companies for customers outside that geographical area. In addition, the Internet makes the identification and evaluation of the future customer's quality harder – which is required for the identification of credit risk. On the other hand the facility to extend the area of banking service thanks to the Internet diminishes the exposure of banks to local industry, market and geographic region risks. Furthermore, there was an increasingly evident trend, especially in the banks that provide services only on the Internet, to pay higher interests for deposits opened via the Internet which led to an increase in interests received on loans provided through the Internet, in order to support higher interest rates given to deposits. These factors listed above, stress the importance of policy evaluation, monitoring of loans and their management practices, regardless of the nature of the supply channel that was chosen.

Liquidity risk. The speed with which information and misinformation spread the Internet may have implications for the liquidity risk profile of a bank. Bad information on a bank, even if true or not, can be easily disseminated through the Internet using newsgroups or bulletin boards. Such information can cause massive withdrawals of funds, generalized and at any time of the day or week. Also, *e-banking* services may increase the volatility of deposits due to the fact that the newly won customers, that were attracted using this new service delivery channel, will maintain accounts and deposits only as long as the offered interest is convenient or until the deposits meet their deadline. In conclusion, the increase of the liquidity monitoring and of changes in the volume of deposits and loans should be directly proportional to the increase in volume of the *e-banking* activities.

Market risk. The impact on the market risk profile, caused, lately, by the matter of security and trading over the Internet, is complex. As far as market is concerned, increased volume of shares traded on the market may lead firstly to an increased volatility and on the other side to an increased liquidity as well. Banks are exposed to an increased market risk if they establish or expand their volume of brokering activities with deposits, loan sales or securitization programs that come as a result of Internet activity. As with liquidity risk, the effects of increasing the share of *e-banking* activities in total banking activity on market volatility should be monitored mostly by banks and banking supervisory institutions.

Exchange rate risk. A bank may be subject to exchange rate risk if it accepts deposits from foreign customers or sets up accounts with denomination in other currencies. Since the Internet has allowed the expansion of banking operations outside the defined geographical area of a country or state, many banks have assumed higher and higher exchange rate risks conducting operations over the Internet. Also, exchange rate risk may be intensified by political, social or economic events that a bank providing international activities cannot fully forecast or evaluate. Banking supervision institutions should ensure that a bank that initiates *e-banking* activities abroad throughout the Internet has the best risk management system and the best skills to manage these risks effectively.

4. Conclusions

The risks associated with *e-banking* activities are not new. However, their **specific mode of occurrence, potential magnitude and impact velocity** on banks may be new information for both bank managers and banking supervision bodies. Also, while the determination the risks should already be a dynamic process, the rapid pace of technological innovation evolution and development is underlying the *e-banking* system. The ever greater degree of subcontracting services and the reliance on specific products and/or services that form the basis of open networks like the Internet, increase the need for a **rigorous and continuous risk management process**.

Banking supervisors must ensure that the supervised banks have built effective and inclusive processes for: determining risks, risk control and monitoring *e-banking* risks. This comprehensive structure of risk management should form an integral part of the overall structure of risk management in banking institutions. It is also essential that risk management processes are sustained with a direct supervision by the board of directors and the directors of the upper levels of management and carried out by specialized technical staff that has all the knowledge needed to manage complex technical issues and developments in technology on which the whole system of *e-banking* relies.

Establishing risks is a continuous process, which involves achieving the following three steps:

- ✚ **The bank engages in an analytical process for identifying risks** and, where possible, their measurability. Where risks cannot be measured, the bank's management establishes the potential risks that may arise, steps that must be followed and determines the impact it can have on the bank.
- ✚ The establishment of risks means for the bank **determining its risk tolerance, which means finding out exactly the amount of losses that the bank can afford in case of unforeseen events**.
- ✚ **The bank's management can compare the risk tolerance to the magnitude assigned to a certain risk, in order to determine if the exposure falls within the tolerance.**

Management and risk control

After determining the risks and their tolerances, bank management must manage and control them. This stage of risk management includes activities like:

- **coordinate internal communication**
- **implementing protective measures against external risks,**
- **control and management,**
- **instruct customers how to use the services etc.**

Banks increase their ability to control and manage the risks inherent in any activity when they are determined by procedures and are at all staff's reach.

Management and risk control process includes:

- **Policies and security measures.** Security is a combination of systems, practical applications and internal controls used to shelter the integrity, the data authenticity and confidentiality and

the operating procedures. The security policy states the management's intentions to support information security, gives an explanation regarding the organizing of a bank's security, and highlights the main lines that define the security risk tolerance of a bank. Policy outlines the responsibilities for designing, implementing and strengthening of information security measures. It can also establish procedures for assessing policy outcomes, for strengthening disciplinary measures and reporting security threats.

Security measures include encryption, password protection, virus detection, etc.

- **Internal communication.** Management must communicate to key staff members how electronic banking and electronic money systems intend to support the general goals of the bank. At the same time, technical staff must clearly communicate to the management how are systems designed to operate, which are the strengths and weaknesses of the systems. To ensure adequate internal communication, all procedures must be provided in written. To limit operational risk, management must adopt a common policy on lifetime learning, regarding the technological breakthroughs.

- **Evaluation of products and services before they are placed on a large scale** may limit the operational and reputational risks. Tests validate that the equipment and systems are functioning and producing the desired results. Pilot programs or prototypes can also aid to the development of new IT applications.

To reduce all listed risks it is necessary to regulate all "e" activities in order to establish a suitable infrastructure and also provide the ones that must approve and monitor these activities. Like any commercial transaction, **electronic commerce requires a specific infrastructure.** In this case, **it consists of three elements:** technical infrastructure, interface with classic commercial components and specific legal system.

Technical infrastructure consists of hardware, software and network for communications. This is actually the component that triggered and development of electronic commerce. It is also required a **major interface with traditional systems of trade.** The key element is the bank, thus any commercial operation is mediated by money. The insertion of a bank in e-commerce system requires a secure connection between the bank and user through which real time operations can be carried out.

In order to **create the legal framework** for member countries of the European Community, European Parliament adopted specific directives that govern this area. The cooperation between banks and even between banking supervisors becomes a necessity, as emphasized by the Working Group for *e-banking* of the *Basel Committee*, in order to identify best practices in risk management and banking industry-specific standards that will facilitate *e-banking* developments between risk parameters characterized by caution but without limiting innovation and experiment.

References

1. Sohail, S., and Shanmugham, B. (2003), *E-Banking and Customer Preferences in Malaysia: an Empirical Investigation*, Information Sciences;
2. Suh, B., and Han, I. (2002), *Effect of Trust on Customer Acceptance of Internet Banking*, *Electronic Commerce Research and Applications*, 1;
3. Tan, M., and Teo, T.S.H. (2000) *Factors Influencing the Adoption of Internet Banking*, *Journal of the Association for Information Systems*, 1.
4. Venkatesh, V., Morris, M.G., Davis, G.B., and Davis, F.D. (2003) *User Acceptance of Information Technology: Toward a Unified View*, *MIS Quarterly*, 27(3).
5. World Bank, *Banking Risk Management*, IRECSO, 2006

Feedback of Romania as a Member State of the European Union to the Challenges of Sustainable Development and its Digital Dimension

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Abstract

Sustainable development has become a goal of the European Union (EU) since 1997, and in 2001, at the Summit held in Gothenburg, the Strategy of Sustainable Development of the European Union was adopted. In present, the tasks of Romania as a Member State of the European Union are in accordance with the objectives of this group. Basically, sustainable development has four main dimensions: social, economic, environmental and institutional. However, in recognition of the growing importance of information and communication technologies and the role they play in development, the digital dimension has been added as a fifth dimension of sustainable development.

Keywords: Romania's strategy, challenges of sustainable development, digital dimension, ICTs effects

JEL code: Q01, Q55, Q56

1.Sustainable development - conceptual delimitations

The concept of sustainable development arose about 30 years ago, as a feedback to occurrence of environmental problems and crisis concerning natural resources, especially those related to energy.

Practically, the Environmental Conference held at Stockholm in 1972 is the moment when it was admitted that human activities contribute to the damage of environment and endanger the future of this planet. In 1983, the World Commission for Environment and Development (WCED) started its activity based on a resolution adopted by the General Assembly of the United Nations Organization. The Report of this Commission since 1987 entitled "Our common future" provided the first accepted definition of sustainable development as being "*a development that satisfies the needs of the current generation without compromising the chances of the next generations to satisfy their own needs*". Therefore, this concept is the result of an integrated approach of political and decisional factors wherein environmental protection and economic growth in the long term are considered complementary and mutually dependent. The term of sustainable development has started becoming widely known following the Environmental Conference held under the aegis of the United Nations Organization at Rio de Janeiro in the summer of 1992 known as the "Earth Summit". It had as a result the elaboration of several conventions related to climate changes (reduction of methane and carbon dioxide emissions), biological diversity (conservation of species) and stoppage of massive clearing.

Sustainable development has become a goal of the European Union (EU) since 1997, when it was included in the Treaty of Maastricht, and in 2001, at the Summit held in Gothenburg, the Strategy of Sustainable Development of the European Union was adopted. An external dimension was added to this strategy at Barcelona in 2002.

In 2005, the European Commission started a revision process of the Gothenburg Strategy adopted in 2001. As a result of this process, the EU's Council adopted the Strategy of Renewed Sustainable Development for an extended Europe on 9th of June 2006. The document is thought in a unitary and coherent strategic vision having as general objective the on-going development of life quality for the present and future generations, by creating some sustainable communities, able to manage and use resources efficiently and exploit the ecological and social innovation of economy in order to enable wealth, environmental protection and social cohesion. The European Union and the Member States are responsible for the implementation of Strategy involving all institutional components at community and national level.

2 Digital dimension of sustainable development

Basically, sustainable development has four main dimensions: social, economic, environmental and institutional. However, in recognition of the growing importance of information and communication technologies and the role they play in development, a fifth dimension on ICT is added. This integration of social, economic, environmental, institutional and ICT is an imperative widely recognized by the community.

e-Digital (ICT): Information and communication technologies (ICT) are closely related to the above mentioned four dimensions of sustainable development. The millennium development goals and the recommendations of the international summit for information and communication technology held in Geneva in November 2003 provided a suitable methodological framework on how to make use of ICT in achieving sustainable development. Therefore, the digital dimension has been added as a fifth dimension of sustainable development. Ample evidence from around the world for the positive impact of ICTs on economic growth and development exists. The ICT sector is an input sector for any economy such as the transport sector or water and electricity.

For sustainable development, the key is BALANCE between:

- ✚ needs of economic development – environmental protection
- ✚ needs of poor – rich
- ✚ needs of present – future generation

If we think in tremens of sustainable development, the ICT effects are:

- ✚ Driver for change
- ✚ Technologies which use fewer resources and reduce pollution
- ✚ Creation, use and disposal of technology devices
- ✚ Improve the quality of human life
- ✚ Responsible use of ICT
- ✚ ICT should only be a tool and not a way of life
- ✚ Technology used only for the sake of technology
- ✚ Excessive and uncontrolled use of technology leads to loss of professional skills and loss of human personality
- ✚ Large decrease in social and human activities
- ✚ How we use the time we save ...
- ✚ Replacement of the traditional entertainment with the electronic entertainment.
- ✚ Mass production of cheap technologies leads to a waste of natural resources.
- ✚ Uncontrolled source of information leads to a decrease of education quality

In this sustainable balance, ICT must:

- ✚ Be used in the exact amount we need
- ✚ Enhance the quality of life
- ✚ Make use of energy and resource saving technologies
- ✚ Enhance, or at least not impair, the physical, mental and social life of the humans
- ✚ Assure education, creativity and the development of humans
- ✚ Preserve human, cultural and biological heritage
- ✚ Allow real-life interactive social activities among people

However, the first leap in Romania's modernization caused the problems of environmental pollution and land degradation. We have learnt from our own development experience that such progress can no longer be conventional with the focus only on economic targets. To reach the goal of harmonious economic, societal and environmental advancement, development must be managed by a comprehensive approach. This is called *sustainable development*.

But now, we are living in the "Information Age". Modern technologies, such as information technology, biotechnology, new materials and aerospace technologies, have dramatically changed the way we live. The rapid development of modern technologies can provide an opportunity for East European countries to catch up without repeating the same problems that developed countries have encountered.

Much of the emphasis on information technologies in these countries has been focused on reducing physical barriers to communication. Less appreciated are the efforts needed to develop content and to put in place the necessary capacity to manage both content and connectivity. Similarly, much emphasis has been concentrated on development of "information and information systems", with relatively little attention paid to improving modes of access, or providing mechanisms for enabling information users to utilize available data. Turning data into accessible information and transforming the information into effective "knowledge" for decision-making and operational uses are very important.

Romania's environmental problems, we believe, are associated with development itself. For many years, in pursuing the goal of development, Romania adopted a largely quantitative rather than qualitative approach. It was seen as virtually impossible to improve the living standards of our people without a strong economy and advanced science and technology. Unfortunately, we have learnt the hard way that, if the environment is degraded and the natural resources are abused, then the rate of economic growth cannot be sustained, not to mention be sustainable. We have seen that we must stop the damage that our development has caused and make some fundamental changes.

We can never solve the problem of environmental pollution without addressing the core issue of development. This development shall be different in approach from conventional ones, and shall focus on the advancement of science and technology.

Information technology, especially the Internet, is understood to originate from the developed countries and, especially, the United States. But, in the past few years, information and communications technology, or ICT, has been a pouring wave into the developing countries. The developing countries have no other choice but to adopt such technologies. Those who do not, risk being further and further marginalized. For developing countries to survive and not be completely bypassed, we must grasp the opportunity promptly and actively to avoid the build-up of new barriers.

Romania has been making great efforts to catch up with the latest information technologies. Fortunately, we have received much assistance, to promote development with these technologies. Although it is important to help solve the problems related to poverty, gender, education, or environment, it is more effective to resolve the problems root and branch.

Information technology can be incorporated into such efforts. It is a mistake to believe that ICT can only be introduced once progress has been made in tackling poverty. Information technology can assist poverty alleviation, help to improve governance, offer better opportunities for education in remote areas, and provide better technical solutions for environmental treatment.

The last initiative in this direction are the PARADISO initiative launched by SIGMA ORIONIS²² and the CLUB OF ROME²³, and supported by the European Commission's DG INFORMATION SOCIETY AND MEDIA²⁴ of the EUROPEAN COMMISSION through the FP7²⁵ (Seventh Framework Programme) research funding programme. PARADISO is an acronym formed by the two words PARADIGM and SOCIETY, and an obvious reference to a better world.

The first PARADISO event was a scientific workshop, held at the European Commission in Brussels on June 12-13, 2008, and attended by 40 experts in societal developments and ICT research from all regions of the world. The second event, the "ICT for a global sustainable future" conference, took place in Brussels on January 22-23, 2009 under the aegis of the European Commission and with the support of many international organisations (OECD, UNESCO, ITU etc.).

After debates, suggestions and conclusions are structured in: analysis of the profound changes in the world, an overview of the various multilateral organizations that exist to foster dialogue aiming at addressing the changes introduced in the previous chapter and the other challenges the world is facing and the current role of ICT in general and of the Internet in particular in all human activities.

During the twentieth century, and particularly during the last few decades, the world has experienced profound changes, and is today facing increasingly complex issues, unprecedented in the history of mankind.

These changes have been driven by a number of facts and factors, many of them inter-correlated, the most important ones probably being the growth of the worldwide population (and the changes in its structure), the globalization of markets (trade, monetary, and financial aspects), the new balance of world power pushed by emerging economies, the increased use of world resources and of human impact on the environment, and the overwhelming dimension of Information and Communication Technologies.

ICT are indeed not only a way to support the evolution of societies; they are closely linked to, and even directly influence, the evolution of societies. These last twenty years, progress in the ICT area has been spectacular, particularly as far as the Internet is concerned, since it has today become a critical social and economic infrastructure, key in the globalisation of services and knowledge, has led to an increased convergence of networks, services, and businesses. The OECD estimates that ICT have contributed to more than 25% of GDP growth in the last ten years.

Enabled applications have evolved rapidly, from web and mail to P2P and voice, and then to video streaming, IPTV, web 2.0, online gaming, etc (a list expected to expand quickly, namely thanks to the ongoing deployment of IPv6, the new Internet layer protocol, which has much larger address space than its predecessor IPv4).

²² www.sigma-orionis.com/

²³ www.clubofrome.org/

²⁴ http://ec.europa.eu/dgs/information_society/index_en.htm

²⁵ http://cordis.europa.eu/fp7/home_en.html

In the last years, WIRELESS and MOBILE have become two keywords in our everyday lives where the information is more and more available "anytime, anywhere, on any device". Beyond the Internet, ICT systems have become familiar in all human activities, allowing information to be efficiently monitored and controlled and improving for instance the way we can, at home, ensure safety, manage energy, automate daily tasks, control household equipment etc.

In their plans for the future, most societies thus logically today set as a priority the development of a true "Information society" (see the i2010 EU's strategic initiative launched in 2005: "A European Information Society for growth and employment").

It is well-known what role ICT has today in societies, the way they can precisely contribute to achieving economic, social or environment objectives in the different human activities, and thoroughly address issues related to eCommerce, eGovernance, eHealth, eLearning, eInclusion, eHome, etc. If it will simply visit the EUROPE'S INFORMATION SOCIETY WEB PORTAL, a lot of information is made available there.

It is proper to affirm that ICT can effectively support environment objectives, allowing energy to be more efficiently managed, environment management systems to be implemented, transportation needs to be reduced, etc. At the PARADISO conference of January 2009, the ITU has estimated that "*ICT can help cut global greenhouse gas emissions by 15% to 40% by enabling intelligent transport systems, smart buildings, better supply chain management, etc.*" The key role of ICT in today's societies is of course not limited to developed countries but is also a reality in emerging and in developing countries.

ICT are today instrumental in achieving social, economic, and environment objectives in developing, emerging, and developed societies. In order to better understand their role for tomorrow, it is necessary to assess the progress we can expect from ICT in general, and the Internet in particular, in the years and decades to come. But this is not so easy since the recent past has shown that some ICT technological developments and many ICT-based applications or services were just "surprising" and could not have been predicted some years before.

We can however derive probable technological advances from today's trends. It is thus quite foreseeable that important progress can be expected on issues such as SPEED, QOS, SECURITY, MOBILITY, AFFORDABILITY, SIZE, (RICHER) CONTENT. Similarly, the perspective on an "INTERNET OF THINGS", with trillions of devices connected worldwide, is quite probable for the short to medium term. It is also logical that the already evoked possibility of accessing the information "ANYTIME, ANYWHERE, ON ANY DEVICE" will become more and more effective in the years to come.

In his welcome address delivered to the participants in the PARADISO workshop of June 12-13, 2008, Leonard Kleinrock, Professor at UCLA and one of the fathers of the Internet, has envisioned "*a future of extreme mobility, mass personalisation, video addiction, location-based services, considerable convergence, continued surprising applications and very serious societal and lifestyles changes*".

The future of ICT in general, and more particularly the future of the already 30-year old Internet is obviously, considering their key societal and economic role worldwide, thoroughly discussed in many governmental and industrial organizations and through many workshops and conferences, and far more in detail than through the limited set of characteristics listed above. Many ICT stakeholders still think that technologies and infrastructures will simply drive applications, that we just have to ensure technological progress and make infrastructures available and that the right applications will then follow, naturally emerge. It is of course true to a certain extent but it is essential to remind that analysing needs, changing lifestyles, societal paradigms, etc. is also key in enabling the development of relevant technologies and

infrastructures, the right approach being definitely a combined “technology-oriented” and “need-based” approach.

But the potential negative impacts that ICT may have on economic, social or environment issues, are more and more systematically and wisely considered. As for risks related to the environment and the use of natural resources (energy consumption of ICT equipment, waste generation and use of hazardous substances, life-cycle audits, etc.) they are more and more widely acknowledged as important, given the growing dimension of ICT in our economies.

This risk has however to be apprehended at its right, and relatively modest dimension, to avoid that more and more people limit the use of their computers to save money (while keeping switched on many other household equipments which could be switched off and consume far more energy):

- ✚ The production and use of ICT is estimated to correspond to only 8% of the electrical power consumption in the EU,
- ✚ A 10km car drive leads to the production of 1 to 2 kg of CO₂, while an Internet search to 0,02 g.

Beyond this increasing awareness that ICT have to mitigate their economic, social and environmental impact, the ICT community seems to be more and more aware that “What for?” is a key question when considering technological developments, that socio-economic (and environmental) aspects have to be fully taken into consideration when paving the way for the future, that ICT and the Internet have to truly contribute to making the world a better place, that the well-being of peoples may be the ultimate target of envisioned developments.

Many examples can be given to testify that such changes are occurring. Last but not least, the projects launched in the framework of the FIRE initiative introduced above (PARADISO being one of these projects), and the FIRE study “Towards a future Internet: interrelation between technological, social and economic trends” launched at the beginning of 2009, have to be mentioned here.

Even if some encouraging signs can be noted, a lot remains to be done to further develop the awareness of the ICT community concerning a possible or probable societal paradigm shift:

- ✚ It is not only a question of taking into consideration some socio-economic aspects in today’s research projects; it’s about being aware that ICT is not only a tool or a mean, is not only instrumental but decisive in the evolution of our societies and that, in consequence, adequate consideration of societal aspects have to be taken into consideration.
- ✚ Consumer patterns are changing: consumers are expected to consume less or at least differently, looking for more “meaningful” and affordable products and services, for durable, upgradeable and easily recyclable characteristics. Research leading to infrastructures, products and services offering such characteristics has to be encouraged.
- ✚ New social paradigms are emerging: innovative social platforms have to be developed that are suitable for Beyond GDP societies, including not only networking aspects but also characteristics adapted to an expected development of local social and cultural services, of an informal economy in local communities.

Some significant efforts are already put on research related to ICT for environment (including climate change issues), ICT for development, and e-Inclusion, and on the mitigation of ICT negative impacts or aspects. But more efforts have probably to be done knowing that the pace at which challenges are increasing is obviously faster than the one at which appropriate answers are provided.

Greater effort should be put in particular into specific research aiming at strongly mitigating (and at precisely monitoring) the impact of ICT on the environment and natural resources

(energy consumption of ICT equipment, waste generation and use of hazardous substances, life-cycle audits, etc.). Relying on more durable, upgradeable, and easily recyclable equipment (see above) is one of the options, but not the only one. ICT have to become champion in terms of mitigation.

Taking the above into consideration, a set of research projects could usefully explore which kind of network and service infrastructures, which kind of products and services could be developed to go beyond the present split between:

- ✚ Advanced solutions suited to developed countries of the one hand,
- ✚ Low-cost solutions suited to developing countries of the other hand.

3. Romania's connection to requirements of sustainable development

Being based on the key objectives of the Renewed Sustainable Development Strategy of the European Union, Romania has elaborated the National Strategy for Sustainable Development having as time targets to reach the scheduled objectives, the years 2013, 2020 and 2030, respectively.

The characteristic element of this National Strategy is our country's connection to a new type of development, specific to the European Union and widely used worldwide – that of sustainable development, an high added value generator, focused on improving the life quality of people accordant with the environment.

The main directions aimed by the EU's Strategy for Sustainable Development and our country's objectives focused on the conversion to this sustainable development model and included in the National Strategy of Sustainable Development.

1) The European Union envisages within the above mentioned Strategy, limitation of climate changes as well as their costs and negative effects over society and environment.

The tasks of Romania as a Member State of the European Union are in accordance with the objective of this group, incurred in the spring session of the European Council in March 2007, namely reducing carbon dioxide emissions by 20% up to 2020 across the European Union, respectively, compared to 1990; increase by 20% of energy weight from renewable sources in total energy consumption in the same space of time; increase of energy efficiency by 20%.

Having the year 2013 as time target, Romania aims to satisfy the energy requirement in the short and medium term and create the pre-requisites for the country's energy security in the long term, according to the requirements of a modern market economy.

As a goal in the medium term (year 2020), Romania aimed to ensure the efficient and safe operation of the National Grid and achieve the current average level of the EU as regards energy intensity and efficiency. Therefore, our country is to increase its share concerning renewable sources (solar, aeolian, hydro, geothermal, biogas etc.) in the final energy consumption from 17.8% in 2005 to 24% in 2020. By increasing the energy efficiency, the primary energy consumption will go down by 20% and that of final energy, by 18%, compared to the average consumption in 2001-2005. In the long term (year 2030), Romania has in view the alignment to the average performances of the EU concerning energy indicators and climate changes.

2) The European Union aims that the transport systems of the Member States satisfy the economic, social and environmental requirements of the society and minimize their undesired environmental impact.

Taking into consideration the poor condition of infrastructure and fleet in our country, this sector has a significant weight (60%) in European fund allotments within the subject priorities. Promotion of a transport system in Romania in order to facilitate a safe, fast and efficient movement of people and goods across the country and abroad is the short term objective in this

field. The Sectoral Operational Program "Transport" 2007-2013 is one of the components that ensures implementation of objectives set by law in 2003 in order to achieve, develop and modernize the domestic and European transport network.

3) *Being based on the "sustainable production and consumption" principle, the European Union aims to promote some sustainable consumption and production practices in all the Member States.*

Taking as a reference base the figures of 2000 (100%) Romania's production of goods and services recorded a rise of 62.3% in 2001-2007 while the gross added value increased by only 52.1% as a result of rising the intermediary consumption by 71.4% (value of goods and services purchased and consumed, exclusively fixed assets). This issue reveals that Romania's economic development was based on a different model in relation to the sustainable development principles promoted by the EU.

The main way of increasing resource productivity is the structural adjustment of economy by rising the specific weight of processes and activities that use a low amount of material resources, but that generate a high added value. That is why, the most efficient economy segment is the sector of services, the only sector in the national economy wherein the added value is higher than resource consumption (39.3%).

Therefore, the eco-efficient management of resources consumption and their recovery by promoting a consumption and production model that enables a sustainable economic growth is Romania's main target in the field of "sustainable production and consumption". Thus, for 2008-2013, the development as regards some categories of services that can have a major positive impact over the rise of resource productivity will be stimulated:

- ✚ Technological research in order to reduce material and energy consumptions for products and processes.
- ✚ Survey and consultancy to use eco-efficiently the available funds for investments intended for modernization of production processes; marketing operations in order to increase the efficiency of acquisitions and optimum recovery of commodities and services produced in Romania on the most favourable market shares. Also, stimulating actions will be applied to increase significantly the quality of services supplied by our country on the single internal market of the EU.

4) *The General Objective of the EU's Strategy concerning Sustainable Development: improvement of natural resource management and avoidance of their excessive exploitation.*

In this respect, Romania intends to reduce the existing gap compared to other states of the EU as regards environmental infrastructure, in relation to quantity and quality, by means of the development concerning some efficient public services in the field. The Operational Environmental Program of Romania for 2007-2013, approved by the European Commission in July 2007, focuses on the compliance with the EU' directives in the field, at the same time reflecting the national interests.

5) *In the field of public health, the EU's strategy aims to promote some quality medical services in all the Member States and improve protection versus threats to the health of European citizens.*

Public health has become officially a field that lies within the EU's competence under the conditions of complying with the principle of subsidiarity at the same time with the adoption of the Treaty of Maastricht (1993), and the Treaty of Amsterdam (1999) stipulates that all policies in other key fields of the Community activities should take into consideration the health protection requirements.

As a short term objective (year 2013) in this field, our country intends to improve the health system, the quality of medical service and attention supplied within the health services. The Strategic Plan of the Ministry of Public Health for 2008-2010 mentions the following

directions of work in the short term: increase of access to medical services; increase of medical service quality; improvement of financing concerning the health system by raising transparency in using funds; decentralization of the health service by transferring competences to the local public administration; institutional reorganization of the Ministry of Public Health.

6) Another objective of the EU's Strategy concerning Sustainable Development is: creation of a society based on social inclusion, by taking into consideration the solidarity between generations and provision of rising the life quality of citizens, as a requisite of sustainable individual welfare.

The second Report of Romania on the fulfilment of the Millenium Objectives agreed within the United Nations Organization, and approved in 2007, revealed that a great deal of the objectives incurred in 2003 that are relevant for the subject of social inclusion has been accomplished creating the pre-requisites for a substantial improvement of the situation up to 2013 and in the coming years. Therefore, the drastic poverty rate went down from 10.91% in 2003 to 4.1% in 2006 (compared to the proposed target of 5.4%), enabling the assignation of a new target of 3.5% for 2009; increase of the number of Romanian children involved in the educational process by over 50%; a slight rise of female population employment rate (from 52% in 2002 to 52.8% in 2007), with the outlook of reaching a level of 55% in 2010 and 60% in 2015.

However, the gaps in relation to the EU's average regarding access to the social security services and to active measures for promotion of social inclusion remain important and will be retrieved in the public policies after the year 2013, too. These policies will have to focus on stabilization and recovery of demography that has recorded negative trends in the past two decades.

The accomplishment of these strategic objectives will ensure a high economic growth in the medium and long term, and consequently, a major decline of economico-social gaps between Romania and the other Member States of the EU. The Strategy creates the conditions that our country's GDP per capita is higher than half of EU's average in 2013, gets closer to 80% of the EU's average in 2020 and is to be slightly higher than the European average level in 2030.

4. Conclusion

The term of sustainable development has started becoming widely known following the Environmental Conference held under the aegis of the United Nations Organization at Rio de Janeiro in the summer of 1992 known as the "Earth Summit". It had as a result the elaboration of several conventions related to climate changes (reduction of methane and carbon dioxide emissions), biological diversity (conservation of species) and stoppage of massive clearing.

Sustainable development has become a goal of the European Union (EU) since 1997, when it was included in the Treaty of Maastricht, and in 2001, at the Summit held in Gothenburg, the Strategy of Sustainable Development of the European Union was adopted. An external dimension was added to this strategy at Barcelona in 2002.

The European Union and the Member States are responsible for the implementation of Strategy involving all institutional components at community and national level. Being based on the key objectives of the Renewed Sustainable Development Strategy of the European Union, Romania has elaborated the National Strategy for Sustainable Development having as time targets to reach the scheduled objectives, the years 2013, 2020 and 2030, respectively.

The characteristic element of this National Strategy is our country's connection to a new type of development, specific to the European Union and widely used worldwide – that of sustainable development, an high added value generator, focused on improving the life quality of people accordant with the environment. The main directions aimed by the EU's Strategy for

Sustainable Development and our country's objectives focused on the conversion to this sustainable development model and included in the National Strategy of Sustainable Development. So what can the East European countries do in terms of ICT for promoting sustainable development? Actually we are facing similar challenges such as insufficient financial resources, lack of ICT infrastructures, poor in capacity building and many others. And we have much in common with the country situation on ICT development. Surely, we can learn a lot from each other about how to address ICT as an essential issue for development, along with other urgent issues tackled by using ICT. To Romanian understanding, ICT shall be placed as the driving force to take the lead for modernization of our economy and society.

It is a mistake to believe that ICT can only be introduced once progress has been made in tackling poverty. Information technology can assist poverty alleviation, help to improve governance, offer better opportunities for education in remote areas, and provide better technical solutions for environmental treatment. Information and Communication Technologies (ICT) will play not only an instrumental but a decisive role in this "other future" and it is therefore necessary to identify which innovative ICT applications, infrastructures, products and services can usefully be explored in the short and medium term in order that suited solutions can be made available in the perspective of the envisioned disruptive societal paradigm.

I firmly believe in the power of ICT to make the world a better place – and most especially during these challenging times.

- ICT are the great enabler of modern society, helping people communicate across distance and across cultural divides, facilitating trade, and providing access to vital resources – especially in health and education.
- In under two decades, ICT have totally transformed not just the way we work and play, but the whole way we communicate, access information, manage health and produce wealth. They are at the very heart of all societies worldwide today, both in the developed and developing world.
- ICT are ubiquitous. Indeed, the number of mobile cellular subscribers globally has just passed the four billion mark. And well over one and a half billion people now have access to the Internet.
- So ICT is now a significant sector in its own right – typically accounting for around 5% of global GDP and an even higher proportion of GDP growth, in addition to its important facilitating role in many other sectors.
- ICT therefore have a key role to play in sustainability.

In our opinion, a strong and reliable sustainable balance between the use of ICT and our human/social activities is the key issue for a better life. ICT should only be a tool and not a way of life. We believe that the way to how the problems can be solved for the long term lies in coupling sustainable development with information technology.

References

1. *The National Strategy for Sustainable Development of Romania orizont years 2013, 2020 and 2030*, Bucharest 2008, strategia.ncsd.ro/docs/sndd-v6-r1_ro.pdf
2. Steven P. McGiffen - *Uniunea Europeană. Ghid critic*. Monitorul Oficial, București, 2007
- 3 http://ec.europa.eu/dgs/information_society/index_en.htm
- 4 http://cordis.europa.eu/fp7/home_en.html
5. *ICT FOR A GLOBAL SUSTAINABLE FUTURE, PARADISO reference document march 2009*, <http://www.paradiso-fp7.eu/>
6. Robert D. Atkinson & Daniel D. Castro, *Digital Quality of Life, Understanding the Personal& Social Benefits of the Information Technology Revolution*, October 2008
7. *ICT Sustainability through Innovation, GeSI Activity Report, June 2009, Global e-Sustainability Initiative (GeSI)*
8. *OECD Information Technology Outlook 2008 Highlights*, <http://www.oecd.org>

Culture – the Soul of Organizations

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Abstract

Like the soul of the human being, the culture of the organization is very difficult to understand and measure. However, in the last period, when the internationalisation of the firms is more and more spread, managers realise that without the understanding of the cultural environment in which the organization operates, they can not apply their politics and management methods efficiently. In this paper, we put together the results of three surveys, that aimed to point out the cultural characteristics of the Romanian national culture: survey made by Interact and two surveys of the authors.

Keywords: culture, categories of culture, cultural dimensions, Romanian national culture, power distance index, individualism index, masculinity index, uncertainty avoidance index, long term orientation index, comparisons of the results

JEL Code: M16, F2, F23

1.Introduction

What is organizational culture? A question that some managers ask themselves without finding a clearly defined answer, but a question that many completely ignore. In spite of this, in the business world, organizational culture is that "something" that can differentiate among companies with the same level of resources, finances and intelligence. If we were to compare an organization – whether economic, political, social, etc – with the human body, we could say that the organization's management (with all its mechanisms: organizational structure, leadership, coordination, etc) is the equivalent of the nervous system and organizational culture is its soul. Just like it is difficult to have an insight into one's soul, organizational culture is very difficult to understand and measure.

When did these concerns come about? Managers started to pay special attention to national and regional cultures in general and to organizational culture in particular as globalization carried them beyond national borders. That is when they noticed that branches of the same company had totally different results in different cultures. Managers had difficulty understanding how these branches were getting results that were so different when the same management and marketing methods were applied, sustained by the same systems and driven by unitary concepts. From that moment on, managers started to pay special attention to both cultural environments in which companies were to operate and to organizational culture, in the attempt to forge new strategies to conquer new markets.

In a nutshell, those who realized the utmost importance of organizational culture try to understand it, to decipher it and especially to see how they can influence it in such a way that the organization be more efficient in its improvement process.

2. Three categories of culture

One of the most preoccupied researchers in this field, who dedicated his whole life to these studies was Dutch professor Geert Hofstede from the University of Maastricht. He found three fundamental and definitive categories of culture, as follows:

a) **The individual culture** of each person, which is the reflection in one's mind of cultural data from the environment in which the individual lives and works. People inevitably bear with them certain layers of mentality, according to various levels of culture:

- a national level corresponding to the person's country;
- a regional level and/or ethnic and/or religious and/or language affiliation;
- a gender level;
- a generation level that separates grandparents from parents and children;
- a social class level, associated with educational opportunities or with the occupation or profession of an individual;
- an organizational or corporate level for those who are employees;

b) **National culture**, which is a structured set of cultural practices and values shared by the individuals and groups that belong to a nation-state. The shaping and development of national culture was stimulated by language, by national ethnicity – as defined by historical, geographical and political factors – by spirituality and shared socio-economic life, all of them leading to the cultural uniformity of that nation.

c) **Organizational culture**, which consists of a set of rules, norms and values that serve to define the cultural profile of the company, to insure internal consistency thereof by cultural programming of interpersonal relationships of its members and to insure the preservation of external compatibility by regulating communication with the company's environment.

The three cultural categories intertwine in such a way that we can say they form a "circle", which leads us to the very difficulty of understanding culture in its entirety. Thus, more and more often, managers ask themselves how is it possible to influence organizational culture in order to be useful in the process of continuous change, evermore necessary to companies in today's economic context.

3. Which is the culture category that we can influence?

If we influence individual culture it is hard to assume that a tangible change will take place as long as at the core of it lie national and regional cultures in which the individuals were brought up. It is practically impossible to influence national culture, so you have to adapt to it. And adaptation is the solution that can function in the following manner: organizational culture has to try to adapt to the culture of the host country and the employees (locals) have to try to adapt their individual values to the values of the foreign company's culture. This is how you create an emulation of which various new cultural models arise, that can benefit the company.

As far as measuring organizational culture, researchers tried to create various models with which they identified a number of parameters of various cultures and their positioning in a numeric scale in order to be compared. Studies have shown that measuring a culture is not helpful unless it is compared with others (benchmarking). Only when compared, differences and similitudes emerged that can be benefic or detrimental to the organization. Also due to comparison, there arose the idea of change that can generate innovative concepts aimed at improving the cultural environment of the organization in order to use it as a support for a new chapter of evolution in its lifecycle.

4. Hofstede`s cultural dimensions

In the 1960s and 1970s, professor Geert Hofstede carried out a study on the value differences among IBM employees from more than 40 countries. The study was based on answers to questionnaires given to samples of employees who perfectly suited the organization`s culture, but were of different nationalities. The professor was trying to understand why some branches of IBM from different countries were more productive than others. Following this study, four cultural dimensions emerged:

- **PDI (Power distance index)** – the distance in relationship to power, defined as a measure in which members with the least power in an institution or organization within a society expect or accept the fact that power is unequally distributed;

- **IDV (Individualism index)** – Individualism is the opposite of collectivism. Individualism is characteristic to a society in which ties among individualities relate to the following reality: an individual expects to take care only of him/herself or his/her close family. Collectivism is found in a society in which people are integrated in a powerful and cohesive group even as early as before birth, a group in which they continue to be protected throughout their entire lives in exchange for voluntary loyalty.

- **MAS (Masculinity)** – Masculinity is the opposite of femininity. Masculinity is found in societies in which emotional relationships of the two sexes are clearly distinguished: men are expected to be aggressive, strong and oriented toward material success; women are expected to be moderate, delicate and preoccupied with the quality of life. Femininity is found in a society in which emotional relationships of sexes overlap. Both sexes are expected to be moderate, delicate and preoccupied with the quality of life.

- **UAI (Uncertainty avoidance index)** – The avoidance of uncertainty is defined as a measure in which members of institutions and organizations in a society feel threatened by uncertainty, unknown, ambiguity and unstructured situations.

In the 1980s, a fifth dimension was introduced, following a long study on Asian countries by researcher Michael Bond. This dimension was named **LTO (Long-term orientation index)**. Long-term orientation is the opposite of short-term orientation. Long-term orientation is found in a society with native virtues oriented toward future rewards, perseverance and saving. Short-term orientation is found in societies in which native virtues are aimed towards the past and the present, in respect of tradition, preservation of "foreground" elements and the full experience of social obligations².

5. Characteristics of the Romanian national culture

If we try to look at Romanian national culture and observe the preoccupations of managers with respect to organizational culture, especially in the post-revolutionary period, we can conclude the following:

1. Organizational culture is very sparingly researched, and even less appreciated by managers of state-owned companies, government organizations and public and local administrations, which is why good results in these fields continue to lag behind in development even 21 years past the revolution;
2. Multinational companies that entered the Romanian market are thoroughly preoccupied with Romanian cultural values but also with finding ways to adapt their culture to the Romanian national culture;
3. Finally, if they manifest interest for this field, managers of small and medium enterprises will have a chance to sketch themselves the foundation of a new and efficient organizational culture as their firms develop.

Before the 1989 revolution, the Romanian national culture had strong communist influences originating from Russia. These influences manifested upon all cultures in Eastern Europe. Some of these values were: respect of hierarchy, the workplace is not separated from the individual's life, one's title is more important than the person, and money does not hold intrinsic value.

Even though following the revolution, Romania shifted to a system of democratic values, embracing Western models, this doesn't mean that the previously mentioned cultural values, thoroughly embedded throughout the decades will immediately fade from Romanians' collective consciousness. Generally, in order to be wiped away, there is need for at least the same amount of time that it took for them to be assimilated. The same rule goes for western values in the process of assimilation, which will be noticeably manifested in the collective consciousness many years from now.

We can talk about a strong transformation process taking place in Romanian culture. That is why we propose that we do a study in which we observe what is currently happening in this transformation process. Thus, we will try to compare the results of a survey on Romanian national culture carried out by Gallup Romania in 2005 with the results of two personal surveys, carried out at branches of two companies present in Romania: the Kaufland supermarket in Galati and the Moldova Sud branch of the "National Agency for Land Development" (ANIF).

5.1. Interact survey of Romanian culture

In Romania a study was carried out in 2005 by the Interact company together with Gallup Organization Romania, using Value Survey Model developed by Institute of Research for Intercultural Communication (IRIC) founded by Geert Hofstede.

Table 1: Results of INTERACT survey in Romania

Survey	PDI	IDV	MAS	UAI	LTO
Romania – first survey in 2005	29	49	39	61	42
Romania – second survey in 2005	33	49	39	61	42
Romania – Geert Hofstede's estimates	90	30	42	90	

Source: Luca, Alina – INTERACT Survey, April 2005

The results were compared to the structured studies of professor Hofstede based on historical and geographical data and can be interpreted as follows:

a) *Power-distance index* scored surprisingly low in both surveys, compared to Geert Hofstede's estimates. In reality, it is believed that it is close to 70. This is due to the fact that respondents to the survey were not completely honest in their answers. In line with Hofstede's explanation, some countries will demonstrate the power-distance by contrary results, when that particular dimension is in reality very high. In conclusion, while people's behaviour demonstrates a high distance in relationship to authority, the greatest desire is for a participative and cooperative leadership style. This is due to the fact that there is an authority-complex which can explain the undeclared and abstinent refusal of the majority of Romanians to respect laws and obey authority, concurrent with expressed demand for laws and rules.

b) *The level of individualism* is 49, which indicates a collectivist society but we note that it is on an upward trend compared to Hofstede's estimates. Collectivist values are an indicator of a country's wealth because individualism shows the need of self-assertion and financial independence of society members. In collectivist countries individuals obey the rules of the

social groups they belong to and the society is fragmented into several such groups, united by common interests. The groups have the purpose of promoting the interests of their members as opposed to the interests of other groups, "us" against "you". Collectivist mentality holds that resources are limited and therefore have to be distributed in such a way that each group obtain the most possible in detriment to other groups, and excludes the possibility of multiplying of resources by each individual.

c) *The level of masculinity* is 39, which indicates that Romania is still a feminine country the members of which are looking for a collaborative environment and ask for the support of all society's members, regardless of their input. Feminine societal values determine a lower level of competitiveness of local organizations compared to those on foreign markets and Romanian employees will not contribute positively to the improvement of the situation. Because feminine principles value spare personal time and cooperation in the detriment of performance objectives, Romanian companies will allow foreign companies to easily gain market share.

d) *Uncertainty avoidance index* is 61, which demonstrates that the population has a high level of concern with respect to future and prefers the safety of the present as opposed to the uncertainty of tomorrow. Predominantly, people from such cultures feel more comfortable with general consensus situations. At the organizational level, they prefer to take actions that solve today's dilemma without considering its impact on tomorrow. Also, Romanians fear individual performance appraisal and consider it a personal insult.

e) *Short-term orientation* in Romania (42) indicates an orientation towards the present and past in detriment of investing in the uncertainty of the future, as well as a low level of savings. Short-term oriented societies' lives are sustained by lending, instruments that underlie the current worldwide financial crisis.

5.2. Our survey at Kaufland supermarket

In 2008, we carried out a research also using the VSM94 instrument at the Kaufland supermarket in Galati. A number of 60 subjects were studied. The sample was established on the basis of gender, age, education and hierarchy representation, and had the following structure:

- based on gender: women = 38;
men=22;
- based on age: 20-29 yrs = 33;
30-39 yrs = 19;
40-49 yrs = 7;
50-59 yrs = 1;
- based on education: up to 12 grades = 48;
undergraduate = 1;
graduate = 11;
- based on hierarchy: employees = 38;
managers = 12.

The results of the study were processed and the following dimensions of culture emerged:

Table 2: Results of research at the Kaufland supermarket in Galați

Survey	PDI	IDV	MAS	UAI	LTO
Kaufland Galați – survey 2008	33	66	48	78	54

5.3. Our survey at Moldova South branch of ANIF

The research carried out at the Moldova South branch of ANIF had a number of 53 subjects, basically all employees that were working during the time of the research. The latter were structured as follows:

- based on gender: women = 29;
men = 24;
- based on age: 20-29 yrs = 8;
30-39 yrs = 4;
40-49 yrs = 11;
50-59 yrs = 30;
- based on education: up to 12 grades = 7;
undergraduate = 9;
graduate = 37;
- based on hierarchy: employees = 44;
managers = 9;

The following cultural dimensions were found:

Table 3: Results of research at ANIF, the Moldova Sud brach, Galați

Survey	PDI	IDV	MAS	UAI	LTO
ANIF –survey 2009	40	38	29	56	46

The comparative situation of the three surveys is shown in Table 4:

Table 4: Comparative results of the 3 studies

Survey	PDI	IDV	MAS	UAI	LTO
Kaufland Galați – survey 2008	33	66	48	78	54
România – Gallup survey 2005	33	49	39	61	42
ANIF – survey 2009	40	38	29	56	46

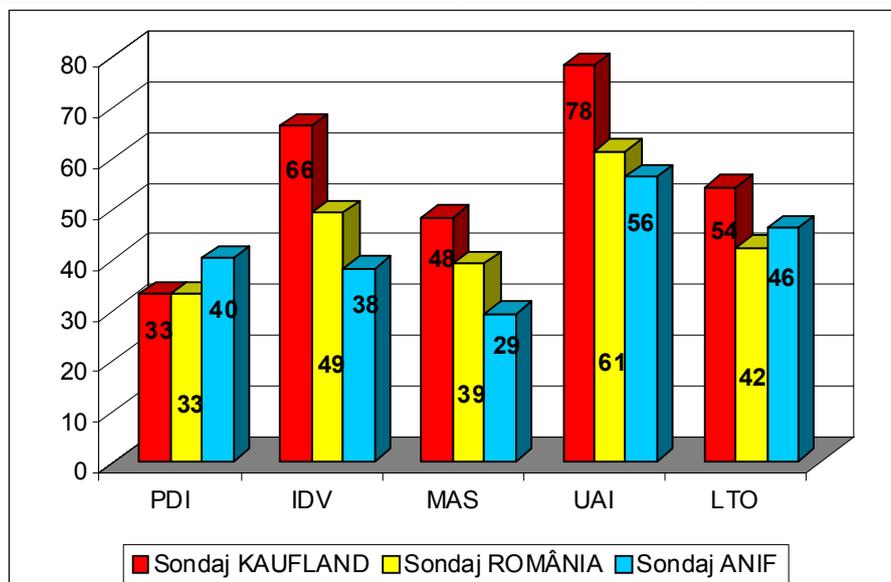


Chart 1: Comparison among the 3 surveys

PDI - Power-distance index; IDV – Individualism index; MAS – masculinity; UAI – Uncertainty avoidance index; LTO – Long-term orientation index;

6. Comparing and interpreting the results

6.1. Power-distance (PDI)

The results obtained, 33 at Kaufland and 40 at ANIF are practically identical with the one obtained at national level, with a slight increase at ANIF. These results confirm Hofstede's findings, reflecting the extent of the two organizations' members' desires, but not their behaviour expressed in reality. The reasons why this low result was incurred can be multiple. Employees' answers could have been biased by the tendency to choose answers that they considered to be "good", manifesting a certain aversion to the questionnaire, or they did not understand the real meaning of the question. Anyhow, it is believed that at the core of their answers lies the very experience of living in an extremely authoritarian society.

Therefore, a significant portion of respondents were influenced by the practice of the former communist regime, which carried on with a certain level of "violence" even after 1989. That is why employees interpreted "a good relationship with the superior" as pinkie-ring kissing rather than a good relationship based on respecting organizational rules and good collaboration aimed at attaining professional targets with maximum efficiency.

The questions that referred to "the preference of being consulted by the direct superior" and "the fear of exposing opinions contrary to those of the superior" were interpreted as having value-judgement significance of good or bad, therefore being given answers biased towards what they considered to be the "appropriate" answer, such as the high preference for being consulted and not having fear of expressing contrary opinions. In reality, employees are profoundly averse to expressing opinions that are contrary to those of superiors. Even when they have ideas that could benefit the organization they are afraid to express them because they worry not to enter in conflict with the superior, even if they are convinced that the superior's opinions are incorrect. Employees express contrary opinions and their dislike of superiors only after they leave the organization, and when they do it, they exaggerate, as recoil of the accumulated tension during the time of employment.

The slight difference incurred between ANIF and Kaufland could be attributed to the high percentage of old people (between 50 and 60) that work at ANIF compared to Kaufland, where the demographics are on the flipside, with a high percentage of youth. The individuals who carried out their activities in the same organization from the beginning of their employment all the way to retirement and who grew up and worked most of their lives during the authoritarian communist regime are marked by a greater power-distance.

6.2. Individualism index (IDV)

The results obtained are very interesting and they reflect the difference between the two organizations. Compared to the national average of 49 (at the border of individualism to collectivism), Kaufland scored 66 points, therefore being a moderately individualistic organization, while ANIF, with a score of 38 it is marked by collectivism. These differences can be explained as such:

- Due to many years spent together (almost 40 years), among most ANIF members strong group ties were established; at Kaufland, the staff being relatively young, there has not been any strong consolidation of group ties, and most young members of staff furthermore feel the need for self assertion and independence.
- At ANIF, rights gained over the last years are defended by a strong union which does not exist in the case of Kaufland, which is why employees are focusing more on their own abilities

to obtain promotions and future wage increases. At ANIF, rights are generally collective, benefiting all employees, which is why competition is completely annihilated.

- The relationship between employer and employee has different significances in the cases of Kaufland and ANIF. Therefore, at ANIF, the relationship between employees and the employer, which is the government, practically an "invisible" employer, which is less uncomfortable, gives employees the necessary comfort and the sensation that these relationships are similar to those of a family. At Kaufland, the employer is tangible and omnipresent in the daily professional relationships and employees understand that they cannot last in such an organization unless they fulfil their contractual obligations.

- At Kaufland, the employment and promotion of staff is carried out strictly based on personal achievements while in ANIF this process is based on the interests of the group most often manifested by members that hold power and authority. That is why the ratio of cost/quality of human resources is diametrically opposed compared to other organizations.

6.3.Masculinity index (MAS)

Kaufland scored 48 points, higher than the national average of 39, while ANIF had a very low score of 29. The scores from the 3 surveys indicate that, generally, Romanians are marked by femininity but, the result obtained by ANIF is very low, which indicates a very strong femininity. Adversely, Kaufland is close to the border between femininity and masculinity. From the analysis of answers given by respondents to the four questions that comprise this dimension we noticed that only one question differentiated the two organizations. To the question that referred to the desire to "work with people who cooperate well with each other", most respondents from both organizations answered that this fact is very or extremely important to them, which means that employees as well as managers desire a certain consensus within the organization, the avoidance of divergent opinions and states of tension among its members, characteristics of feminine organizations. Although this desire is shared, it is based on various motives. Therefore, while managers want cooperation to exist among people in order to facilitate his/her duties such as leadership, training, coordination as well as superior collective performances. Many employers wish this in order to have an adequate work environment and to reduce stress factors to the maximum.

To the question whether they wish "to have opportunities of promotion to higher positions", most people responded that it is extremely important to them. There is a certain contradiction between answers to this question and answers to the previous one because, in order to create opportunities for promotion, the employee has to constantly compete with his/her colleagues, to fight in order to have superior performances to those of colleagues. The question if "most people are trustworthy" made a difference of score between the two organizations. Kaufland employees stated that overall, people are not trustworthy. In reality, for various reasons, employees desire to work in groups that cooperate. Reality shows though that this cannot happen because people do not trust each other and the group they are part of is governed by suspicion, reciprocal resentment, gossip among cliques, lies introduced by rumors because of envy for others' achievements, etc. Adversely, most ANIF employees answered that people are trustworthy. This trust is inspired by long-term consolidation of group relationships. Most employees went through different political periods marked by various economic difficulties but managed to go through together.

Another explanation could be the Christian-Orthodox religion, which generally promotes feminine values, shared by the Romanian people, but to a lower extent during youth and increasing in importance as one ages. Therefore, the difference in score is explainable since the average age at ANIF is around 50 years and at Kaufland around 30 years, as previously indicated.

To the last question, whether employees agree that “when people fail in life, it is their own fault”, most respondents’ answers were either “undecided” or “I agree”. This indicates the fact that members of the organization realize the fact that only by hard work and personal accomplishment they can succeed in life. In spite of this, few individuals answered with a strong agreement, which means that people identified certain uncontrollable elements standing in their way to success. We noticed that those with higher education agreed with this statement and those undecided came from those with intermediate levels of education. The explanation is natural, indicating the correlation between the level of preparation and the level of self confidence.

6.4. Uncertainty avoidance index (UAI)

Results show that, compared to the national score of 61, Kaufland score higher, with 78 and ANIF scored only 56.

Generally, Romanians feel more comfortable in general consensus situations, but the continuous modernization of the Government, the reforms that take place with each government that comes to power, the never-ending economic restructuring emphasize people’s anxiety in relationship to uncertainty. Moreover, the worldwide economic crisis is thoroughly affecting Romania, as well as global climate change.

The high score obtained by Kaufland is marked by the following factors:

- Economic uncertainty felt by employees and their families given by the uncertainty of employment;
- Most employees are not used to management methods based on performance, appraisal and feed-back and consider them a personal threat;
- Increasing competition among employees also gives a higher level of anxiety.

At ANIF, the level of concern is determined especially by factors from outside the work environment rather than internal factors. This can be explained in the following way:

- Most employees have a particular certainty with respect to personal future due to proximity to retirement and cannot be affected by an eventual loss of employment;
- Though, the latter can be marked by a fear of government institutions’ ability to insure their retirement rights in the future;
- Because of the announced restructuring and mergers of government agencies, employees are going through a period of unsettlement, which is manifested through cohesion and more aggressive union fighting, which gives them the confidence that they are somewhat protected;
- In government institutions, the uncertainty level increases in electoral years. Employees anxiously wait to see what political party will win the elections, what changes will take place in the leadership of institutions in which they work and are especially afraid of the restructuring that the new leaders might undertake.

6.5. Long-term orientation (LTO)

The results obtained are close to the national score and show that Romanians tend to expect quick results, being inclined to consume and not being preoccupied with saving. On an organizational level, it is very difficult to make long-term plans and managers will prefer to look at past experiences in order to solve present-day problems. At Kaufland, the score was slightly higher than the average, but this is probably due to the fact that the supermarket promotes development strategies and long-term investment. This fact is probably responsible for making employees - especially those in management positions – conscious of the fact that long-term planning is the solution to optimizing costs and maximizing profits.

Concurrently, in a government institution such as ANIF, there is a lack of long-term strategies. It was demonstrated that, in recent years, any economic strategy or plan did not exceed the term period of a political party or a coalition (the maximum term is four years). On a personal level, employees of the two organizations surveyed use credit instruments to the maximum extent, being encouraged by banks' aggressive marketing strategies, which have proved to be unfortunate. Thinking that they can immediately have what they want without having to accumulate, employees go from one loan to another and practically become prisoners of their own actions, not being able to safely plan their future anymore.

7. Conclusions

We can state that the results of the three surveys are similar, but indicating a particular trend, which is the evolution from a East-European soviet-influenced culture represented in government organizations such as ANIF, towards a Western type of culture with British and American influences, reflected within privately-owned multinational companies, such as Kaufland. Cultura is not a constant; it evolves over time, although changes in value systems can be slow and painful. Organizational culture has to try to adapt to the culture of the host country and the employees (locals) have to try to adapt their individual values to the values of the foreign company's culture. This is how the managers can create an emulation of which various new cultural models arise, that can benefit the company.

References

1. Burduş, Eugen - *Management comparat internațional*, Editura Economica București, 2006
2. Hofstede, Geert- *Managementul structurilor interculturale*, Editura Economică, Bucuresti, 1996
3. Lukacs, Edit- *Management Comparat*, Editura Europlus, Galați, 2007
5. Mihut, Ioan- *Euromanagement*, Editura Economica, Bucuresti, 2002
4. Mokler, Robert, J.- *Management strategic multinațional*, Editura Economică, Bucuresti, 2001
5. Popa, Ioan; Filip, Radu- *Management internațional*, Editura Economică, București, 1999
6. Johns, Gary - *Comportament organizațional*, Editura Economică, București, 1998
7. Greenberg, Jerald; Baron, Robert – *Behavior in Organizations*, Prentice Hall, 2002
8. www.i-interact.ro/ sondaj Gallup România
9. www.geert-hofstede.com
10. www.i-interact.ro – „Overview Cross Cultural” (extras din cartea *Employescu a Adinei Luca*)

Methodologies for Developing the Agent-Oriented Systems in the Financial-Accounting Domain

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Abstract

Agent-based technology is a new generation of software applications which are capable of handling in real time the complexity of modern business processes. The agents are invested with the intelligence necessary for collecting data, for reasoning about it or for evaluating it, and they are also invested with the authority and the autonomy to act independently. As we know, an agent is independent, because it can act without having to be controlled by the user and it controls its own actions and internal status; an agent is social because it cooperates with man or with other agents in order to fulfill its tasks; an agent is reactive because it is sensitive to the environment in which it acts and it responds in due time to the eventual changes; an agent is proactive because it is able to show a target-oriented behavior by taking over the initiative. Taking into account the utility of the agent-oriented systems in practice, we have recently witnessed a rapid expansion of the methodologies specific to developing agent-oriented systems, the most important ones being listed in the following paper.

Keywords: intelligent agent, methodologies, object-oriented development.

Jel Code: L86

1. Introduction

The recent increase in number of methodologies for developing multiagent systems is due to the fact that they have been more and more used in so many domains of activity²⁶. Practically speaking, a methodology entails a method of organizing the processes, procedures and templates necessary for developing a system and it aims at attributing the roles and activities undertaken during the projecting of a system. Therefore, a methodology organizes and specifies the steps to be followed for the conceiving of an informatics system.

Agent-based approaches are recommended as appropriate due to a number of factors:

- ✚ *environment is open, complex, dynamic and uncertain* – in such environments, the only solution is to use systems that are capable of acting independently and flexibly;
- ✚ *agents represent a natural metaphor* – many environments (organizations or any commercial or competitive environment) are usually modeled as societies of agents, in

²⁶ Such methodologies have been remarkably successful in the object-oriented community: Booch and Rumbaugh are two examples of methodologies created and used in object-oriented programming.

which agents either cooperate with each other in order to solve complex problems, or compete with each other;

- ✚ *data, control and expertise are distributed* – in certain environments, the distribution of data, control or expertise means that a centralized solution is extremely difficult or sometimes even impossible²⁷;
- ✚ *inherited systems* – a problem that has become more and more interesting for the software developers is that of the inherited systems: applications that are old, technologically speaking, but important for an organization. It is impossible to give up to such software because of the short-term costs entailed by its rewriting. A solution in this case would be the „isolation” of the inherited components and the addition of a functionality given by an agent level that should allow them to communicate and collaborate with other software components.

The methodologies are made of models and rules. The models intend to formalize the understanding of the considered system; normally, at the beginning, they are temporary, even abstract, but, as the process of analyzing and projecting advances, they tend to become more and more concrete, more detailed and appropriate for implementation [Maz2009and.all].

Methodologies for analyzing and projecting agent-based systems can be divided into two:

- ✚ methodologies that are inspired by the object-oriented development and, they either expand them, or they adapt to them;
- ✚ methodologies that adapt to knowledge engineering or to other techniques.

2. AII Methodology

Australian Institute for Artificial Intelligence²⁸ has developed a series of agent-based systems by using PRS system based on agent architecture BDI and on distributed multiagent reasoning systems (*DMARS – Distributed Multiagent Reasoning Systems*). *AII* methodology for agent-oriented analysis and projection has inspired of the object-oriented methodology, by bettering it with some agent-oriented concepts. This methodology aims at building a set of models that, once they are totally elaborated, define the specifications of an agent system.

AII methodology implies elaborating both external models and internal ones. External model presents the general image of the system: the only visible elements are the agents. Such an agent concentrates only upon the agents and the relations between them, ignoring their internal structure (i.e. the how they are built or what they are able to do). Unlike external models, internal models do not ignore the internal structure of agents: their convictions, desires and intentions.

An external model defines the relations between the classes of agents and identifies instances that appear at initialization. In addition, this model includes an agent model and an interaction model. Moreover, the agent model is divided in agent class model and agent instance. The last two models define the agents and the agent classes that can appear and link them to other ones through relations of inheritance, aggregation and instancy. Each agent class is assumed to have at least three attributes: convictions, desires and intentions, and the analyst are capable of defining the way these attributes are extended during the inheritance.

²⁷ Systems of database distributed in which each database is separate control cannot accept a centralized solution. Such systems are usually modelled as multiagent systems, in which each database is a semiautomatic component.

²⁸ AII – Australian Artificial Intelligence Institute

Details concerning the internal model are not provided, but it is clear that its developing pretty much corresponds to the implementation of a PRS agent, such as the projection of structures for the agent's convictions, desires and intentions.

AIII methodology is useful for the elaboration of the previously-specified models, which can be synthesized as it follows:

- ✚ it identifies important roles in a domain and, based on this, it elaborates a hierarchy of agent classes. For instance, we consider a system formed of two agents' a_1 and a_2 : a_1 agent registers financial situations in a database, whereas a_2 agent analyzes them. In this context, we can state that the role of a_1 agent is to inform a_2 agent whenever it registers a new financial situation;
- ✚ it identifies the responsibilities assigned to each role, the services solicited or offered by it and then it determines the objectives assigned to each service. Referring again to the previous example, the aim is the analysis of financial situations from the database and to inform a_2 agent about the new existing financial situation;
- ✚ for each objective, there are determined the plans to be used for its fulfillment and the contextual conditions appropriate for each plan. According to the above-mentioned example, a plan can be that through which a_1 agent informs a_2 agent about the status of a company by sending a message.

3. Gaia Methodology

According to *Gaia* methodology, an analyst is allowed to switch from specifying demands stage to that of projecting, which is sufficiently detailed for it to be directly implemented. According to this methodology, the stage of specifying demands is independent of the paradigm used for analysis and projection. By applying *Gaia* methodology, one can switch from abstract concepts to concrete ones and each next step introduces more powerful implementation tendencies.

This methodology takes over notations and terminologies from the object-oriented analysis and projection; even if it takes them over, we should not expect to be able to apply such methods to the agent-oriented development. It offers a set of concepts specific to agent approach through which software engineering can model a complex system. Practically, *Gaia* encourages developers to think of the building of agent-based systems as of a process of organizational projection.

The main concepts used by *Gaia* can be divided in two categories:

1. *abstract* – these concepts are used during the analysis made for the conceptualizing of the system, yet, they do not need to directly influence the internal part of the system. We can include in this category:
 - roles;
 - access permissions;
 - responsibilities;
 - protocols;
 - activities;
 - security properties.
2. *concrete* – these entities are used during the projection process and they influence the system initialization. We can include in this category:
 - agent types;
 - services.

The objective of the analysis stage is to elaborate a specification of the system and of its structure (without referring to any implementation detail). In *Gaia* case, this specification is included in the organization of the system, which is interpreted like a collection of roles that are linked to one another and can interact.

The idea of a system seen as a society is useful when we think of the next level in the hierarchy of concepts: *the roles*. It may seem pretty odd to see an informatics system defined as a set of roles, but the idea is quite natural when we deal with an organizational point of view.

A role is defined by four attribute: responsibility, permission, activity and protocol. Responsibility influences functionality and, therefore, it is probably the key-attribute associated with the role. In order to fulfill responsibility, a role has a set of permissions that refer to „rights” associated with it and identifies the available resources for this role, in order to establish responsibilities. That is why permissions tend to become informational resources.

The activities of the role are processes associated with it and they can be fulfilled by the agent without its interacting with other entities. Moreover, the role is identified through a protocol that defines the way in which it can interact with another role.

4. SODA Methodology

SODA (Societies in Open and Distributed Agent spaces) is a methodology used for the analysis and projection of the agent-based systems. Ever since the first version (in 2001), *SODA* has targeted the agents' characteristics, such as engineering of the societies of agents or environment of multiagent systems. From this perspective, they have been recently reformulated according to the metamodel *Agents&Artifacts*, where *artifacts* transform into some computational mechanisms that populate the environment of the agent and offer certain functions and services used by the agent.

5. Agent UML Methodology

Meanwhile, many different notations and associated methodologies have been developed within the object-oriented development community. Despite many similarities between these notations and methods, there have been identified enough inconsistencies and fundamental differences. *UML (Unified Modeling Language)* is a language meant for the specification, building, visualization and documentation concerning the components of a complex system. In this context, we should specify that UML is not a projection method, but a universal language for modeling and conceiving any type of system, of any dimension, at the same time ensuring unitary possibilities of graphic representation in all the stages of the development of an informatics system such as: defining demands, analysis, projection, implementation, testing, installation, and maintenance. To sum up with, we can say that UML is not a methodology; it is, as its name suggests it, a language used for the documentation of the models of a system; the methodology associated with UML is RUP (*Rational Unified Process*).

UML language has succeeded in spreading rather rapidly, especially due to the fact that it is a *de facto* standard for the object-oriented modeling. When considering languages and object-oriented instruments, many researchers feel that UML was the ideal starting point. The results have materialized in a number of attempts to adapt the UML notations to the modeling of agent systems. The researcher J. Odell has identified a few ways by which UML notations could be successfully extended in order to allow the modeling of agent systems. The proposed modifications include:

- ✚ a support for the expression of competitive interaction wires; in this way, *UML* is allowed to model agent protocols (for instance, *Contract Net Protocol*);
- ✚ a notation of the *role* that extends what *UML* offers, and, in particular, allows the modeling of the agents with many roles.

At this moment, both the *OMG (Object Management Group)* group, and FIPA foundation support the development of the notations based on *UML* for the modeling of agent systems.

6. DESIRE Methodology

The researcher J. Treur together with other researchers presented *DESIRE*, a frame for the projection and the formal specification of compositional systems. Besides the fact that it offers graphical notations for the specification of such systems, *DESIRE* is provided with a graphic editor and with other instruments that help the developing of multiagent systems.

7. Cassiopeia Methodology

Unlike *Gaia* and *AAIL*, *Cassiopeia*, proposed by A. Collinot, is an ascendant methodology according to which the starting point is the behavior necessary for the fulfillment of certain tasks. This methodology proposes the following three steps:

- ✚ the identification of elementary behaviors entailed by the objective of the whole system;
- ✚ the identification of the relations between these behaviors;
- ✚ the identification of the organizational behaviors of the system, such as the way in which agents integrate in a group.

All in all, we can say that the most appropriate approach for the developing of the methodologies specific to multiagent systems is the adaptation to the methodologies developed for the object-oriented analysis and projection. Such an approach also introduces some disadvantages, and one of them refers to the fact that object-oriented methodologies cannot deal with several aspects of multiagent systems. There have been proposed some extensions in this sense, which should deal with these disadvantages, yet, not with all.

All these methodologies for developing multiagent systems can be used when one wants to develop a system specific to the accounting domain; yet, we consider that the most appropriate methodologies in this sense are *Gaia* and *Agent UML*, because we believe that all their above-mentioned characteristics can describe and model the concepts and the principles related to this extremely up to date and promising domain.

8. When should we use agent-based technology?

Taking into account the utility of any technology, it should be analyzed from two perspectives:

- ✚ the ability to solve different types of problems;
- ✚ the ability to better the efficiency of current solutions.

Agent paradigm offers a natural mode of seeing and characterizing intelligent and/or reactive systems. Intelligence and interaction are strongly and inevitably linked, and multiagent systems reflect this characteristic and can provide the understanding of weaker interactions between natural intelligent entities, because they are organized in groups or societies in order to fulfill objectives. The systems that maintain a continuous interaction with certain environments is rather difficult to project and correctly implement (like those meant to control the processes and network administration). The systems of agent paradigm can be divided in two main categories:

- ✚ *open* – these are systems whose structure is affected by dynamic modifications. Their components are not known previously, can modify in time and can be heterogeneous. A very good example of open system is the internet: any system that acts on the internet has to be able to connect with different organizations, without the user's constant guiding. Such functionalities will almost certainly need techniques based on negotiation and communication that can be found in the domain of multiagent system.
- ✚ *complex* – these are systems that characterize big and unexpected domains. The most important instruments used to approach the complexity are modularization and abstractization. By applying the agent paradigm, the whole problem must be decomposed in a number of sub-problems of a smaller complexity, sub-problems that are then easily approached and solved. This decomposition allows agents to use the most appropriate paradigm for solving a sub-problem. Moreover, the term autonomous agent is a strongly abstractization, exactly like the types of data or objects [Kemal, Dayal, 2006].

Agent-based paradigm was successfully applied for both types of the above-presented systems; yet, we do not conclude that an agent-based solution is always the most appropriate one. As we shall further see, the technology of multiagent systems can help develop a large number of applications; nevertheless, we do not have to use it abusively and excessively: we should use this technology only when it is needed and we do not recommend using this technology when a traditional method is more appropriate [Caprita2009and.all].

From the perspective of software engineering, there are several important limits concerning agents use:

- ✚ *agent systems do not benefit from a total control over the system* – an agent-based solution might not be appropriate for situations in which global restrictions have to be maintained;
- ✚ *agents have a local perspective* – the actions of the agents are determined by their own local states. Since in the case of most of the applications, agents do not have at their disposal complete global knowledge, they might determine them to take suboptimal global decisions. One of the objectives of the research in the domain of multiagent system is to reconcile the process of taking decisions based on local knowledge, targeting optimal global performances;
- ✚ *faith and delegation limit* – both organizations and users have to be sure that agents work for them. Learning how to trust an agent and how to delegate responsibilities to it requires some time, but can lead to a substantial bettering of the activity of the respective organization.

As a result of our research, we consider that the systems based upon the agent paradigm are used nowadays in many domains of the society. For the moment, most of them are closed. In this context, the challenging of the following years will be the switch to multiagent systems, which are scalable and more open, which should allow agents to change from one system to another and be able to acquire new abilities.

Thus, we consider that it is important to have a clear vision upon the future of the agent-based technology if we want to estimate and correctly evaluate the impact this technology has upon our society (from the point of view of the applicability of this technology). The present and the future of this technology distinguish four stages related to agent-based systems:

1. *Stage 1: Closed agent systems (2005 – 2008)* – at this moment, the research of the software agent technology and of multiagent systems leads to the development of some systems considered to be closed, which are developed and used within a single environment in which there are several agents that share high level common objectives within the respective domain. Software agents that are usually used in such closed systems are not that intelligent; this way of thinking is not necessarily a consequence of the current limitations related to agent

paradigm, but rather a consequence of the mistrust: people do not feel very comfortable yet with the idea of the existence of some intelligent and autonomous software applications.

2. *Stage 2: Cross frontier systems* (2008 – 2012) – during the second stage, agent systems shall be developed so as to cross more often the frontiers of an organization, although there still exists only one project team that develops a system. As long as the agents can have fewer objectives in common during this stage, they will still act within a single domain and will share common knowledge. Related to this stage, we consider that the interaction and communication protocols, as they are defined by FIPA, will become ever more important.

3. *Stage 3: Open systems* (2012 – 2015) – this is the stage in which more open systems will be developed; they will allow heterogeneous agents, that belong to different project teams, to act on the same platform developed by the agents that have met the standards and demands publicly established by the respective platform.

4. *Stage 4: Completely scalable systems* (after 2015) – during this stage we shall find completely scalable systems, that are capable of supporting an unlimited number of agents. It is obvious that in this situation agents will be extremely mobile, proactive, and capable of learning new skills once they enter a new system. Consequently, they will become more intelligent and capable of fulfilling much more difficult tasks. In time, we expect people to trust more and to get used to intelligent and independent agent technology; moreover, we expect them no longer to be so scared of having to make use of this technology.

To sum up with, we can state that the role the agent-based technology might play in the future is a double one. First of all, this technology might be used in order to take over the difficult task of administering the complex networks and calculus environment, which will develop as a result of environmental intelligence. The second role agent-based technology might play is related to the interaction between human agent and its intelligent environment. Interface agents might offer an agreeable and intuitive way of interacting with complex and intelligent environments.

Conclusions

As a conclusion of our research, we can state that systems based upon the technology of agent systems are used nowadays in many important domains of our society. For the moment, most of these systems are usually closed. In this context, the challenge of the following years will be the shift from these closed systems to more open multiagent scalable systems, that should allow agents to switch from one system to another and that should be able to acquire new skills. In this context, the trend in the domain of agent systems will be the development and putting into practice of many different technologies for the developing of agent systems specific to financial-accounting domain as well as to other domains, too.

In conclusion we consider that multiagent system technology can be extended and applied to financial-accounting domain, too. The opportunities in this sense guarantee the obtaining of better results, both from the point of view of their quality and from the point of view of the answer time or of the large quantity of information that can be processed in an organization.

References

1. [Andone, 1993] Andone, I., *Inteligența artificială și sisteme expert în contabilitate*, Editura Moldova, Iași, 1993.
2. [Andone, 2002] Andone, I., *Sisteme inteligente hibride. Teorie, studii de caz pentru aplicații economice și ghidul dezvoltatorului*, Editura Economică, București, 2002.
3. [Bauer et al., 2001] Bauer, B., Miiller, J.P., Odell, J., *Agent UML: a formalism for specifying multiagent software systems*, In *Agent-Oriented Software Engineering. Proceedings of the First International Workshop AOSE-2000* (eds P. Ciancarini and M. Wooldridge), LNCS Volume 195, Springer, Berlin, 2001, p.91–104.

4. [Bellifemine et al., 2007] Bellifemine, F., Caire, G., Greenwood, D., *Developing multiagent systems with JADE*, John Wiley&Sons, Ltd, 2007.
5. [Beneventano, Bergamaschi, 2004] Beneventano, D., Bergamaschi, S., *The Momis Methodology For Integrating Heterogeneous Data Sources*, IFIP, 2004, p.19–24.
6. [Bodnar, Hopwood, 1999] Bodnar, G., Hopwood, W.S., *Accounting Information Systems*, 8th edition, Prentice Hall Inc, 1999.
7. [Bouck'e et al., 2006] Bouck'e, N., Weyns, D., Holvoet, T., *Experiences with Theme/UML for architectural design of a multiagent system*, In *Multiagent Systems and Software Architecture, Proceedings of the Special Track at Net.ObjectDays 2006*, p.87–110.
8. [Caprita2009and.all], Caprita D., Mazilescu V., *Automated Software Testing for PHP Web Based Applications*, 11th WSEAS International Conference on Sustainability in Science Engineering (SSE 09), Date: MAY 27-29, 2009 Timisoara ROMANIA, Source: SSE '09: Proceedings of the 11th Wseas International Conference on Sustainability in Science Engineering, pp. 285-288.
9. [Dignum et al., 2002a] Dignum, V., Meyer, J-J., Weigand, H., Dignum, F., *An Organizational-Oriented Model for Agent Societies*. In *Proceedings International Workshop on Regulated Agent-Based Social Systems: Theories and Applications (RASTA'02)*, AAMAS, Bologna, Italy, 2002.
10. [Kemal, Dayal, 2006] Kemal, D.A., Dayal, U., *AI Re-Emerging as Research in Complex Systems*, In: *Ubiquity*, Vol.7, Issue 38, 2006.
11. [Kendall, 2001] Kendall, E.A., *Agent software engineering with role modelling*, In *Agent-Oriented Software Engineering – Proceedings of the 1st International Workshop AOSE – 2000* (eds. P. Ciancarini and M. Wooldridge), LNCS vol.1957, Berlin, 2001, p.163– 170.
12. [Luck et al., 2005] Luck M., Ashri R., D'Inverno M., *Agent-based Software Development*, Artech House Inc., 2005.
13. [Maz2009and.all], Mazilescu V, Caprita D., Neculita M., *A Stochastic Algorithm for Business Process Management Systems*, 11th WSEAS International Conference on Sustainability in Science Engineering (SSE 09), Date: MAY 27-29, 2009 Timisoara ROMANIA, Source: SSE '09: Proceedings of the 11th Wseas International Conference on Sustainability in Science Engineering, pp. 120-125.
14. [Missikoff, Taglino, 2003] Missikoff, M., Taglino, F., *SymOntoX: A Web-Ontology tool for e-business domains*, *Proceedings of the Fourth International Conference on Web Information Systems Engineering*, 2003, p.343–346.
15. [Molesini et al., 2006a] Molesini, A., Omicini, A., Ricci, A., Denti, E., *Zooming multiagent systems*, In Muller, J.P., Zambonelli, F., editors, *Agent-Oriented Software Engineering VI*, vol. 3950 of LNCS, Springer, 2006, p.81–93
16. [Molesini et al., 2006b] Molesini, A., Omicini, A., Denti, E., Ricci, A., *SODA: A roadmap to artefacts*, In O. Dikenelli, M.P. Gleizes, A. Ricci, editors, *Engineering Societies in the Agents World VI*, vol. 3963 of LNAI, Springer, June 2006, p.49–62.
17. [Omicini, 2001] Omicini, A., *SODA: societies and infrastructures in the analysis and design of agent-based systems*, In *Agent-Oriented Software Engineering – Proceedings of the First International Workshop AOSE–2000*, LNCS, vol.1957, Springer, Berlin, 2001, p.185–194.
18. [Wooldridge et al., 2000] Wooldridge, M., Jennings, N., Kinny D., *The Gaia Methodology for Agent-Orient Analysis and Design*, *Journal of Autonomous Agents and MultiAgent Systems* 3(3), Kluwer, 2000, p.285–312.
19. [UMM, 2006] *UN/CEFACT Modeling Methodology (UMM), User Guide*, on-line at: <http://www.unece.org/cefact/umm/UMM_userguide_220606.pdf>, 17.01.2008.

Planning Financial Growth of the Company between Limits and Constraints

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Abstract

Forecasted financial statements provide the most comprehensive picture of the future performance of the enterprise. The methods used for making forecasted financial statements are different; there is no uniform methodology in the field. Preparation of forecasted financial statements starts with setting strategic goals and business strategies of different partial plans such as marketing plan, supply plan, production plan etc. A key element in planning a business growth is represented by the confronting with the limits and the constraints of the financial system of the company. The limits refer to the amount of assets required to support a certain level of growth in turnover and depends largely on the nature of business activity. The constraints refer to financial policies in light of operating managers: investment policy, financing policy, dividend policy. Establishing normal growth potential involves the assumptions about these elements of financial strategy.

Keywords: additional fund needed, financial planning, sustainable growth rate, internal growth rate

Jel Code: M49

1. Introduction

The methods used for making forecasted financial statements are different; there is no uniform methodology in the field. To forecast financial statements requires to forecast financial position – synthesised in the forecasted balance sheet, to forecast financial performance - synthesised in the profit and loss account, to forecast changes in financial position - reflected by projected cash flow statement, main economic and financial forecasting. Forecasted financial statements provide the most comprehensive picture of the future performance of the enterprise.

2. Preparing financial statements and projected additional requirement of funds

Preparation of forecasted financial statements starts with setting strategic goals and business strategies of different partial plans such as marketing plan, supply plan, production plan, etc. Based on these plans, but also on the predicted changes in sales and prices, turnover forecast is made.

After this step is established how the different elements of financial position and performance varies in connection with the turnover ratio, whether or not these elements are dependent on turnover. Dependent items will expect to vary on that basis. Such elements are fixed assets, inventories, claims, debt service, and operating costs. The elements that are not dependent on turnover will be forecasted separately by other assumptions. Such elements are financial assets, income and financial expenses, equity, long-term debt. The forecasted items are assembled in the forecasted account of results and in the forecasted balance sheet. This procedure will generate the emergence in the forecast balance sheet, if necessary, a so-called "additional funds needed" - AFN. This element is determined by subtracting forecasted liabilities from forecasted assets.

AFN = forecasted assets – forecasted liabilities

If $AFN > 0$, this means that additional funds are necessary and AFN item will appear on the balance sheet liability and equity part. The enterprise will cover this need, either by resorting to short-term or long term bank loans, either by additional issue of shares.

If $AFN < 0$, this means that there is a surplus of available funds, which can be used either to purchase operating assets either in short or long term financial investment.

In the case that proportions of various items in turnover is expected to remain constant when additional funding needs can be determined by a formula.

$$\begin{array}{rcl}
 \text{AFN} & = & \text{Expected growth in assets items} - \text{Expected growth in liabilities} - \text{Expected growth in retained earnings} \\
 & & \Downarrow \qquad \qquad \qquad \Downarrow \qquad \qquad \qquad \Downarrow \\
 \text{AFN} & = & A_0 \times \frac{\Delta S}{S_0} - L_0 \times \frac{\Delta S}{S_0} - R_c \times S_1 \times b
 \end{array}$$

Where:

S_0 = turnover of the previous year;

S_1 = expected turnover

ΔS = variation in forecasted turnover

A_0 = current or fixed assets that vary in direct proportion to the turnover;

L_0 = operating current liabilities that usually increase with increasing turnover;

PN = forecasted net profit

Div = dividend distribute

$1 - \text{Div}/\text{PN}$ = retention rate of profits to the company (b);

PN / CA = profit margin relative to sales or profitability of commercial (RC)

Determination of AFN using the formula has the advantage that primarily highlights the relationship between increased sales and additional fund needed. Furthermore by solving the equation $AFN = 0$ we can determine the growth rate of turnover that can be financed only from internal sources without resort to external sources. This growth rate is called the sustainable growth rate.

AFN equation highlights 5 key factors which depend on external financing requirements:

1. *Rate of sales growth* - rapid and substantial growth in sales causes significant increases in assets values and therefore additional funds;
2. *Capital intensity* (A_0/S_0) - value of assets needed to achieve one monetary unit of sales. In companies characterized by a high rate of turnover increased capital intensity will determine increases in assets and thus needed additional funds to finance the growth of assets.
3. *Liabilities in sales ratio* (L_0/S_0) - Companies that spontaneously generate a large amount of liabilities from accounts payable and accruals will have a relatively small need for external financing.

4. *Net profit margin ratio (NP/S)* - The higher the margin is so AFN will be lower and vice versa;

5. *Rate of retained earnings (b)* - companies with a high rate of retained profits will record a lower AFN.

AFN equation can be applied to those businesses in which the proportion between the elements of financial statements and sales remains constant. It is therefore useful and necessary to determine the AFN for those companies in which these proportion are not constant. In determining the AFN we have started from the premise that the relationship between various economic factors and sales remains constant over time (A_0/S_0 , L_0/S_0 are constant), and increasing individual assets or liabilities at the same rate of sales growth. Assumptions on the constant and equal growth rates are appropriate in certain situations. In many cases this is not applicable, such as economies of scale or excess production capacity.

3. Planning the company growth and financing opportunities

Any company evolves in a dynamic environment, where the opportunities and constraints change constantly. That requires an adequate reaction from the company. Each stage of the company development involves the alteration of the current stability in favor of the future and each current instability must contain premises of a new equilibrium. These situations can be overcome only by making efficient productive activities, generating profits.

Company growth is usually the result of a complex of factors: accumulated financial resources, its products and services, its external environmental conditions and competence of the management team.

In the perception of managers, the main reason that justifies an increase in business is that a growing business is a healthy company, offering an impression of efficient management and ensures continuity. But there are also views that growth by itself is not an appropriate target for company management. Well-known companies have paid very much misunderstanding this fact. Company growth may be a desirable result of good decisions, but can not be a final goal. Supporting this idea some authors there are some famous examples. For example, Peterman Co., a leading company specialized in retail of clothing was the first victim of excessive ambition growth. Despite the reputation, brand image and explosives sales, the company went bankrupt in 1999. Another example is the largest company specialized in online sales, Amazon, whose motto at one time seemed to be "growth at any cost". Unfortunately, what have grown rapidly were the company losses. In 2001 the company has refocused its strategy, sacrificing growth for profitability. And the examples may continue.

However there are companies that set their strategic goals in terms of growth rates. The main strategic goal of business should be maximization of enterprise value. One way to settle this difference is to think of growth as a transitional target leading to a higher value of the company.

A key element in planning financial growth of a business is the confrontation with the limits and constraints facing the financial system of the company. The limits refer to the amount of assets required to support a certain level of growth in turnover. That level depends largely on the nature of business activity (services, trade, industry, agriculture) and average level of profitability made by the branch company. The constraints are related to the financial policies in light of operating managers: investment policy, financing policy, dividend policy. Establishing normal growth potential involves the assumptions about these elements of financial strategy. For a growing company with steady financial policies, any increase in sales will raise, normally, a need for additional working capital and increasing investment in fixed assets.

The funds required to finance working capital requirements and investments are own funds of shareholders and funds raised. To the extent that the profit is retained at the company disposal, it increased the equity in the balance sheet with debt is incurred additional funds growth

potential. In terms of performance information and constant financial policies, the growth rate of equity will be in fact the growth rate of the company's financial position.

If the company management wants an increase in sales higher than the increase in equity implied by the stability of financial policies, then additional funds will be collected either by new loans or by additional issue of shares, which change financing policy. If company management is to obtain a lower equity growth, then it will relieve the financial resources available, which can be directed either to the payment of higher dividends or to repurchase its own shares or for repayment unless the situation in which can be identified other strategic opportunities to employ these available resources.

Needs for external financing and firm growth are clearly correlated. The higher growth rate in turnover or assets will be the greater external financing needs. To demonstrate this correlation we have started from a simplified balance sheet and profit and loss account belonging to the company named Alfa. The named company operates in the manufacture of metal products. Business expenses are combined into one position and we did ignore the financial and extraordinary expenses (Tables No. 1 and no. 2). Assumptions considered covers the following: any element of financial liabilities did not vary according to turnover, expenses and assets vary in direct proportion to turnover growth. Company politics is to allocate 50% of net profits for dividends and the other from 50% to the company, for capitalization.

Table no.1 - simplified profit and loss account

Turnover	110.000
Expences - total	106.000
Gross profit	4.000
Income tax expences	640
Net profit	3.360

Table no.2 – Simplified balance sheet

ASSETS		%sales	Equity and debt		%sales
Fixed assets	27.000	24,5%	Equity	72.000	n/a
Current assets	50.000	45,5%	Financial liability	5.000	n/a
TOTAL ACTIV	77.000	70%	TOTAL EQUITY AND DEBT	77.000	n/a

Assume that the company expected a growth rate of turnover for next year was 10%. Applying the sales percentage method and assuming that the company is working to full capacity expected turnover for the year N+1 will be 121.000 m.u. Suppose that all other economic factors, expenses, business assets, both fixed and current assets will increase proportionate to the sales growth. Equity for the year N +1 is obtained by adding to the value of equity in year N, the profit expected to be held at the company in year N+1, respectively, 50% of the forecasted profit.

Table no 3. - Account simplified results expected - year N +1

Turnover	121.000
Total expences	116.600
Gross profit	4.400
Income tax expences	704
Net profit	3.696

Since the net profit expected, given that corporate tax rate remains at 16% and company policy does not change, the company will allocate 50% for dividends (50% in 3696) and 50% of the net profit will be retained in equity.

Table no 4. - Forecasted simplified Balance Sheet - year N +1

ASSETS		%sales	EQUITY AND DEBT		%sales
Fixed assets	29.700	24,5%	Equity	73.848	n/a
Current assets	55.000	45,5%	Financial liability	5.000	n/a
				5.852	
TOTAL ASSETS	84.700	70%	TOTAL EQUITY AND DEBT	84.700	

If the financing policy of the company remains stable and the company want to raise capital, but without modifying its dividend policy, the needs for additional funds will be obtained through external financing. So the additional requirement of funds will be covered by external financing. But in this circumstances will change the financial leverage (ratio Debt / equity)

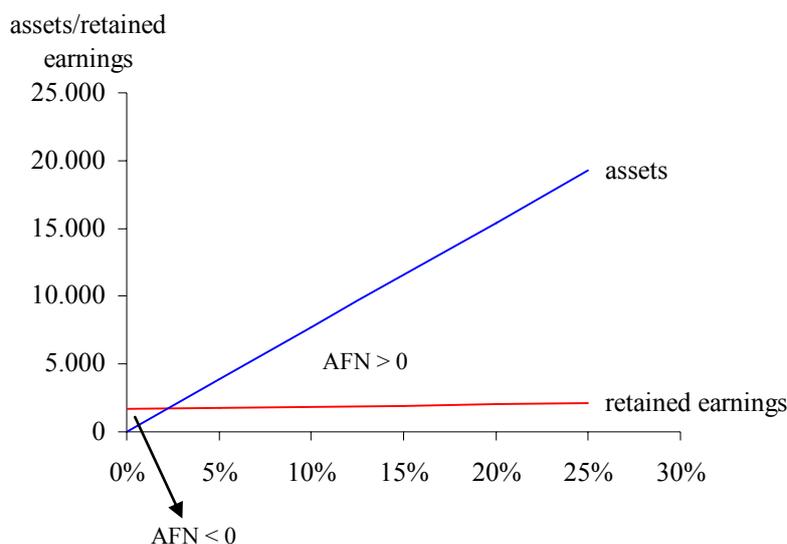
In Table. 5 additional fund needed are calculated for different growth rates of sales. The table also show the forecasted retained profit and forecasted financial leverage for each scenario. In determination of the financial lever we have assumed that any additional funds required will be obtained through debt and surplus funds will be used to repay debt.

Table no. 5. - additional requirement of funds

Projected growth rate of sales	Growth in assests	Retained profit	Aditiional fund needed	Financial leverage (debt/equity)
0%	0	1.680	- 1.680	0,045
5%	3.850	1.764	+ 2.086	0,072
10%	7.700	1.848	+ 5.852	0,147
15%	11.550	1.932	+ 9.618	0,198
20%	15.400	2.016	+ 13.384	0,248
25%	17.250	2.100	+ 17.150	0,299

Graphical representation of the link between the growth rate of sales and external financing is done in the diagram below. As noted, the need for new assets is growing much faster than retained profits, so that internal financing is insufficient.

Fig. No. 1 - external financing need



For low rates of growth in turnover of up to 5%, the company will generate a surplus of money. Given that this surplus will be directed towards debt repayment, then the ratio debt / equity will decrease, compared to its base year ($9.000/70.000 = 0.128$). With the increasing growth rate of sales, this surplus will turn into deficit and ratio debt / equity will exceed the level in the base year.

4. Estimated growth rates of business

Actual growth rate of sales is given by the formula: $r = \frac{S_n - S_{n-1}}{S_{n-1}} \times 100$

Any increase in sales, implies a proportional increase in assets, which corresponds to an increase equal to the liability. In the long-term planning there are two rates that are particularly

useful: the internal growth rate (gi) and sustainable growth rate (gs). Sustainable growth rate is maximum growth rate that a company can achieve without external financing and maintaining constant financial leverage.

In determining the sustainable growth rate are considered three hypotheses:

- the company did not option for external financing by issuing new shares, so that equity growth is achieved only by adding retained profits.
- The company does not change the current structure of capital, the financial leverage remains constant. Under these conditions increased debt can be achieved only by increasing the proportion of equity.
- The company maintain current dividend policy - rate of distribution of dividends and retained earnings rates remain constant.

Based on these assumptions, the rate of sustainable growth will be:

$$\begin{aligned}
 g_s &= \frac{\Delta \text{Assets}}{\text{Assets}_{n-1}} = \frac{\Delta \text{Equity} + \Delta \text{Debt}}{\text{Equity}_{n-1} + \text{Debt}_{n-1}} = \frac{\Delta \text{Equity} (1-L)}{\text{Equity} (1-L)} = \frac{\text{retained earnings}_n}{\text{Equity}_{n-1}} \\
 &= \frac{\text{net profit}_n \times (1-d)}{\text{Equity}_{n-1}} = \frac{\text{net profit}_n \times (1-d)}{\text{Equity}_n - \text{net profit}_n \times (1-d)} = \frac{\frac{\text{net profit}_n}{\text{equity}_n} \times (1-d)}{\text{Equity}_n - \frac{\text{net profit}_n}{\text{Equity}_n} \times (1-d)} \\
 &= \frac{Roe \times (1-d)}{1 - Roe \times (1-d)}
 \end{aligned}$$

where

$$\begin{aligned}
 L &= \text{Debt/Equity} & d &= \text{dividend payout ratio} \\
 & & Roe &= \text{return on equity}
 \end{aligned}$$

$1-d = b =$ retained profits ratio

$$g_s = \frac{Roe \times b}{1 - Roe \times b}$$

Returning to the example above, if we calculate the sustainable growth rate, given that profit retention rate of 50% is:

$$Roe = \frac{3.360}{72.000} \times 100 = 4,67\%$$

$$g_s = \frac{0,047 \times 0,5}{1 - 0,047 \times 0,5} = 0,024 \quad (2,4\%)$$

Suppose that the expected rate of growth in turnover is set at the sustainable rate of growth. In these conditions forecasted profit and loss account shown in Table. 6:

Table No. 6. – forecasted simplified profit and loss account –

Turnover	112.628
Total expenses	108.532
Gross profit	4.096
Income tax expences	655
Net profit	3.440

* Assume that the profit tax rate remains at 16%.

If the growth rate of business assets will be equal to the sustainable growth rate, $2.4\% = 77.000 \times 1.840$ um the forecasted balance sheet total assets will have value of 78.840 m.u., or 77.000 m.u. value of the base year plus 1.840 also increased equity value will be the value of the base year (72.000 m.u) plus the sum of 1720 um, part of the net profit retained in the company, 50% of 3440 um Net profit forecast.

Table No. 7. - forecasted simplified balance sheet - 2007

ASSETS	% of sales	EQUITY AND DEBT	%of sales
Fixed assets	27.645	Equity	73.720
Current assets	51.195	Financial liability	5.000
		Additional fund needed	120
TOTAL ASSETS	78.840	TOTAL EQUITY AND DEBT	78.840

Additional fund needed will be 120 m.u. If the company does not appeal to equity to cover the deficit, the debt will increase from 5.000 m.u. to 5.120 u.m.

In this report debt / equity will $5.120/73.720 = 0,07$, identical to the ratio debt / equity of year N, $5.000 / 72.000 = 0,07$.

Since the return on equity is a key element of sustainable rate, the features affecting the return on equity will influence the rate of sustainable growth. Return on equity can be decomposed into several components: Therefore, the ability of the company to achieve a sustainable rate of growth depends to four factors: dividend policy, financial policy, investment policy and operational policy.

Robert Higgins, professor of finance at the University of Washington was the first one who opened the way to use sustainable growth rate as a tool of financial analysts. Higgins says that the sustainable rate of growth can be used in several ways. Comparing the actual growth rate of turnover sustainable growth rate gives an indication of financial analysts on those issues to be considered by the management company in the next period. If the effective rate is higher than the sustainable rate of growth then the main problem of the management company will be to attract the necessary funds to finance growth. If this is a transitional political situation is resolved by additional loans, and in the future when actual growth is lower sustainable growth, the company will repay these additional loans incurred. If this is a long term situation, the company attracts additional resources through loans whose repayment becomes problematic if the increased turnover does not generate sufficient liquidity. If the actual rate of increase is lower sustainable rate of growth, the company remains with unemployed resources. If the situation is transitional, we can apply this strategy to accumulate resources to support expected future growth. If this is a long term situation there may be a problem in the sector of activity or just to the company. In the latter situation it is necessary to analyze the performance of the company to eliminate those factors that restrict growth. Sustainable growth rate can be used by financial analysts as a useful tool to demonstrate that the long-term viability of the company is required to keep a balanced rate of growth and profitability. Sustainable growth rate can be used by creditors and other external financial analysts to assess creditworthiness of an enterprise.

5. Conclusion

Many companies allocate significant resources for financial planning process. The final product of financial planning process is the financial plan, which describes the company's financial strategy and design consequences of this strategy through financial statements forecast. Financial planning models, percentage turnover of sustainable growth model is often criticized in the literature. In general these criticisms concern two aspects: simplicity and the fact that not indicate which policy is best. Not all costs are proportional to turnover ratio of assets and turnover is not a fixed ratio, etc., and these cases generally are not incorporated into financial plans. Financial planning models have several limitations. First they tend to rely on relationships and not accounting correlations. In particular two basic elements in the value of a business are ignored: the size of cash flows and risk. Because these two items, forecasted financial statements do not give users too many clues about the strategies that will increase firm value, but directs users' attention to other factors such as the link between finance and firm growth. Many financial models are used in business today are extremely simple and relies essentially on the generation of forecasted financial statements. They are useful to highlight inconsistencies, determining financing needs, but offer few clues about the solutions to solve these problems.

Financial planning process is an iterative process. The financial plans are developed, reviewed and modified continuously and the final plan will be a result of negotiations between all parties involved in this process. In most financial planning business is based on an approach that we call Procust approach. Managers sets a set of strategic objectives and the financial planning is to achieve a feasible plan to achieve them.

References

1. Achim Monica, *Previziunea situațiilor financiare (I)*, Revista Tribuna Economică, nr. 11, martie 2005;
2. Achim Monica, *Previziunea situațiilor financiare (II)*, revista Tribuna Economică, nr. 12, 23 martie 2005;
3. Brigham Eugen, Huston Joel, *Fundamentals of Financial Management*, Published by South Western., 10 edition, 2003;
4. Capeland Tom, Koller Tim, Murrin Jack, *Valuation – Measuring and Managing the Value of Companies*, Third edition, John Wiley & Sons, Inc., New York, 2000;
5. Dragotă Victor și colectivul, *Abordări practice în finanțele firmei*, Editura Irecson, București, 2005;
6. Dragotă Victor, Ciobanu Anamania, Obreja Laura, Dragotă Mihaela, *Management financiar - Politici financiare de întreprindere*, Editura Economică, București, 2003;
7. Dumitrescu Dalina, Dragotă Victor, Ciobanu, Anamaria, *Evaluarea întreprinderilor*, Ediția a II-a, Editura Economică, București, 2002;
8. Ehrhardt Michael, Brigham Eugene, *Corporate Finance: A Focused Approach*, First Ed., published by South Western, 2003;
9. Fabozzy Frank J. , Peterson Pamela P., *Financial Management & Analysis*, second edition, John Wiley & Sons, 2003;
10. Helfert Erich A., *Financial Analysis – Tools and Techniques a Guide for Managers*, McGrawHill Company;
11. Ingram Robert, Albright Thomas, *Financial Accounting: Information for Decisions*, ediția a IV-a , published by Thomson South-Western, 2004;
12. Palepu Krishna, Healy Paul, Bernard Victor, *Business Analysis and Valuation. Text and Cases*, South Western College Publishing, www.accounting.swcollege.com
13. Petcu Monica, *Analiza economico-financiară a întreprinderii. Probleme, abordări, metode, aplicații*, Editura economică, București, 2003;
14. Petcu Monica, *Creșterea întreprinderii și echilibrul financiar*, Revista de Contabilitate și Informatică de Gestiune, nr.9/2004, Editura A.S.E., București, 2004;
15. Ross Stephen A., Westerfield Randolph W., Bradford D Jordan, *Fundamentals of Corporate Finance*, sixth edition, alternate edition, McGraw-Hill, 2003;
16. Tuțu Anca, *Bilanțul contabil în gestiunea întreprinderii*, Editura Tribuna Economică, București, 1999;
17. Vasilescu Camelia, *Costul capitalului – criteriu de bază în decizia de finanțare*, revista Tribuna Economică, nr. 42, 19 octombrie 2005;

Strategic Exploitation Of Resource Complementarities In Agro Food Industry

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Abstract

Design an innovative management system which enables the optimal organization of resource allocation in order to benefit from strategic capabilities is still to be defined in modern management. The attempt is relying upon management capability to identify and coordinated exploitation of complementary resources both internal and external in modern organization. This paper investigates the changing paradigm of transaction organization in Romanian agro food industry by reconsideration of co-specialization and coordination in terms of *knowledge, information* and *communication* as key items of collaborative learning. Preventing dominant position abuse on agro food chain by incentive mechanism is another challenging issue. Sharing necessary information with stakeholders, transparency in relevant decisions and measurement the efficiency of strategic behavior value creation process are the main issues of this research.

Keywords: coordination, resource exploration and exploitation, collaborative-learning, value-chain reconfiguration; knowledge sharing, incentive mechanism, commitment; institutional responsibility

1. Introduction

Current debate between academic and industry experts on the emergency of the best governance system of the agro-food chain of value is facing increasing difficulties to match the different stakeholders' interests.

Over the last 10 years the globalization of agro-food sector we assist to various and rapid changes of competition patterns and the main actors were forced to adjust their strategies accordingly. MNE's –as promoters of globalization were the winners in rapid adjustment to change in consumer demands-in order to ensure the competitiveness, following the classical pattern of strategic behavior both in domestic and foreign markets. We consider the key-issue of strategic performance is the reconfiguration of the appropriate governance mechanism of complementary resources allocation.

2. Agro –food imbalanced competition adjustments

The governance infrastructures of strategies implemented on various markets were facing new challenges derived by multiple aspects of mismatching between technological and management expertise as complementary resources to be allocated. We assist now at efforts to adjust the strategic expertise agenda on balancing the following challenges:

- ✚ From chain and network cooperation to sustainable global product chains
- ✚ From competition from autonomous firms to value chains competition

- ✚ From price mechanisms priority in network governance to non-price²⁹ (reputation, trust and loyalty) arguments
- ✚ From technology transfer and governance control to co-innovation between chain partners
- ✚ From autonomous responsibility of chain partners on each expertise to tracking and tracing information systems
- ✚ From institutional control (audit and certification) compliance of product standards to performance criteria relying on designing process standards implementation
- ✚ From state governance ensuring the sustainable development requirements to network forms of value chain governance³⁰
- ✚ From captive value chains dependence on global buyers and retailers to reinforcing local

3. Sustainable adjusting to changing patterns of competition

Due to the changing patterns of competition spaces, we now are all aware that not only the classical combination between small and large firms' complementary resources can facilitate innovation success, but also the regional and local factors determines one successful strategy. Most of all by the possibility to address the economic policy instruments in territory that ensure the sustainability of any innovational solution. This kind of local and regional approach is fostering the cooperation between small firms and MNE's in terms of designing innovation strategies, relying upon financial European and national government funds. Mostly if this kind of cooperation meets the European policy requirements of promoting cooperation and business innovation as part of an overall innovation system. After all we speak about territorial dominancy and local actors must collaborate to obtain synergy from their complementarities.

Consequently the main issue of the new value creation process, as it supposes knowledge transfer, is the coordination of complementary resources belonging to different partners of various stakeholders. The efficient strategic behavior of this complex (hybrid configuration) structure is the key issue of management which must design and implement the appropriate informational systems to perform. Network learning along value chain partners, decentralized decision making and mutual adjustment are elements of this government mechanism which could be effective ways to coordinate complementary activities.

In the following we address some new agro-food business initiatives of complementary resources allocation via various innovative governance mechanisms, which ensure the requirements of both customers and institutional environment in the light of sustainable development.

4. Current status in Value Creating Business Solutions

One of solution is suggested by *Demand Chain Management* approach, which offers us arguments for the new value creation process implementation. DCM (Canever Duarte, 2006) supposes the alignment throughout the chain all the activities that create both firm and customer value. The first steps were made in an interdisciplinary approach- consumer science, quality management and chain management -in the agro-food sector by various scholars being aware of innovation implementation via complementary resources between partners. They suggest that market knowledge and technological knowledge are to be exploited in a collaborative marketing (Schepers, 2006) approach experienced upon fresh fruit chain.

²⁹ Gereffi et al. (2002)

³⁰ Gereffy, Humphrey et all,2005

In this complex process the firms are discovering that the classic value creation process is not any more adequate to this kind of strategic response; this demands a new value creation approach, another type of interaction between the firm and the customer, that is-designing a process of knowledge transfer between the two-high quality interaction between the two actors which itself it is new value creation (Prahalad and Ramaswamy, 2004). The success of this idea demands the reconsidering of the strategic behavior relying upon Co-Creation (Elg and Gustafsson, 2008) of value, similarly with the revolution that produced *CO-Opetition*, which was enthusiastically considered a few years ago and much of the empirical studies confirmed the assumption of that strategic choice.

The issue is here the *Co- Creation* of unique values that might be considered alternative source of competitive advantage as relying upon co-creation experience of unique value in a specific and individual moment. This is considered of course local specific and firm specific factors; but as we address the Alan M Rugman work, (Rugman, 2005) the future competition will be regional and locally played. The sustainability characteristic of the competitive advantage, *for now only alternative to the classical one*-is very difficult to meet. But it is necessary any more? As we see, the competitive advantage it is difficult to be sustainable any more even for the great players in the marketplace. Consequently it might be successful to have as source of competitive advantage the process of co-creation based upon local partner's experience-as it meets different and unique thus difficult to replicate offerings! In other words, not product or service innovation, not even market innovation, but the process of knowledge transfer in a determinate organizational structure is the key resource.

5. Challenges for Romanian agro-food initiatives

We can also address another issue heavily disputed between academic-that is the return to local and regional offerings as opposite to global assumption. That's for we are assisting today to an innovation process relying upon: territorial marketing which is an umbrella for too many issues already exploited, such as: eco-clusters, local and regional offerings; traditional products and services exploiting, regional competitive advantage which is based upon intra regional competition between clusters for the decentralized governmental funds; B2B local and regional markets and many more.

The Romanian stakeholders on agro-food sector are dealing with a difficult adjustment to an turbulent environment, in spite of natural advantage and a certain grade of experience and expertise. The last decade produced a certain isolated initiatives and academic contribution that are requiring new expertise to implement the best results. The lack of mobilize initiative on addressing the sources of territorial advantages and the fragile institutional competence on coordination the certified competences and capabilities are the current fragilities of the Romanian agro-food sector.

As partners in different EU projects interdisciplinary researchers we have already the necessary knowledge and information systems components and processes, that enables to focus the business solution on the appropriate exploiting of natural advantages of Romanian agriculture and methodological and process expertise (non necessary our own innovation technology but available facilities). Our various validated area of expertise covers the following are of interests: innovative bio- technologies on traditional products improvements and certification, organic food market capabilities and competences, local and regional rural sustainable development; marketing research on consumer behavior as regard food quality and safe insurance.

In this paper we present the conclusions of four national and international projects that enables as to expose the current state of capabilities to exploit in order to become competitive on agro-food market. The solutions we envisaged are dealing with territoriality as global and local sustainable product chains and with collaborative approach of individual firms and the embeddedness of their governance systems on the local institutional ones. The current state of the art has only this kind of solution: balancing the investors' individual firm interest with local suppliers and distribution system, under the umbrella of a territorial attractability local policy driven.

Our research cover the market investigation in order to define the state of the art in innovation framework; it is part of a European project which target was the creation of a network of organizations that supports the participation of agro-food SMEs in international collaboration in order to become active part in value creation through business innovation.

The strategy group of the project, in a decision conferencing framework, projected the key mechanisms of competence, commitment and coordination at local and regional level of the territorial marketing initiative.

The general objectives of the project were: Share risks and costs in innovation activities; gain technology and experience from complementary partners; develop innovation capacities; increase competitiveness; get access to international markets

The specific achievements of this initiative consist of: Best Practice Guide to assist agro-food SMEs in choosing the most suitable partnership ; Structured pool of enterprises, and fostering synergies among them; proactive online intelligence service on FP6 & FP7 opportunities; WEBSITE with infos, IPs & NoEs database, newsletter, communication & network platform, IT transfer solutions, tailored to SMEs; designing a territorial space of Knowledge. The benchmark helped the questioned firms to assess their company against the European average in the industry and compared to the top-runners in terms of (See table 1)

In the following we present some general audit results based upon the analysis of 73 Romanian firms, being followed by two particular business coaching solution in particular territorial marketing initiatives.

Table 1. Audit Results Romania

Innovation Capacities	Evaluation	Average in Industry
International activities	4.20	3
Intellectual Property Rights (IPR)	3.00	4
R&D	2.17	3
Innovation strategy	3.25	3
Knowledge management	3.20	4
Customer orientation	3.25	2
Intangible Capabilities	3.00	4
Project Management	3.75	4
Cooperation management	2.67	3

Innovation Capacities	Evaluation	Average in Industry
Product Innovations	3.38	3
Process Innovations	3.17	4
Non-technological innovations	2.50	4

Table 2. Obstacles and Objectives

Obstacles		Average in Industry
Financial	3.00	2.8
Internal factors	2.75	2.5
regulative	2.83	3
market	3.00	2.8
Objectives		
Altering business relationships	3.00	3.5
product and market strategy	3.17	4
Manufacturing	2.83	3.3
Quality	3.00	2.9
Other	3.00	3.1

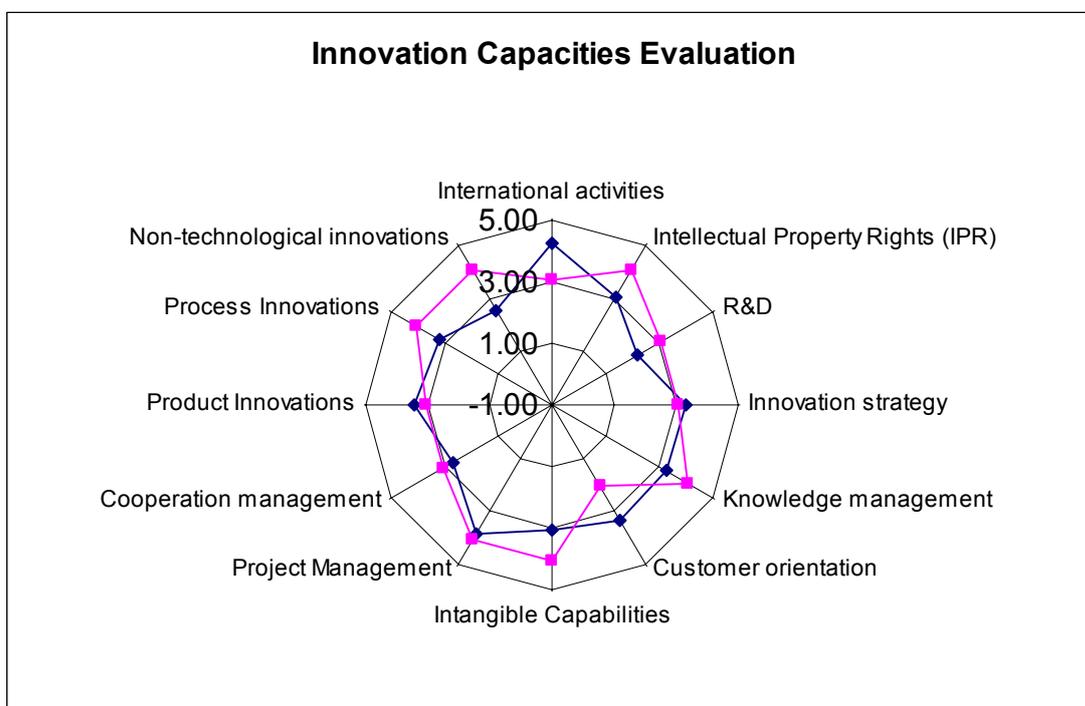


Fig 1. Innovation capacities evaluation

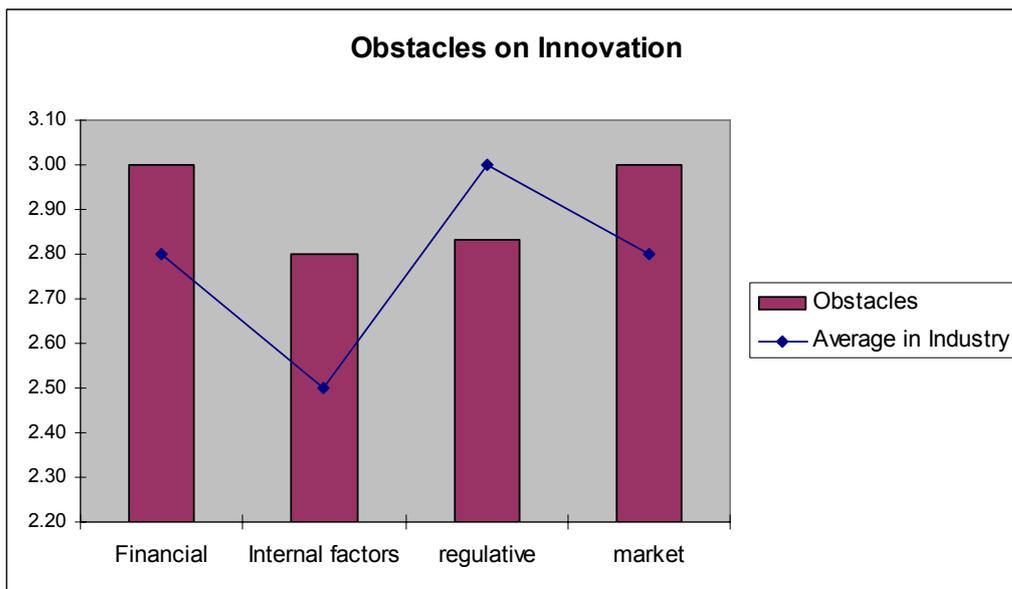


Fig 2. Obstacles on Innovation

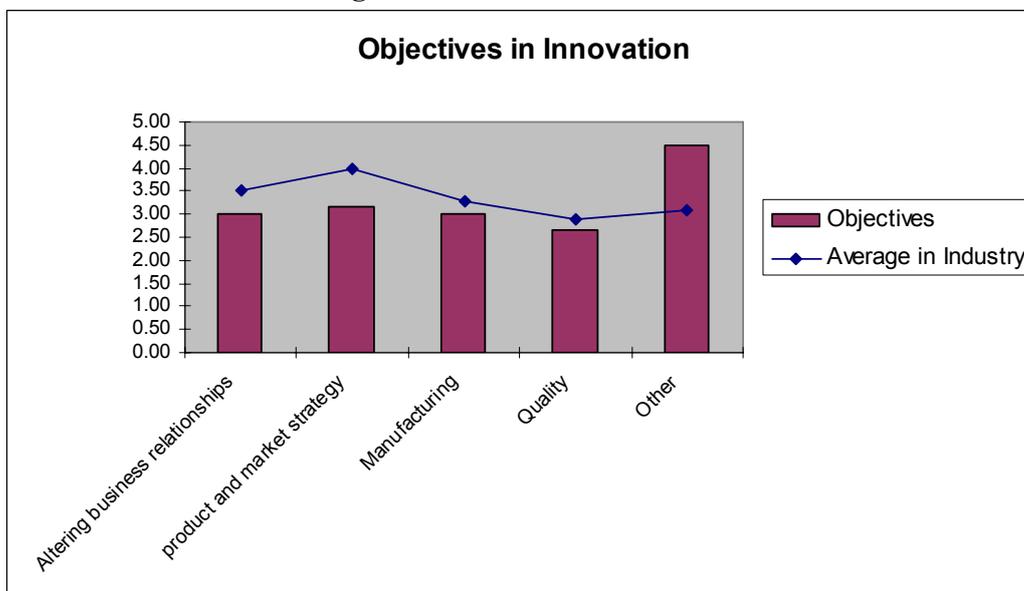


Fig 3. Objectives in innovation

Being aware about the preferences of SME's to client centered coaching we insist that this kind of assistance must be structurally integrated into existing regional support frameworks. Coaching must address specific solutions that can be formulated relying upon an agro food benchmarking framework. This partial conclusion of the study confirms the lack of success of fragmented solutions in the innovation process and implies the need for territorial and partner resource complementarities. An efficient resource reallocation model provides an opportunity for new organizational forms-channel networks, alliances, and different partnerships- to create competitive advantage through the Co-Creation of unique value with relying on local-specific factors. This kind of advantage based upon synergy is demanding the most appropriate information system in which better coordinate the complementary resources. The survey analyzed the hard facts of 24 different regional marketing activities. Consumer surveys on the motivation of buying organic products in these areas, the robustness of the trust and loyalty when an organic scandal happens and the economic impact of these activities in the region (e.g. farmer income, employment rates, assortment, product quality and so on) were evaluated.

Their results placed Romanian's agricultural regions as one of the most valuable locations for organic markets, due to the possibility to obtain appropriate land characteristics for this type of

product in short term and less costly accordingly. Therefore we proposed the evaluation of our regional rural area potential to be involved in organic marketing activities by questionnaire, interviews and sales data. The survey will include the whole organic food chain in the selected area (e.g. farmers, processors, manufacturer, retailers and consumers). Part of the information we already have from the Romanian SME's involvement into SPAS project, above audit described (<http://www.spas-project.eu>).

Our initiative implies the involvement of policy makers also, when applied to the formulation and implementation of territorial development strategies. With this in mind, the issue of territorial development is looked at and marketing concepts are introduced. Considering organic product as a solution, rural and peripheral territories as the product to be marketed, the main components of its marketing system are designed as response to the current trends in society that affect supply and demand of the rural product are presented.

We consider that the main objectives of our research are:

- ✚ To strengthen Regional Marketing Activities for Organic Products through experience exchange in Europe
- ✚ To sustain and improve the distribution of organic products in different European countries
- ✚ To inform and educate consumer about organic products and their benefits
- ✚ The expected results may be formulated as follows:
 - ✚ Higher income for the organic food chain in the regions.
 - ✚ Increasing demand for organic products by consumers.
 - ✚ Better understanding for differences in culture and marketing trough research across Europe.

Designing territorial marketing solution for increasing competitiveness capability in the region is under our area of competence and it is a proactive strategy. Under the light of the above theoretical framework and the current state of the art on agro food market; in the light of envisaged and documented organic market evolution, we are developing a Regional information system for the infrastructure management of evaluation and certification the innovative activities - sustainable Solution for Romanian agro food sector SME's access to the on-line knowledge exchange environment.

The designing and implementation of such a system suppose complementarities between three local actors: academics and professionals; administration; SMEs and supposed the implementation of the following procedures: audit of European documentation certification Analysis of the local and regional market; detailed classification system of products and activities; designing the scientific and legal framework for the infrastructure certification; laboratories, methods and procedures ; Comparative, analysis and harmonization between national and European competences in agro food/organic market ;Balance European harmonization/Local specificity and regional protection. The benefits for SME's are: Orientation- Training- Dissemination through codes, norms, guides of SMEs; identification and matching suitable complementarities and the subsequent framework for knowledge transfer between organic market interest groups and potentials partners.; Coaching the SME's in their offerings by communication strategy implementation ;dissemination of traditional activities and products description; development of legal information feed back (i)Local administration-market (ii) innovative regional/local products/activities-*Certification-Legislative* ;Multidimensional correlation will follow activity families and innovative local/regional products-European certified data base-starting point of B2B and B2C ;Progressive elimination of administrative monitoring and resource consumer factors from the agro food market. This last achievement is consistent with the conclusion of (W,J.V. Vermeulen, 2008) on sustainable product chain governance on his recent work³¹. The incentive mechanism-as management signaling component of the sustainable chain governance- will be chain specific and a strategic assets itself and not administrative any more.The exploitation of the result of the project and the territorial pattern of implementation is still developing, and the

³¹W,J.V. Vermeulen ICOVACS 2008 - Izmir, Turkey
International Conference on Value Chain Sustainability - November 12-14, 2008

results of the two most recent studies consist on comparative analysis of Romanian capabilities for organic food market research and the first phase of another national research projects on innovative biotechnologies for new certified products safe for human consumption. The results of the traditional consumer behavior on fresh vegetables and fish market consist are now exploiting –via SPAS³² data base-on the benefit of SME's , experts, and interested groups. The knowledge data base is further exploiting by collaborative learning and consists in the dynamic coaching and training programs cluster specific designated by the territorial stakeholders.

The learning component of the business solution implies external communication via online advertising (through the created web site) as well as offline of the offers portfolio by the target public, in order to direct the demand. The innovative policies of the distribution strategy follow the training of the local and regional decision factors in supporting efficient logistic chains, in ensuring the safety and the security of the consumers. We consider that the regional competitiveness organic agricultural based, must focus not only in organic-intensive use of land by foreign actors, but mainly to modify the local consumer behavior of this products in our regions. It is more; one module of the informational system (relying upon Territorial Competitive Intelligence Solution) of the proposed solution could be interconnected and synergistically transformed in relational competitive advantage in pharmaceutical, tourism, medical care, life quality support and other subsectors. This will ensure territorial attractability relying upon identity reconfiguration

6. Conclusions

This paper investigates the changing paradigm of transaction organization in Romanian agro food industry by reconsideration of co-specialization and coordination in terms of *knowledge, information* and *communication* as key items of collaborative learning. The research conclusions of four national and international projects enables as to expose the current state of capabilities to exploit in order to become competitive on agro-food market. The solutions we envisaged are dealing with territoriality as global and local sustainable product chains and with collaborative approach of individual firms and the embeddedness of their governance systems on the local institutional ones. The further changes on consumer behavior must shift the pattern of competition on seeking new equilibrium of market actor's and one successful solution is balancing the investors' individual firm interest with local suppliers and distribution system, under the umbrella of a co-responsible territorial attractability.

References

1. Elg, D, Gustafsson, M.: "Creating Customer Value-A case Study at Stilexo", MBA Master Thesis, Jan 2008
2. Prahalad, C.K, Ramaswamy, V.(2004) : *The Future of Competition* Harvard Business School Pr ISBN-10: 1578519535 ISBN13: 9781578519538
3. Rugman, A M. (2005) *The Regional Multinationals* Cambridge: Cambridge University Press
4. Schepers, H.: *Profitability of 'ready-to-eat' strategies in Quantifying the Agri-Food supply Chain* Springer Netherlands DOI10.1007/1-4020-4693-6 Copyright2006 ISBN978-1-4020-4692-6 (Print) 978-1-4020-4693-3 (Online)
5. Vermeulen W.J.V. "Creating sustainable global product chains: A three levels game" ICOVACS 2008 - Izmir, Turkey, International Conference on Value Chain Sustainability - November 12-14, 2008
6. CORMA is a follow-up on OMIaRD (Organic Marketing Initiatives and Rural Development – QLK5-2000-01124) which was funded by the European Commission from 2000 to 2003
7. <http://www.aramis.admin.ch/Default.aspx?page=Beteiligte&projectid=13473>
8. ETI-2005-023339-SPAS "SMEs Virtual Platform on Agro-Food Sector to access the Sixth and Seventh Framework Program"

³² <http://www.spas-project.eu/shortinit>

ETI-2005-023339-SPAS "SMEs Virtual Platform on Agro-Food Sector to access the Sixth and Seventh Framework Program"

The Impact of Global Economy upon Management Activity

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Abstract

Due to the reason of the more pronounced globalization of the business world, we can no longer ignore the powerful cultural side of leadership. In other words, there are differences between leading styles considered as accepted by a national culture or another. For example, I come from Netherlands – in Dutch, the word meaning leader is **leider**. But this word may be written in two ways: either using the short diphthong „ei”, or with the long one ”ij”, although the pronunciation is the same. When written with „ij” it means „martyr”. This superposition of meanings is sending a message: any Dutch leader who is trying to put him forward too much, is rapidly „cut”, In the Dutch world, at work or in other cases, it is not accepted to put you forward – or this is considered something of bad taste.

Keywords: leadership, manager, globalization.

1. The leadership in global context

Due to the reason of the more pronounced globalization of the business world, we can no longer ignore the powerful cultural side of leadership. In other words, there are differences between leading styles considered as accepted by a national culture or another. For example, I come from Netherlands – in Dutch, the word meaning leader is **leider**. But this word may be written in two ways: either using the short diphthong „ei”, or with the long one ”ij”, although the pronunciation is the same. When written with „ij” it means „martyr”. This superposition of meanings is sending a message: any Dutch leader who is trying to put him forward too much, is rapidly „cut”, In the Dutch world, at work or in other cases, it is not accepted to put you forward – or this is considered something of bad taste³³.

Although a very efficient leading style in a country may be extremely unsuitable for another one, people are not always aware that there would be any cultural difference. Regarding the different leading models and to the differences between cultural norms, we notice that in this world which tends to be more global, more convergent tendencies start to crystallize. Thus, the following features and aptitudes would be useful to „global leaders” this meaning the leaders acting in a multi-cultural environment:

- charisma;
- skills for team work;
- opening towards changes;
- interest in political and social – economical life of other countries;

³³ Kets de Vries, M.R.F. și Perzow S., Handbook of Carater Studies, 2000, New York, I.U.P.

- capacity to establish good connections with people belonging to other cultures;
- adaptability to new situations;
- adaptability to work in a multi-cultural team, etc.

But, the same way the personal qualities increase the chances for success of a global leader; there is also a set of organizational qualities which are the success grounds of a company on the international market. Generally, an organization that has huge success in international plan has the following characteristics³⁴:

- there is a high number of employees of other nationalities than that of the organization;
- big investments are being made outside the origin country;
- an extensive decentralization of power is manifesting itself within subsidiaries;
- foreign managers are well represented in the organization's board;
- the members of the executive have an abundant experience in activities developed outside the country;
- the members of the organization are convinced that international experience is essential in career;
- the organization is open as much as possible to quick promotions of the employees of other nationalities, etc.

In order to test the candidates' skills for the jobs outside the country there are some procedures (formal or informal procedures) in the major part of global organizations. Often, the candidates are being chosen based on their performances inside the organization which is in their origin country, after they declare they want to work in an international environment. The chosen candidates, go then for a training program where they grow up in the predominant organizational culture – which, in the best case, acts like a sort of spring board that offers them support and encouragement for their future career of "global leaders". The most important factor of their formation as the best "global leaders" for the international environment is one of the five essential elements of leadership outside the boundaries: the tradition, travel, training, transfer and the team spirit. In order to have access to this five elements, the ones aiming at the global leader position has to identify and eliminate a certain number of obstacles.

The grounds of forming some exceptional competencies of leadership at global level is build even since childhood by the experiences influencing the templates of cultural socialization and they are influenced by them at the same time. The early managerial experience and the experience resulted from international projects does not create the competencies for leading in international environment but only develops them. Thus, we could state that if an individual is deprived of this basis created in childhood, the training he would receive inside the organization for a job outside the country would be of less use. So, we may state that the organizations should first inspect very carefully the origin and the training of any possible "global leader", analyzing also his experiences during childhood or during school, and not only the route and the performances in his career.

It matters very much also the culture of the community in which the child is integrated. For example, the children who grow up in a trust, equality or collectivity oriented society – a society characterized by inter-dependence and lack of any paranoia feature – have more chances to become good leaders, able to build trust and to impart a feeling for the global organizational community.

³⁴ Judge T.A., Bono J.E., relationship of core self evaluation traits, 2001, J.A.P., 86(3), 80-95

Also, the persons who grow up in a culture oriented towards "to do", this meaning towards merit instead of "to be" oriented culture, this meaning towards the innate rights, have much more chances as leaders in an international environment.

Consequently, the global leaders have to create multi-cultural communities, creating an organization culture that goes beyond the differences between people and which contains certain „guiding marks” – values and aptitudes – that can be easily understand by the employees of different cultural groups. Thus, the development program of global leaders does not focus exclusively on understanding and accepting cultural diversity but goes further, making people aware that they need a common organizational culture.

2. Grounds of principle based leadership

The paradigm of principles based leadership was diffused for the first time by Stephen R. Covey at the beginning of 1980, within the institute for principles based leadership, in which the author was making the First Studies of Covey concerning that subject have appeared in Excellence magazine and later on, they materialized in the work having the title „Principle-centered Leadership”, published by Covey in 1990 and which appeared in Romanian language in 2001, under the title of Ethics of the efficient leader or Principles based leadership³⁵.

Even from the beginning, Covey offers a definition of the principles: „Principles are natural laws going without saying and confirmed – they do not change themselves. They indicate the true “North” to our lives when we sail through the currents of environments we live in”³⁶. Not only is the content of the principles expressed in these words but also their role. Although the principles manifest themselves under the form of values, ideas, norms and learning they do not have to be confused with them. Principles are objective and external and they act according to the natural laws, no matter what the conditions are, while the values are subjective and internal³⁷. In order to eliminate confusions and for a correct understanding of the difference between principles and values, Covey resorts to a comparison. He assimilates the values with maps that are not the territories themselves but only subjective trials to describe them. But when the territories are in a permanent change, any map would be obsolete soon. That is why, in such situations we need principles compared to compasses, which direct and guide us in the direction we want. „A map based on values can provide an useful description but the compass, having the principles in its center, provides vision and direction.... An accurate map is a good administrative instrument while a compass set on the principles of the true North is a leading and power getting instrument”³⁸.

The levels of principles based leadership – the above mentioned author establishes four such levels: personal, inter-personal, managerial, organizational, each of them referring in essence, either to the relation of the individual with himself or with others, or to a new series of needs felt by individuals (the need to work with other individuals, to prepare, to organize, to coordinate etc). Although each of these levels is highly important, in order to have success it is absolutely needed to work at all levels, not randomly but based on some principles. These are the following: the quality of being worthy of trust (at personal level); trust (at inter-personal level); power (at managerial level); alignment (at organizational level). The first principle (the quality of being worthy of trust) is based on the character and competence, this meaning on what you know as a person and on what you can do. The second principle (trust) is in Covey’s opinion, „the emotional bank account between two persons, which gives the possibility to have

³⁵ Mielu Zlate, Leadership și management, Ed. Polirom, Iași, 2004

³⁶ Covey S.R., Etica liderului eficient sau Conducerea bazată pe principii, Ed, Allfa, București, 2001.

³⁷ Idem, p.8

³⁸ Ibidem, p. 9.

a working agreement from which both of them should win”³⁹. The third principle (power) refers to the leader’s capability to become an aid source for his subordinates, to involve them in solving the tasks or in evaluating the results they have got, to make them responsible; to allow them to judge for themselves because „the knowledge they have overruns any measuring system”⁴⁰. The last principle, (alignment), is like a corollary of all the others. If the leaders trust their subordinates, if the control and strict supervision will be replaced by self-confidence and self - supervision, then it is very likely for a common vision to appear, which is going to be aligned to the strategy, style and the existent or future organizational structure.

The effects of principles based leadership are very numerous, the most important ones being the following: safety (defined as the value, identity, emotional stability, personal strength feeling); orientation (which assures the direction we receive and follow in life); wisdom (which suggests the feeling of equilibrium, a deep understanding of the application modality of different elements and principles); power (capacity to act, strength, courage, vital energy to choose and decide)⁴¹.

The theory of principles based leadership is very interesting and urging: interesting by author’s capacity to collect, systematize and then to frame a series of theoretical concepts, a multitude of observation data, even of personal experience; urging by the issues and the question marks it raises.

We do not have to loose from sight Covey’s general intention which is worthy of being highlighted, namely the necessity of fundament the leadership on principles, or in other words, on laws and regularities whose knowledge and smart application is one of the factors of organizational efficiency. In essence, the principles based leadership is put in opposition by Covey with principles based management – „Principles are not practices”⁴². Unlike the leadership by the aid of practices, the leadership by the aid of principles needs another type of training but the reward consists in more technical knowledge, more creativity and responsibility shared at all levels of the organization⁴³. This way, in our opinion, principles based leadership represents a premise for transformational leadership.

3. Interactivity of leadership performance in a global economy

The globalization supposes many changes in economy, communication, political structures, in all fields of personal and organizational life – the most important of them would be the diversification and cultural convergence processes.

On one hand, some cultural elements become universal (such as language, communication ways), some values, some success solutions of the companies, ideas). On the other hand, an adaptation of companies to the local or national cultures specific elements takes place, fact that creates an interesting diversification inside multi-national companies.

Global economy is one in which the rules of organizations’ functioning are the same, only the environment is different. In comparison to national economy, global economy is like the blocks in a provincial city compared to the sky scrapers in New York. Theoretically, they are also blocks; practically, between the 8th and the 80th floor we have a perspective difference...

³⁹ Ibidem, p. 22.

⁴⁰ Ibidem.

⁴¹ Covey S.R., *Etica liderului eficient sau Conducerea bazată pe principii*, p.11, Ed. Allfa, București, 2001

⁴² Idem. p. 96

⁴³ Ibidem .

and also a difference in the oxygen available – that is why some local companies are suffocating or they have “height sickness” in a global economy.

Performance supposes the same types of challenges in the context of a national economy, as well as in the context of a global economy: efficiency, strategic approach, competition advantages. That is not the type of problems that is modifying but their dimensions and amplitude. It is very hard for a local company to resist in the competition with a national manufacturer of the same products. The dial economy makes the national manufacturer to have a smaller marginal price and the local company can impose itself only by a superior quality, local specific of the products, performance management, entrepreneur creativity⁴⁴ etc.

And yet, globalization does not suppose only fusions, acquisitions, disappearance of local companies but also diversification and adaptation processes. As money are a motivation, the adaptation to global economy does not necessarily bring big advantages, is not a guaranteed factor of success; but the lack of adaptation is certainly a way towards failure.

More concrete, what adaptation in the context of a global economy presumes though for a modern organization and a professional leadership?

- ✚ Presence, visibility in the global economy, even for a local or regional organization. This “come out into the world” of the local or national companies forces them to higher efforts in order to build solid brands and a positive image and a higher transparency.
- ✚ Competitive prices and high adapted quality – the rate quality/price becomes essential and the competition is very tight. Each cost element is determined because often details are the ones which make the difference. Stocks reduction and rationalization of expenses for example, are obsessive preoccupations for global economy. The other element of the equation which is quality has to be adapted not only against competitors but also against different beneficiaries. For example, going on the Asian market with products adapted to the requirements of the Europeans or Americans would be, in most of the cases, a bankrupt strategy.
- ✚ Technology, efficiency, productivity – these determine essentially the prices. The companies cannot afford to produce expensive components, which the competitors produce cheaply on markets such as China or India, in their own country or to buy them from traditional suppliers – we may say the same thing about manual production versus automatic one. External and technological processes are two of the extremely visible ones that condition the success.
- ✚ At the same technological development level, the creativity is the one making the difference. The creative approach of technical and managerial problems may be a decisive competitive benefit.
- ✚ Human quality resources, stable and adapted to the context become a necessity especially for the decision posts in the multi-national companies. Multi-culture changes the data of the subject regarding the human resources, changes the training subjects and marketing and management approaches.

Besides these findings that can raise worry, globalization does not imply only threats for organizations; each possible danger is at the time an opportunity for the bold companies. Without being easy, is not impossible for a local or national company to extend rapidly or to straighten, if it is in crisis, by finding some external clients, by identifying new niches on the market, by making some activities external.⁴⁵

⁴⁴ Goleman D., Inteligența emoțională, Ed. Economică, București, 2004, p. 64

⁴⁵ M.Preda, Comportament organizațional, Ed. Polirom Iași, 2006, p.160

But what will companies in Romania do in a global economy? The most part of private Romanian companies are still relatively “small” for coming out in the European competition space. In Romania, the first national fusions and the first entries on the markets in the neighboring countries appear only now. The ex public big companies (Petrom, Sidex, Romtelecom, Dacia, BRD, BCR, etc) have already “surrendered” to some bigger foreign players, fact that has positive consequences but also imply significant risks. Besides that, Romania has not a clear and positive country brand from which Romanian companies could benefit; we do not have coherent sector or global economical strategies. Globalization, as well as its most important step, which is the integration into European Union, seems to be for major part of Romanian organizations shows they could see passively on the TV and not major processes, decisive obstacles for their future. Inertia and the role too big of politics in economical and social life, which generated uncertainty and permanent change, as well as the lack of competence and experience in managers’ planning, maintain the strategic planning horizon, for the most part of the Romanian organizations, to one year compared to 5-20 years for Americans and much more for the Japanese.

Research, consultancy, preoccupation for selection and motivation of internal human resources are elements that enter very hard or not at all in the life of our public and private companies. The decisions are often taken in a subjective manner, under pressure and under the auspices of improvisation and mediocrity. The quality of many products is poor even when the price is acceptable. To continue in these coordinates will be obviously bankrupt for many of the Romanian organizations. They have to invest quickly in competent human resources, in market studies and internal organizational analyses, they have to learn from the competitors, mainly from the external ones, in order to avoid mistakes and finally to create competition benefits⁴⁶.

These competition benefits for many of the Romanian companies have to come from differentiation. We are not so strong, so we have to find niches in which the specific of the products and the price to make the difference. The obvious advantages of the Romanian organization environment are: considerable natural resources, a certain exotism, a purity not-changed yet of places and people, small prices of the manpower, a certain type of creativity which can be directed in a positive way, opening, tolerance for foreigners and for other cultures.⁴⁷ Ecological products, cultural tourism, rural and balneary, in which the organizational environment is essential, represent a development direction. The specific appreciated food products, having good chances to be “exported” in other cultures are another possible advantage in a competition. The domains including creativity (IT, biology, chemistry, technology research) can also create opportunities for the Romanian organizations to become competitive in the global economy.

Maybe all these opportunities will be valorized the best “at our home”. In order to be able to become significant at a regional or global level, Romanian organizations have to impose themselves mainly at their home by work perseverance and creativity – which are essential and universal elements of performance inside the organizations.

4 . Notion of group. Working group

The man is, par excellence, a social being. He cannot leave and work alone and to satisfy his necessities, he needs his fellows. Human groups are an unavoidable reality for the individual and for society. The man can live only temporarily outside the groups and he cannot perfect himself as human being.

⁴⁶ M.Vlăsceanu, Psihosociologia organizațiilor și conducerii, Ed. Paideia, București, 1993 p.56

⁴⁷ M.Preda, Comportament organizațional, Ed. Polirom Iași, 2006, p.166

The socialization is a complex process that progresses itself in human groups and communities (family, school etc.), where it develops its human specific characteristics – speaking, abstract thinking, bipedal walking. On the other hand, society cannot exist outside individuals as it is not only a sum of them and not even the result of primary interactions between them. Societies and cultures, starting from the simplest ones, and the more modern and complex ones, are not something amorphous and monolithically but are made up of groups, communities and institutions.

Systematic studying of human groups is subject of several disciplines: Sociology, Social Psychology, Management of human resources, Economics, Demography etc. the term of group has a very broad meaning, nominating a lot of persons that have something in common – we talk about people, nations, social classes or strata, ethnical communities, sport teams, student classes, friend groups, stamp collector groups, religious groups, working teams and others.

In the case of organization groups, the *working group* term is used to nominate the persons working together, who are the employees of the same institution. The quick enlargement of psychologists and sociologists' preoccupation for the study of inter-personal relations raising inside a human group, has been determined by the fact that the *human group* as action and balancing form of contradictory relations and psychological-moral support started to play a more and more important role in people's life. Thus, many of the aspects concerning individuals' life and activity inside the group, the different processes and phenomena structured at this level become an integrant part of the issues of a new, relatively autonomous science – *psycho-sociology of the human group*. Among the subjects that it studies and for which it tries to find a specific interpretation, we can mention⁴⁸ the following:

- ✚ Group structures and processes and their psycho-social implications;
- ✚ The factors influencing the group dynamics;
- ✚ Roles, attitudes and social behavior inside a small group;
- ✚ Social influence and social conformism;
- ✚ Communication and communication structures in the groups;
- ✚ Decisional process in the group;
- ✚ Intra and inter-group conflicts;
- ✚ Group activity and team building;
- ✚ Group innovation and creativity etc.

The interest in studying small groups became more intense at the same time with the appearance of the first psychological and sociological theories, at the middle of the XIXth century, which had already reached the conclusion that the individual is a product of the group and the social reality is supra-individual. We have in view the contribution of some pioneers of the two sciences, such as⁴⁹:

- *Gabriel Tarde*, the French sociologist that built the sociological psychology according to which "the social" would not be but a psychic inter-relations phenomenon of men, which is subjected to the imitation laws, to opposition and adaptation inside a system of dynamic balance in permanent transformation;
- *Georg Simmel*, the German sociologist considered to be the founder of sociological relations and formalism according to which social life is an objective reality whose essence is the interaction and the relations created between individuals inside social groups;
- *Emile Durkheim*, the French sociologist who built modern sociology by developing some valuable theories upon socialization of the individual, social anomaly, social conformism

⁴⁸ Dicționar de psihologie socială, Editura Științifică și Enciclopedică, București, 2001

⁴⁹ Dicționar de psihologie socială, Editura Științifică și Enciclopedică, București, 2001

etc.; his theories concerning mainly social solidarity and social symbols contributed decisively to the interpretation of collective processes and especially to the interpretation of “restricted groups” (family and students classes);

➤ *Sigmund Freud*, the Austrian psychologist who, by his psycho-analytical method, influenced most of the psycho-sociologists interested in studying the *change* phenomena by group methods and in the group *influence* process;

➤ *Wilhelm Wundt*, the German psychologist by the name of whose not only the foundation of the first laboratory of experimental psychology is related to but also a high number of social psychology studies acknowledged to the research of psychology of individuals reunited in communities.

Psycho-sociological researches have known even a higher development in the first decades of the XXth century especially in USA where the interest is in the study of cognitive processes and in the influences the group exerts upon judgments, opinions and attitude of the individual. By studying the inter-personal relationships (especially the preferential ones) created inside micro-groups, the American sociologist of Romanian origin *Jacob Levy Moreno* created a series of measuring techniques of these relationships, founding this way the sociometry (as a group therapy in order to reduce inter-personal conflicts – see “psycho-drama” and “socio-drama”).

After 1940, the researches of the American sociologist *Kurt Lewin* and of the school he founded will lead to the appearance of “group dynamics” theory which later on becomes a psycho-sociological subject meant to study the assembly of adaptive changes produced in the assembly structure of a group as a result of the interactions inside it. Along its evolution, numerous *theoretical orientations* have appeared (behavior, cognitive, dynamic, gestaltist, pragmatic-operational, etc.) and a great number of explicative hypothesis and theories (cognitive dissonance and social comparison theories of Festinger, group achievement theory of Stogdill, social role theory of Linton, reference group theory of Merton, active minorities theory of Moscovici, attitude change theory of Hovland, etc.) have been proposed – for details see „*Orientations and tendencies in contemporary social psychology*”, 1988, author: P. Golu. In our country, social psychology had “a contradicting evolution, with European and North-American synchronization periods but also with decline periods when ideology was implemented in a forced way” (S. Chelcea, 1993).

Besides the man’s needs as biological being, which are socially satisfied, there is also a series of other needs of spiritual nature (such as the need for prestige and social recognition) which suppose a progressive adaptation to the conditions of collective life, man’s transformation into person and social personality. Once this process completed by the means of learning, communication with the others, the individual has to assimilate his needs to the group life, by coordinating and integrating his actions into the actions of other individuals. Individuals’ grouping into more or less organized communities is a law requirement for the existence and development of society, of human being. The phenomenon of human grouping is much diversified. It sums natural assemblies (family, ancestry, and clan), genealogical data, as well as the historical data (tribe, people, nation, social class); both spontaneous groups (crowd) and organized “on purpose” groups, but especially well-formed and structured proper *social groups*. That is why we will understand that the notion of “social group” is very abstract and generic and as such it is necessary to make a minimum classification and analysis of main categories of groups⁵⁰:

A. According the size order:

✚ *Small groups* (up to 25-30 members) such as family, students groups;

✚ *Middle groups* (of tens and thousands);

✚ *Big groups* (professional groups, social classes);

⁵⁰ Dicționar de psihologie socială, Editura Științifică și Enciclopedică, București, 2001

B. According to the nature of the relationships between the members

✚ *Primary groups*, inside which the individuals establish warm, personal, cooperation (intimate association, „face to face”) relationships; the result of this intimate, psychological association consists in a certain fusion of individualities in a common whole, so that the individuality of one becomes the common life and the purpose of the group (a sort of sympathy and reciprocal identification appears this way and for which the expression “we” is a “natural expression” – C. H. Cooley); examples: family, friends group;

✚ *Secondary groups*, which are defined by inter-personal, contractual and formal relations, where the intimacy and affection are missing. If in the primary groups the cohesion between the groups members is based on direct relations and on a personal reciprocal engagement, at a high level of members identification with the group, the secondary ones have a weaker, non-custom social cohesion, maintained by the cooperation that result from the division of roles and tasks. Such groups are, for example, professional associations, big economical and political organizations etc.;

C. According to the nature and type of standards that settle the group life:

✚ *Formal groups*, inside which the conduct standards of the group members are written in regulations and operation statutes, and their leaders are nominated (chosen) in keeping with statutory settlements;

✚ *Informal groups*, which grow and work in parallel with the formal ones (sometimes they superpose themselves to the formal ones, this meaning that they do not hinder the institutional activity, but on the contrary, sometimes they get in conflict with them). These groups are small and are created spontaneously based on the personal contacts and affinities, having consonant, parallel or even opposite purposes to the formal groups in which they are formed. They can act in an organized way, but according to their own standards, which are not written in institutional documents. To a higher extend, they are “opinion” groups, bringing together individuals sharing in common certain esteem, emotions etc. related to the social life and institution activity issues. They gather around some leaders who are approved spontaneously and who do not have an official statute;

D. According to the structure and functions of social-value environment into which the individuals are being integrated; from this perspective, Robert Merton distinguishes:

✚ *The reference group*, by which we understand a certain set of statuses and values established previously, which individuals can adopt (positive reference group) or reject (negative reference group). Thus, the reference group is the one to which an individual reports himself psychologically, guiding himself in relation to the values and the standards of that group, which for the individual is the appreciation system of others but also as a source for forming his value orientations. Nowadays, the reference group became an essential notion in understanding the process of self-esteem forming, being widely used in order to explain phenomena such as: inconsistencies of individual’s conduct in the circumstances of a new social context, criminality manifestation among under age persons, marginal person dilemma, intra and inter-groups conflicts etc. Initially, the term was introduced in 1942 by M. N. Hyman (supporter of interaction orientation in psychology) related to the research of person’s representations about his own status compared to the status of other persons. The result of this comparison is a self-appreciation of the status that Hyman is treating as a dependent variable, this meaning that the self-esteem depends on the group taken as a reference point;

✚ *The membership group* is the group to whose activity the individual takes part and of which he is bound subjectively. In the socio-human sciences the distinction between *in-group* and *out-group* is still working, this meaning the persons belonging to a group and the others, outside it, between “us” and “them”. This distinction – as Petru Iluț estimates) – does not indicate a simple physical separation, a formal membership, but implies a complex of representations and sentiments that determine specific behaviors. Thus, a series of experiments proved that the existence of in-group image favoring effects is confirmed, in attribution processes inclusive: failures and unfulfilment of the others are due to their internal features (laziness, stupidity, frivolity etc.), while success is due to external factors

(the help given by the others, chance etc.) and the other way round, for „us” (we justify our unfulfilment by bad luck, “conspiracies” and the success is ours).

In the psycho-sociological literature we will see, of course, also other classifications or estimations regarding the essence and specific of the social group. But to conclude, we will estimate, also as P. Iluț did, that the group is considered as a social unit made of more individuals that have the following as *characteristic notes*⁵¹:

- ✚ Immediate relations („face to face”) of *interaction* and reciprocal dependence;
- ✚ Common purposes and activities that suppose structuring on different strata and roles;
- ✚ Development of common standards and values settling the behaviors of its members;
- ✚ Conscience of group membership, the feeling of „us”.

From the previous estimation another equally important conclusion comes up namely that any social group needs human interaction processes, as well as the exertion of some influences from the group unit towards grouped individualities.

Conclusion

Globalization, as well as its most important step, which is the integration into European Union, seems to be for major part of Romanian organizations shows they could see passively on the TV and not major processes, decisive obstacles for their future. Inertia and the role too big of politics in economical and social life, which generated uncertainty and permanent change, as well as the lack of competence and experience in managers’ planning, maintain the strategic planning horizon, for the most part of the Romanian organizations, to one year compared to 5-20 years for Americans and much more for the Japanese. The globalization supposes many changes in economy, communication, political structures, in all fields of personal and organizational life – the most important of them would be the diversification and cultural convergence processes. It matters very much also the culture of the community in which the child is integrated. For example, the children who grow up in a trust, equality or collectivity oriented society – a society characterized by inter-dependence and lack of any paranoia feature – have more chances to become good leaders, able to build trust and to impart a feeling for the global organizational community.

From the previous estimation another equally important conclusion comes up namely that any social group needs human interaction processes, as well as the exertion of some influences from the group unit towards grouped individualities.

References

1. Goleman. D.(2008). *Inteligenta emotionala*, Ed. Economica Bucuresti (pp 64- pp65)
2. Olaru Adriana (2007). *Managementul schimbarii*, Ed. Europlus Galati.
3. M. Preda (2006). *Comportament organizational*, Ed. Polirom Iasi.
4. Mielu Zlate (2004). *Leadership si management*, Ed. Polirom Iasi.
5. Covey S.R.,(2001). *Etica liderului eficient sau Conducerea bazată pe principii*, Ed. Allfa, Bucuresti(pp 11- pp 13)
6. Kets de Vries, M.R.F.,& Perzow S.(2000), *Handbook of Carater Studies*New York, I.U.P.

⁵¹ Adrian Neculau– “Psihosociologia rezolvării conflictului” ,Ed. Polirom, 1997 – pag 123

The Role of Management Communication in Improving Human Resource Management

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Abstract

Successful companies attach great importance to human resource management and management communications, because they are aware of the value of those activities and of strategic advantage they can bring to the organization. They should also realize that it is necessary to live internal marketing philosophy, if they stream to offer quality products and services to both markets: internal and external. Consequently, the paper had two objectives: (1) to analyze concepts of management communications (MC) and (2) human resource management (HRM) parallelly, and define their scopes, overlaps and differences.

Keywords: internal communications, human resource management (HRM)

JEL classification: M1, M3, M5

1. Introduction

To have satisfied customers the organization must also have satisfied employees (George, 1977). Satisfied employees are a precondition for satisfied customers. Rosenblunth and Peters (1992 in Ewing & Caruana, 1999) go even further and say that the needs of the customer should come second to those of employees, as customer needs will only be successfully met after those of employees have been satisfactorily met. There is no sector existing within the marketplace that does not contain, or rely upon a service component. Under such circumstances, employees become a critical resource with a vital role in long-term success (Dunne & Barnes, 2000), through their involvement and contribution in serving customers and achieving customers' satisfaction. The proportion of customer-oriented employees in the organization's workforce brings a significant difference to its competitive position in the marketplace (Varey, 2001).

2. Common characteristics and main differences between the concepts

Personal management deals with the development of human resources and performs the role of a multiplier of one of the inputs that the company needs to meet its goals. The main purpose of human resource management therefore lies in the preparation of job descriptions and the establishment of working conditions suitable for the development of human resource potential. This is a kind of support which takes into consideration changes in communication corporate and encourages colleagues to be more committed to company goals and strategies and to identify with company philosophy. Moreover, strong corporate communication and correctly defined strategy significantly contribute to integration, co-ordination and motivation of individual employees, their initiative and improvement of quality of work. It strengthens their loyalty and responsibility with respect to their company. It is not an easy task to set visions and

goals that would match the goals and expectations of employees and meet the expectations of customers. Personnel management respects an approach in which market orientation starts and ends with people and employees can listen to market signals identify trends, wishes of customers as well as their dissatisfaction and complaints. For the information to reach the company management, it must be communicated. At the same time, the management must be willing and competent to listen to the information and requested changes and to interpret them. This requires a qualified employee, i.e. correct decisions of personnel management.

The goal of the survey is to describe the selected part of company reality from the point of view of communication, which is an important area of economical and corporate reality, and to compare the findings with theories on efficient communication outlined in the publications analyzed. A large portion of problems companies face is connected with the quality of human resources and efficient communication. Researches have revealed that an average employee exploits only 50 percent of his capacity and this figure can be either increased or decreased by motivation, targeted development and efficient communication.

Management can expect maximum return on investment in human labour if it uses the human potential offered by employees, keeps all employees well informed and makes them participate in company goals and projects. Management bears a great deal of responsibility as their attitude to human resources reflects in their satisfaction and performance. Just like corporate communication, successful human resource management must cover all the employees of the company as each of them makes decisions that, in the final stage, determine the fulfillment of company goals. Various forms of co-operation between employees and groups encourage communication in a specific way. Just for illustration, it is possible mention several communication tools of personnel management, such as meetings, teamwork, quality teams, brainstorming. The objective of personnel management is to decide on a suitable form of the above presented tools, motivation, development and assessment that promote the efficiency of co-operation. With regards to the fact that communication is not a purely inborn skill and ability, it is necessary to develop it. The theory of personnel management therefore uses a growth management model. New employees are the most open and require positive approach. To achieve satisfaction with work, several requirements must be satisfied. First, the work must be adequate and demanding. The second and rather important requirement is its attractiveness. The third requirement is to create a pleasant and efficient communication climate. All three requirements are long-term in character and should be applied as soon as the employee joins the company. If employees are provided adequate and good-quality initial training, they are much more motivated to perform their work.

Simultaneously, they are more likely to stay with the company, are more productive and their activities contribute to the increase of the company turnover or profit. Regular training and education are key factors in improving performance, motivation, enthusiasm, and commitment. Despite that companies are reluctant to invest in their human resources. Briann Tracy supports this by stating that an average company spends 85 percent of its variable wage costs, but less than one percent on employee training although surveys have shown that quality training improves performance and return on investment in ratio 30:1. While the majority of companies focus on qualification management as regards the development of human resources, the course of current events increasingly requires knowledge management.

Experts see the strategic perspective of company education and development in the maximum possible exploitation of human resource potential available in the company. This requires thorough development through regular training, workshops, common company events, regular and structured motivational experience, regular feedback and critical evaluation, responsibility awareness and jobsheet transparency. All the mentioned management tools are important areas

significantly influencing in-company communication and are therefore dealt with by personnel management.

Personnel management covers the issues of internal communication in a very broad sense. Specialized literature describes several other areas and approaches mentioning communication in connection with companies. Most of them, however, analyse communication from a very narrow perspective of the internal events and neglect the overall impact of communication on the efficiency of a professional company or organisation. These approaches focus on personality typology and aim at determining differences in communication based on specifics of each personality. Each personality type requires a specific way of communication that influences the personality. Each personality type requires a specific way of communication that influences the personality's performance. The approaches generally apply to social life or deal with communication of superior managers, i.e. try to define the personality of the manager with respect to communication effectiveness. The theories mention a number of characteristics of a manager and typology is used as a tool facilitating managers to utilize their communication and leadership skills.

Successful communication is based on qualities a good manager should possess: Tactfulness – this is connected with one of typical human characteristics and needs – the feeling of importance and usefulness. If a superior shows interest in his subordinates and co-operates with them, his subordinates will be more open in terms of communication and co-operation. Constructiveness – one of the preconditions of good and open communication is the trust of subordinates in their manager's ability to clearly define tasks, responsibility, the extent of responsibility and standards to be achieved.

Otherwise, it is difficult for employees to offer or receive any feedback since they do not understand what is generally recognised as being correct. It is based on a structured communication process which ensures that no redundant information is communicated, or, on the contrary, no key information is omitted. Freedom to perform – another prerequisites and a guarantee of better communication is the freedom which the superior gives to his subordinates with respect to the performance of the assigned task. Success requires freedom. Freedom is a key motivator for accepting and conveying information. This simultaneously means to delegate responsibility for the quality of performance of the whole task and decision-making powers. Superiors must provide all colleagues with clear information regarding the level of freedom they are granted with respect to the entrusted tasks.

Responsibility awareness – the following should be communicated: loyalty, responsibility, authority, performance measures, support, trust and expectations. Good general knowledge - to manage activities and decisions, it is necessary to know who the information and facts are designed for and where they can be obtained. The theory of management through exceptions explains this rule in more detail. It is based on the principle of communication restricted to exceptions, deviations, differences, discrepancies and exceptional successes or failures.

Positive self-perception – the building of positive selfconfidence is based on the management of relationships. It recommends communication of positive self-respect and the feeling of importance. People need to know how their work is evaluated. It is important for the manager to dedicate enough time to his subordinates to explain all the critical points, to give instructions and arrange details, to pardon unimportant problems and distinguish them from crucial matters. Positive self-perception is closely connected with growth management. For their development, employees require a number of impulses, such as freedom, control, feedback, respect, friendly atmosphere and positive trust. Many barriers are created only based on the incorrect assumption that the employee is not able to perform the given duty or assignment.

With respect to the above said, it is imperative to realise the key aspect of company development, which is the so-called stable system of communication expectations. This means expected and predictable communication behaviour which is the cornerstone of a communication system. Furthermore, the approach based on expectations is very important since people, as many surveys show, tend to do what they are expected to do. The theories place a focus on management, but lack analyses of characteristics and recommendations for sales personnel, representatives and other company staff that are in contact with customers and therefore determine, to large extent, the success of the company. A company representative can only master efficient and suitable way of communication with business partners if he, as an expert, acquires certain preset skills and qualities. Even in these theoretical approaches we can recognise certain one-sidedness that should be overcome in the future. To provide a complete picture of current theories dealing with communication, we should also mention a theoretical approach based on performance.

Many companies still fail to define an appropriate and realistic strategy or goal understandable to all company segments and comprehensively adapted to suit their roles on their journey to the common goal. In a number of companies, management teams do not communicate the goals and employees, not being acquainted with them, cannot implement the strategy efficiently and in full. The performance of goals is determined by corporate culture, human resource management and functional support systems. The outcomes are also influenced by the communication system, controlling and suitable organizational structure. The fulfilment of goals is based on the ability to respect and adapt to current conditions and the environment, provided there is a clear and shared company strategy. Other important factors include the quality of human labour relations, permitting to build on well-functioning company structure, company systems and processes helping the company to carry out its activities.

Organizations more and more acknowledge the necessity of internal or employee communications. As Argenti (1996) emphasizes, since contemporary organizations “become more focused on retaining a happy workforce with changing values and different demographics, they have necessarily had to think more seriously about how they communicate with employees” (p. 80). Management nowadays needs to give the internal audience equal attention to those external to the organization (Wright, 1995 in Dolphin, 2005), and “communications professionals have to recognize the importance of integrating the internal message with those messages communicated externally” (Dolphin, 2005, p. 185).

Management communications can be defined as transactions between individuals and groups in organizations at various levels and in different areas of specialization (Frank & Brownell, 1989 in Dolphin, 2005). Kalla (2005) defines management communications as “all formal and informal communication taking place internally at all levels of an organization” (p. 304), while Orsini (2000) defines them as “the full range of ways that people communicate with each other within the organization” (p. 31).

The role of management communications is “building and nourishing employee relations, establishing trust, providing timely and reliable information and thereby contributing to general motivation, particularly in times of change and stress” (Dolphin, 2005, p. 171). Spitzer and Swider (2003) suggest that effective management communications should have three basic objectives (p. 70-71): (1) the information that is communicated to the employee audience is understood and accepted by the audience with respect to the content, intent, relevance, and merit of the message; (2) the goals of the communications with regard to motivating, directing, informing, or gaining the participation of the employee audience is achieved among the majority of employees; and (3) the end result of an improved internal dialogue is achieving improvement in one or more of the core success components: product quality, sales, profitability, workforce performance and satisfaction, and, ultimately, customer satisfaction.

According to Argenti (1998), the goals of management communications in order of their importance are (p. 201): (1) to create the sense that employees are an important asset to the organization; (2) to improve morale and foster goodwill between employees and management; (3) to inform employees about internal changes; (4) to explain compensation and benefit plans; (5) to increase employee understanding of the organization and its products, organization, ethics, culture, and external environment; (6) to change employee behavior toward becoming more productive, quality oriented, and entrepreneurial; (7) to increase employee understanding of major health/social issues or trend affecting them; and (8) to encourage employee participation in community activities.

The idea of satisfied employees for the benefit of satisfied customers is accepted and developed by both academicians and practitioners, through the concepts of internal communications and human resource management. Having that in mind, two objectives of this paper emerged:

- (1) to analyze concepts of internal communications (IC) and human resource management (HRM) parallelly, and define their scopes, overlaps and differences – Researches so far have dealt with dyads of those concepts. For example, the possibility of human resources and internal communications coexistence (Buffington, 2004), integration of human resource and management functions (Glassman & McAfee, 1992), and using management approaches to improve internal communications (Spitzer & Swidler, 2003) were studied. The triad of IM, IC and HRM is a subject that to date has not received any attention. The impetus for such analysis came as well from the business. Practitioners question whose responsibility are internal communications (of corporate communications or HR department), what is, and whose responsibility is internal marketing, etc.; and
- (2) to propose a new internal management philosophy that combines three before mentioned concepts – To date the majority of researchers have been explaining internal management depending on their specialization. A holistic approach is missing and therefore a new direction is needed.

Activities or responsibilities of management communications are many, such as: planning and executing effective internal communications (e.g. measuring employee view and acting on such feedback, sharing information more widely and ensuring senior management visibility); protecting and championing the desired corporate culture; ensuring a continuing supportive role by the HR department; empowering employees (e.g. encouraging self-managed teams, monitoring and continuously improving measurement assessment, reward and recognition systems); and enhancing internal relationships and learning (e.g. establishing internal support networks, encouraging employees to talk to managers and recognizing examples of successful practice) (Dalton & Croft, 2003).

In practice there are various combinations to whom the head of internal communications **reports**. It could be HR director, head of corporate communications department, head of PR department, management director, or even CEO. The type and size of the organization, organizational culture, managerial style, financial resources, staff, what the organization expects or demands from the function, or the volatility of the business environment may decide these approaches (Kitchen, 1997 in Dolphin, 2005; Buffington, 2004).

Human resource management as a specialized function in organizations began to grow around 1900s (Mathis & Jackson, 1988). However, the decade of the 1980s brought a serious transformation in the practice and study of human resource management. Intense business competition forced organizations to think about the new source of wealth and competitive advantage – employees. Therefore the field of HRM was not only “catapulted to critical positions within firms” (Graham & Bennet, 1998, p. 4), but “has discovered, and indeed begun

to embrace, a strategic perspective” (Dyer & Holder, 1988, p. 1). Moreover, in the 21st century, “in a world in which all work is knowledge work and intellectual capital is crucial for economic success, it is logical that the ability to attract, retain, and use the talents of people provides a competitive edge” (O’Reilly & Pfeffer, 2000, p. 257). HRM is commonly defined as a “process of acquiring, training, appraising, and compensation employees, and attending to their labor relations, health and safety, and fairness concerns” (Dessler, 2005, p. 4), and as a “strategic and coherent approach to the management of an organization’s most valued assets – the people working there who individually and collectively contribute to the achievement of its goals” (Armstrong, 1999, p. 3). Hall and Goodale (1986, p. 4) add that HRM is a “process of bringing people and organizations together so that the goals of each are met,” with the aim of the “optimal degree of fit among the four components – the environment, organization, job, and individual”.

The overall **goal** of HRM is to enable organizations to be successful through their people. More extensively, HR aims are to (Armstrong, 1999, p. 4): (1) provide a range of services which support the achievement of corporate objectives as part of the process of running the organization; (2) enable the organization to obtain and retain the skilled, committed and well-motivated workforce it needs; (3) enhance and develop the inherent capacities of people – their contributions, potential and employability – by providing learning and continuous development opportunities; (4) create a climate in which productive and harmonious relationships can be maintained between management and employees and in which feelings of mutual trust can be developed; (5) develop an environment in which teamwork and flexibility can flourish; (6) help the organization to balance and adapt to the needs of its stakeholders (owners, government bodies or trustees, management, employees, customers, suppliers and the public at large); (7) ensure that people are valued and rewarded for what they do and achieve; (8) manage a diverse workforce, taking into account individual and group differences in employment needs, work style and aspiration; (9) ensure that equal opportunities are available to all; (10) adopt an ethical approach to managing employees which is based on concern for people, fairness and transparency; and (11) maintain and improve the physical and mental wellbeing of employees.

Means of achieving HR goals are various HR **functions or activities**. Bahtijarević-Šiber (1999) groups them into the following: strategic human resource management, human resource planning, job analysis, recruitment and selection, performance management, motivating and compensating, training and development, career management, creation of adequate organizational climate and culture, health and safety issues, labor relations, and employee services. The HR practice is very well developed and present in contemporary organizations. Most of them have a stand alone department **responsible** for HR activities, led by HR director, and employing HR professionals.

The relation between MC and HRM. There are three perspectives on the relationship between management communications and human resource management. The first perspective regards management communications as a responsibility of HR, rather than marketing or PR, because of a number of reasons, including a greater focus on the link between behavior and business results; an emphasis on leadership, coupled with an understanding that good leaders need to be good communicators; and the development of “an integrated view of people” (Anonymous, 2002). One of the reasons organizations position management communications under the human resource department is the thinking that HR department “has the best understanding of what the community inside an organization needs and wants” (Buffington, 2004, p. 34). Sims (1994) agrees, declaring that it is the responsibility of human resource management personnel to ensure that communications processes are fully functioning and that the human resource management function should be the primary conduit for open and integrative communications processes within an organization. The second perspective does not offer clear boundaries

between the fields. For example, Farrant (2003) says that “contemporary management communications work towards winning people’s participation and involvement in the enhanced achievement of the organization’s goals” (p.14), precisely what HR mission is. Argenti (1998) stresses that “more than anything else, communication is the key to getting workers to become more productive”, while HR experts give evidence that it is HR goal (Wright, McMahan & McWilliams, 1994; Boxall & Purcell, 2000; Khandekar & Sharma, 2005). Among the tasks of management communications, Dalton and Croft (2003) number the employee attitude survey, while various employee surveys are customary HR activities. The third perspective stresses the importance of human resources management and communication skills to be brought together for strategic advantage (Dolphin, 2005). As Argenti (1996) implies, although many of management communications activities can be handled through human resource departments, “the communication itself and the strategy for communicating these ideas must come from communications experts in the corporate communication function” (p. 80). Even more, management communications should be less a problem for the human resource department and more an opportunity for everyone to work for the greater good of the whole organization (Argenti, 1998). The idea of strategic collaboration is supported by Buffington (2004), who states that human resource department needs to “direct the schedule and the substance of what has to be released, but the communications department makes sure the language is in an appropriate style for the audience and decides the medium it will use for delivering the information” (p.34). Ideally, both the corporate communications and human resource departments should have someone in charge of communications to employees (Argenti, 1998).

At the end of this analysis it should be acknowledged that all two concepts have the following common characteristics: (1) they are all essential to the achievement of corporate goals; (2) they are all in strategic relation to the business results; (3) they all aim and lead towards more satisfied, loyal and productive employees; (4) they are all based on a win-win paradigm; and (5) they are all oriented towards the same target group, that is employees, although they are labeling them differently (internal stakeholders for internal communications professionals; and associates or colleagues for human resource management professionals).

The analysis revealed that concepts overlap to a great extent, while there are only few considerable differences. The concepts differ in their operationalization, in terms of their typical functional responsibility within organizations, and principal responsibility for the implementation. Responsibility for management communications are responsibility either of internal communications, corporate communications, public relations, or HR department; while the responsibility for human resource management is on HR department.

This paper is one of the first trying to fuse different and commonly detached areas of, management communications and human resource management in a new philosophy of management. In order to fully define this philosophy, it is necessary to conduct empirical researches. Two main future research directions are evident: (1) exploration of the existence of internal management philosophy in organizations, i.e. whether internal management is really a philosophy spread through the organizations, whose responsibility it is, etc., and (2) exploration of the relationship between the level of existence of internal management philosophy and organizational performance, with the long-term goal of assessing causal relationship between the two through longitudinal study.

3. Conclusion

Successful companies attach great importance to human resource management (Kravetz, 1988; Ulrich & Brockbank, 2005; Huselid, Becker & Beatty, 2005), and management communications (Young and Post, 1993; Farrant, 2003; Dolphin, 2005; Dortok, 2006), because

they are aware of the value of those activities and of strategic advantage they can bring to the organization. They should also realize that it is necessary to live management philosophy, HRU. The new management philosophy should be grounded in a relationship management theory. It should not be limited to neither of two functional areas that are commonly connected to it – management communications, human resource management. It is for sure that managing internal relationships should not be restricted to any function, and should not apply traditional marketing concepts and tools. That would ruin the nature of internal relationship management, and would not encompass all tasks it should fulfill.

The research has not fully confirmed the principle of direct proportion between the extent of communication and effectiveness of co-operation among departments and employees. The co-operation is also dependent on the structure of the company and the systems it uses. According to the survey, communication in the direction up the company hierarchy becomes less transparent, information is forwarded passively, there are no measurable functional communication system rules that could be handled and recognised by company employees. Commitment and focus on customers does not result from vertical communication alone. The research has also demonstrated that efficient communication is dependent on a suitable manager with an appropriate profile rather than a dominant personality. The personality of the manager and management style can contribute to the satisfaction of employees and improve their performance. If a company wants its employees to communicate effectively, it must create appropriate conditions, by means of systematic development and suitable human resource management tools encourage motivation and employee communication, and set rules for the described company systems or standards, the observance of which it checks.

References

1. Anonymous (2002), *HR shoulders responsibility for internal communications*, *People Management*, 8(16): 8
2. Argenti, P. A. (1998), *Strategic employee communications*, *Human Resource Management*, 37 (3/4): 199-206
3. Armstrong, M. (1999), *Human Resource Management Practice*, 7th ed., Kogan Page, London
4. Boxall, P., Purcell, J. (2000), *Strategic human resource management: where have we come from and where should we be going?*, *International Journal of Management Reviews*, 2(2): 183-203
5. Buffington, J. (2004), *Can Human Resources and Internal Communications Peacefully Coexist?*, *Internal Communications*, 10(4): 33-35
6. Dalton, J., Croft, S. (2003), *Managing Corporate Reputation*, Thorogood, London
7. Dessler, G. (2005), *Human Resource Management*, 10th ed., Pearson Education, Inc., Upper Saddle River
8. Dolphin, R. R. (2005), *Internal Communications: Today's Strategic Imperative*, *Journal of Marketing Communications*, 11(3): 171-190
9. Graham, H. T., Bennett, R. (1998), *Human Resources Management*, Pitman Publishing, London
10. Khandekar, A., Sharma, A. (2005), *Managing human resource capabilities for sustainable competitive advantage*, *Education + Training*, 47(8/9): 628-639
11. Kotler, P. (2003), *Marketing Management*, 11th ed., Pearson education, Upper Saddle River, New Jersey
12. Kravetz (1988), *The Human Resource Revolution – Implementing Progressive Management Practices for Bottom-Line Success*, Jossey-Bass Publishers, San Francisco
13. Thomson, K., Hecker, L. (2000), *Value-adding communication: Innovation in employee communication and internal marketing*, *Journal of Communication Management*, 5(1): 48-58
14. Ulrich, D., Brockbank, W. (2005), *The HR Value Proposition*, Harvard Business School Press, Boston, 2005
15. Wright, P. M., McMahan, G. C., McWilliams, A. (1994), *Human resources and sustained competitive advantage: a resource-based perspective*, *International Journal of Human Resource Management*, 5(2): 301-326
16. Young, M., Post, J. E. (1993), *Managing to Communicate, Communicating to Manage: How Leading Companies Communicate with Employees*, *Organizational Dynamics*, 22(1): 31-43.

The Risk of Irresponsible Marketing

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Abstract

In the era of capitalism is more to reproduce than to consume and a society in which production occurs only for the sake of production can only be a wasteful society. Things can not continue like this. Consumers are starting to realize that they create a hostile environment for life. The rules of marketing must change. An increasingly conscious consumers demand that companies be transparent about their practices wich impact on people and the planet. The article shows what are the values that conscious consumers are guided by so that marketing can comply with these.

Key words: Green, Pollution, Green revolution, Sustainable. Corporation, Locally grown. Socially responsible, Environment

JEL Code: M14

1. The need of changing economic model applied untill present

Because it was endowed with intelligence, the human species treated the environment with arrogance, trying to dominate and then to transform the nature, thus, contributing to enhance the rithm of developed needs and desires, both in volume and in complexity. The situation reached the point where human activity sickens environment either by uncontrolled consumption of resources, either through the production of waste which nature can not absorb without suffering.

Environmental phenomena manifested at the beginning of the XXI century is a signal of alarm that the economy is destroying its support systems, using up the fixed assets of natural capital. The Economic model of consumption from the last 50-60 years, based on fossil fuels, will bring us, undoubtedly, a similar fate to that of civilizations missing after thousands of years because they became at one time an enemy of nature, through activities that they developed to survive.

Global threats which press the environmental points out today that social welfare is not reduced to a mere accumulation of goods and services. By exploiting natural resources in an irrational way, we will increase today's profits, without thinking about tomorrow and without renewing the natural capital.

The financial accounts do not record water pollution, air pollution, the rivers's pollution because the goods are not displayed for sale and because they belong to anyone in particular, and therefore have no price. There are, however, recorded costs of depollution. Costs for restoration of environmental health (environment of which man is part) are very high and there are some situations in which resources are not renewable and there are no perfectly substitutable goods for them. Economic deficits are what we borrow from each other, but ecological deficits are what we finally get to future generations. What is to do ?

Environmental phenomena that have manifested in recent years have "woken up" public opinion forcing political actors and the socio-economic participation for the effective conservation and development of a sustainable manner, of everything that surrounds us. Step by step, the term of environment has been established definitively in daily life and acquired an important international order.

2. A responsible way of doing marketing

In time, various criticisms of marketing have been laid down, on creating false needs, causing some cultural pollution, due to the impact that have on individual consumers - prices too high, product quality or over evaluation quality of the products and services, decreasing the life of the products we promote the practice more or less moral.

Capitalism transformed man who used to consume goods only to satisfy his basic needs into a slave to consumption and false needs. From the beginning of industrialization and the formation of a consumer society, marketing is an integral part of our society. Classic marketing had a significant contribution in the alienation of human nature by creating a more comfortable artificial environment, but in opposition with nature, not due to failure of marketing activities applied but, paradoxically, due to the success recorded. That is how the society arrived to a wrong ranking of the values based exclusively on labour and consumption. The luxury and comfort is a purpose and a need for recognition (brand clothing company, cars, cell phones, etc.). Image and the consumption are a sign belonging to one group or another. The ideas aren't the ones that matter now and those to identify individuals, a performance, but the money, style, image and that it formed attitude. And this is why brands have come to the office and beyond that they had at the beginning of industrialization: to identify the products and certify a certain quality, reaching now to signify a state of mind that identifies the consumer. Thus, brands have become almost human. They exist everywhere around us in various forms and they assault us with slogans everywhere.

There are people who do not feel influenced by publicity in the purchasing decisions that they take daily but it is already recognized that the actions of marketing (especially advertising) is partially subliminal. Although you not realize that you are under the influence of advertising messages, your behavior is affected. Consumers, handled by advertising and publicity, are condemned to a passive role. Fashion competition and changes in consumption reduces the life cycle of desires. Is a direct consequence of reducing the life cycle of products.

In the era of capitalism is more to reproduce than to consume and a society in which production occurs only for the sake of production can only be a wasteful society. Things can not continue like this. Consumers are starting to realize that they create a hostile environment for life. The rules of marketing must change. The new rules of marketing have more to do with responsibility than with return on investment. The big challenge for marketers is how socially responsible the message is once it reaches those conscious consumers. Responsible marketing aims to protect consumers from aggressive marketing, media and advertising. The result of surveys has shown that Americans are becoming more annoyed by both the frequency and the content of marketing and advertising. Or with both parents worrying, fast food has become a larger and more convenient portion of the family diet. Advertising should :

- ✚ encourage healthier dietary choices and/or lifestyles
- ✚ limit products shown in interactive games to healthier dietary choices
- ✚ incorporate healthy lifestyle messages into the games
- ✚ not advertise food or beverage products in elementary schools

Those corporations with strong corporate citizenship records will be rewarded in the market place with enhanced reputations, competitive advantages and strong bottom lines. A good marketing strategy set up will always take into account consumer and environmental

guidelines. Organic consumers intend to change lifestyle and want more information. Many companies are starting to use their products that are organic or that are not tested on animals as a marketing tool and at the same time, prove their responsibility towards environmental issues, offering consumers an alternative to traditional products. Ecomarketing gain ground. The Ecomarketing cover the areas of environmental protection on the one hand and the products and environmental services, on the other. It can be defined as a specialization of social marketing, consisting of a set of activities aimed at identifying, influencing and satisfying consumer goods and environmental services.⁵² Ecomarketers should investigate the market carefully and identify potential consumers of organic products and services, to educate and shape them so that needs to be converted into demand. Stimulating demand for organic products is a process between the company and market of continuous and carefully studied communication, so gradually, the consumer turn their usual behavior or to become a responsible consumer. It is used very frequently in recent times the notion of social utility of the consumer, thereby defining the present and future rights, as a consumer.

Companies that answer these consumer demands will win a number of advantages: gain new consumer segments, overcome competition, achieve higher revenue in the long term, improving the image, save costs due to anticipation of possible adverse effects, access to new markets. However, it is taken into account the fact that now there is a low demand, especially in Romania, for environmental "clean" technologies are expensive, prices are higher than those of treated and this limited consumption such products and prevented some consumers to change the mode of consumption in favor of organic products. No legislation is yet ready to face a substantial claim on such a market. Production process must change, therefore it will be taken into account: the phases of production, the life of the product, product abandonment, the problem type and quantity of resources used, the characteristics of safety, the maintenance of information and the re-use, how to burn, the way of packaging and recycling of packaging. The result of production activity will be called ecoproduct. Ecoproduct is that responsible product that satisfy conscious consumer's demands and, at the same time, harmonizes interests, short, medium and long time. Mirela Stoian, defined ecoproducts as:

- ✚ products which are obtained through an efficient use of resources involved in the production and implementation;
- ✚ products that can be recycling in a small or large extent;
- ✚ products that use raw materials or resources available rather than rare or poor
- ✚ products leading to reduced amounts of waste resulting from - either the production or consumption, because of their characteristics

According to Mirela Stoian, ecomarketing's functions are:

I. General functions, common marketing:

1. Investigation of the market, the consumer needs
2. Connecting dynamic business activity in the economically-social environment
3. Satisfying in higher conditions the consumption needs
4. Maximizing the profit

II. Specific functions

5. Educating consumers
6. Achieving a balance between general principles of marketing and the protection of the environment
7. Promoting a new image of the company and its products

⁵² Stoian Mirela, "Ecomarketing", ASE Publish House, 2003

3. Environmental Risk Management

In March 2008, The Economist Intelligence Unit⁵³ surveyed 320 executives around the world about their attitudes to environmental risk management. Respondents represent a wide range of industries and regions, with roughly one-third each from Asia and Australasia, North America and Western Europe. Approximately 50% of respondents represent businesses with annual revenue of more than US\$500m. All respondents have influence over, or responsibility for, strategic decisions on risk management at their companies.

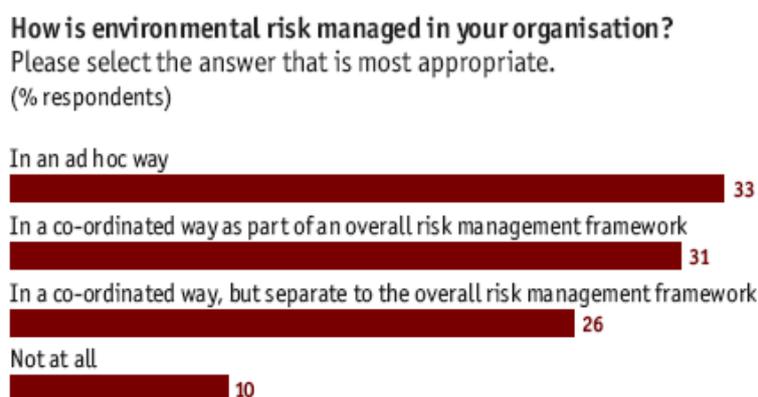


Fig 1. Source *An Economist Intelligence Unit report, 2008*

According to this survey, 33% of the respondents said that environmental risk is managed in an ad hoc way (fig 1). There is no clear consensus about who should be responsible for environmental risk. There has been widespread agreement that a board-level executive, and usually the CEO, should assume ultimate responsibility for managing that risk.

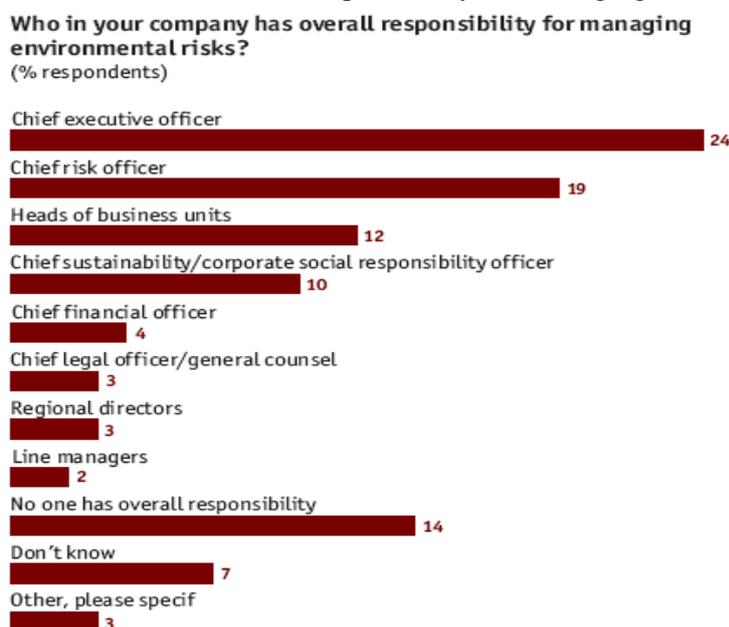


Fig 2. Source *An Economist Intelligence Unit report, 2008*

⁵³ Under the spotlight — The transition of environmental risk management, An Economist Intelligence Unit report, 2008
www.kpmg.com/Global/IssuesAndInsights/ArticlesAndPublications/Pages/environmental_riskmanagement.aspx

According to our survey, a high proportion of companies do not conduct a formal assessment of environmental risk when undertaking a wide range of strategic activities, including the selection of partners or suppliers. Just 41% say that they conduct such an assessment when developing new products and services, 32% when selecting partners or suppliers, 26% when planning geographical expansion and just 19% when planning mergers and acquisitions. When asked about the stakeholders who were exhorting companies to improve their performance in this area, they come some way down the list. Respondents say that the main force behind the initiative is executive management, followed by regulators and government. Customers come fourth on the list again providing evidence that compliance is frequently the main driver behind more effective environmental risk management.

In which of the following business activities does your company conduct a formal consideration of environmental risk?

Select all that apply.

(% respondents)

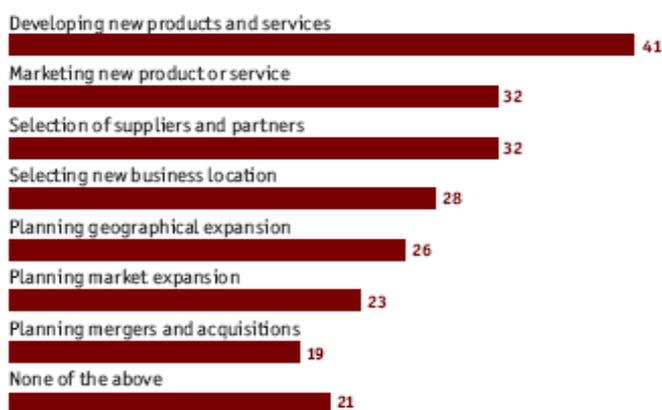


Fig 3. Source *An Economist Intelligence Unit report, 2008*

What is your company doing to improve the management of its supply chain in light of these risks?

Select all that apply.

(% respondents)



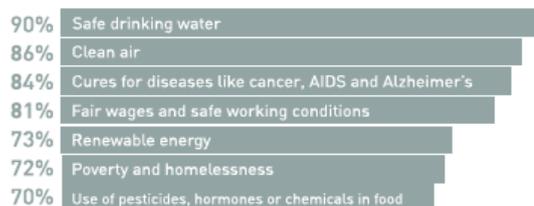
Fig 4. Source *An Economist Intelligence Unit report, 2008*

Environmental risks can also be a source of opportunity. In the coming years, it is almost certain that environmental risk will rise up the corporate agenda as concern about climate change and the impact of business on the environment increases. This presents challenges for companies, but it also offers opportunities. Depending on their industry, companies may be able to develop products or services that offer better environmental performance than those of their competitors, or that help to address some of the risks that companies are now facing.

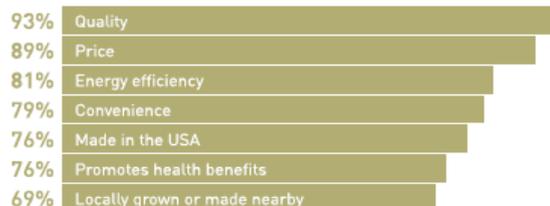
4. Conscious consumers – a new consumer segment

AMERICA'S INCREASINGLY CONSCIOUS CONSUMERS

Top Issues:



Most Important Product Attributes:



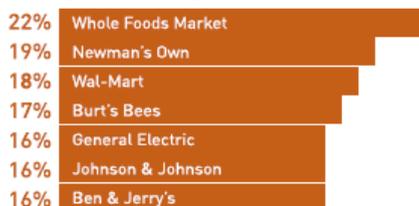
Self Identification: (% rated as "very well")



Desired Company Practices:



Most Responsible Companies:



Highlights from the BBMG Conscious Consumer Report

Consumers take more informed decisions about the products they buy and the companies they support. Attributes like: where a product is made (44% very important), how energy efficient it is (41% very important) and its health benefits (36% very important) are all integral to consumers' purchasing decisions. Conscious consumers represent an increasing market opportunity in the United States.

They are demanding companies to be transparent about their practices and accountable for their impact on people and the planet. According to BBMG Conscious Consumer Report⁵⁴, nearly nine in ten Americans say the words "conscious consumer" describe them well and are more likely to buy from companies that manufacture energy efficient products (90%), promote health and safety benefits (88%), support fair labor and trade practices (87%) and commit to environmentally-friendly practices (87%), if products are of equal quality and price. In the same report are described the five core values that drive the nation's socially-minded consumers:

1. Health and Safety. Conscious consumers seek natural, organic and unmodified products that meet their essential health and nutrition needs. They avoid chemicals or pesticides that can harm their health or the planet.

2. Honesty. Conscious consumers insist that companies reliably and accurately detail product features and benefits. They will reward companies that are honest about processes and practices, authentic about products and accountable for their impact on the environment and larger society. Making unsubstantiated green claims or over promising benefits risks breeding cynicism and distrust.

3. Convenience. Conscious consumers are practical about purchasing decisions, balancing price with needs and desires and demanding quality. These consumers want to do what's easy, what's essential for getting by and make decisions that fit their lifestyles and budget.

4. Relationships. They seek out opportunities to support the local economy when given the chance, want to know the source of the products they buy and desire more personal interactions when doing business. Who made it? Where does it come from? Am I getting back what I put into it?

5. Doing Good. Conscious consumers are concerned about the world and want to do their part to make it a better place. From seeking out environmentally-friendly products to rewarding companies' fair trade and labor practices, they are making purchasing choices that can help others. These consumers want to make a difference, and they want brands to do the same.

Conclusion

Economic activity should be led by natural laws. Human can not return to the primitive life that once had, but much less polluting. What it is now tried is to create a consumer of natural resources without exceeding the capacity for regeneration of the environment. Small steps can make a big difference, both at multinational companies and with conscious consumers. Global

⁵⁴ "Conscious Consumers Are Changing the Rules of Marketing. Are You Ready? Highlights from the BBMG" www.bbm.com/.../BBMG_Conscious_Consumer_White_Paper.pdf BBMG designed the conscious consumer study in August 2007. Bagatto, Inc. performed the ethnographic study, which included extensive observations and interviews with 24 consumers in three markets: Lawrence, KS; Long Island, NY; and Livermore, CA. The ethnography focused on single males, single females, married couples with no children, married couples with children and empty nesters. A national online survey of 2,007 adults was conducted by Global Strategy Group from Sept. 11-17, 2007. The margin of error is +/- 2.2 percentage points.

businesses understand the market opportunity presented by sustainability, and they recognize they have much more to do. Individuals, even the most enlightened, are also on a journey. Indeed, during the same trip to the grocery store, consumers make a variety of choices that balance health, price, convenience and social benefit. Smart marketers will meet conscious consumers where they are. They will help companies back their eco-friendly promises with sincere socially responsible actions.

They will empower consumers to become brand ambassadors. They will share knowledge across communications platforms, and increasingly, they will see marketing's power to enable deeper, more meaningful and mutually beneficial relationships. Marketing's next frontier will move beyond transactions to embrace connections and collaboration, as trust, transparency and purpose become the new currency of corporate reputation.

References

1. Stoian Mirela, "Ecomarketing", Published by ASE, Bucharest, 2003
2. www.bbm.com
3. www.kpmg.com

The Risk Management in the Banking System, an Overview

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Abstract

The first part of the study exposes a series of aspects concerning the risk management in the financial banking system. Next the limits of the risk management in the national banking system are presented. The causes of the banking crises determined by the errors of risk management and a series of recommendations in order to eliminate the limits of the banking risk management are stressed. The second part presents the tendencies expressed in the risk management area in the Romanian banking system. The registered management errors, the new challenges that impede the management and the ways of its improvement are the aspects stressed.

Keywords: banking risk, banking system, risk management

JEL Code: G21, G28

1. Introduction

The international banking and financial system faced during the last 18 years a multitude of crises that represented the final chapter in the series of financial „manias, panics and crashes” that had been shaking the global capitalism during the last 30 years.⁵⁵

The violent and beyond control appearance of these crises, their destructive effects on the economical, social and political situation in the countries in which they emerged as well as the unpredictable and volatility effect, have brought up large problems in the management of the banking risk. The quick succession of the crises (South – Eastern Asia 1997, Russia 1998, Turkey 2000, Argentina, Brazil 2001-2004, USA, Europe 2006-2009), demonstrate the limits of the management system in the banking risk both concerning the national financial-banking structures as well as concerning the international structures (FMI, MB). Between 1967-2007, 122 financial crises took place⁵⁶, showing that the risk management has had important lacunas and the managers understood nothing from the anterior banking crises.

The management of risk in the national and international financial-banking systems has raised many debates among economists, experts and governments, concerning the techniques applied in the risk prevention and restriction. It is notorious the fact that six of the best known American economists Jagdish Bhagwati, Stanley Fisher, Milton Friedman, Paul Krugman, Jeffrey Sachs and Joseph Stiglitz have launched in polemics on the causes, politics and

⁵⁵ Charles P. Kindleberger, *Manias, Panics, and Crashes*, Basic Books, New York, 1988

⁵⁶ Stijn Claessens, M. Ayhan Kose and Marco E. Terrones, *What Happens During Recessions, Crunches and Busts?* IMF Working Paper

techniques that have to be applied in order to prevent the future crises. Starting from these controversies, in the following lines we will speak about a few aspects concerning:

2. Limits of the risk management in the national banking systems. Suggestions for the removal of the management limits

In the banking system the risk comes from any separate transaction and it can be associated to every process generated by the banking activity. It is extremely important for the banking managers to identify the risks associated to every undertaking because most transactions give birth to a combination of risks.

In the economic literature the term „associated risks” is very talked of and the major objective of the banking risk is the „administration of the systemic risk”. The combination of risks associated to the bankig system can be :

- ✚ the risk of solvability,
- ✚ the risk of cash,
- ✚ the credit risk,
- ✚ the market risk with all its components – the interest risk and the exchange risk,
- ✚ the representation risk,
- ✚ the ecological risk,
- ✚ the operational and communication risks

The main principle in the developement of the management of the banking risk is that the banks should not start transactions and develop business in which the risks cannot be identified and controlled efficiently.

In its struggle for the profit and fight with the concurence, many times the banking management overestimates its capability to administrated the risks generated by the operations developed and it often ignores risks that later on prove to be disastrous for the banking organization. Even more than that, the errors in the measurement and administration of risks on the level of credit institution can contaminate the national, regional and even global banking system thus generating systemic crises with consequences that are very difficult to evaluate and oppose. The limits of the risk management in the global banking systems are emphasized by the chain of crises in the national banking systems.

The following table synthesizes the way in which the banking crises have operated during the last 20 years. The crises were generated by an inadequate management of the banking and especially credit risks.

Tabel 1. The banking crises

Country	Period of time	Non-performant credit weight(%) from the total of credits	Reorganization cost as a procentage(%) from PIB
Chile	1978-1983	19	41
USA	1984-1991	4	5-7
Norway	1988-1992	9	4
Finland	1991-1993	9	8-10
Sweden	1991-1993	11	4-5
Mexico	1995-1997	13	14
Argentina	1995	2
Brazil	1995-1997	15	5-10
Thailand	1997	47	24

Country	Period of time	Non-performant credit weight(%) from the total of credits	Reorganization cost as a procentage(%) from PIB
Southern Korea	1997	25	17
Indonesia	1997	55	58
Malaezia	1997	25	10
Filipines	1998	12	7

Source: FMI, World Economic Outlook, May 1998, The World Bank , Global Economic Prospect and Developing Countries, tabel 3,6, Caprio and Levine (2000), tabel 12, central banks.

The very high cost of the process of reorganization for the systems affected by the crises is obvious. The loss due the bad management is reaching considerable amounts of money, counted in billions of dollars. The analisis of the causes of the banking crises has emphasized, among others, a series of limits in the banking risk management in most of the countries affected by the crises. The main limits are:

- ✚ the extreme management optimism concerning the massive crediting of the rapid development in the processing industry and in the speculative estate investments, that offered the banks over-evaluated guarantees thus generating a false security image
- ✚ the management's lack of interest in the variation of credit portofolio made the banking experts be dependent by a certain geographical or activity area; many times their evaluations have been very weak and the credit was oriented especially towards companies with public capital, following the government's suggestion and pressure
- ✚ the use of a stimulative management based more on volume indicators less than on qualitative ones. The fact that the top management focused on the developement of the banks dimensions and the credit officers were interested in the increase of the sales volume had as a result the rapid credit growth.
- ✚ the overlook of the risks of an excessive credit maturity combined with an unsuccessful choice of the crediting currency
- ✚ the unwary and excessive jeopardize to the exchange risk, by a lack of control of the credited clients exposition to that risk

In order to eliminate these limits of the banking risk management, the group of the World Bank, based on a very detailed study of the banking crises, elaborated a set of recommandations. Among them, the most important are the following:

✚ The reinforcement of the role of the superior management
 The banks should use instruments that are watching the credit risk transfer in a very conscious manner, by creating a global risk management structure, used by the top management with the permission of the board managers or of the main managers.

✚ The credit risk pursuit
 The managementul of the banks that are involved in transactions with credit instruments should have the capability to understand and evaluate the inerent credit risk. It means the management capability to understand the large variables on which the evaluation of the credit instruments depends and the way in which this evaluation can be affected by the fluctuations of these variables.

✚ Paying notice in the use of the credit risk patterns
 The banks that use patterns that evaluate the value and risk of the credit instruments should dispose enough experts that understand the hypotheses, limits of these patterns and lead to a successful use of them. It is esential that in the use of these patterns an independent validation should be made periodically, by the market and also by the business area, through an

independent audit led by internal and external auditors. The employee implied in the management and risk pursuit should pay notice to the patterns limits while taking decisions related to the credit instruments.

✚ The use of the external rating

The management of all those who take part in the credit market should understand the nature and aim of the external rating of the credit instruments, they should understand that it differs from an instrument to another and the rating methodology differs among the rating agencies. The banks will encourage the rating agencies to continue the efforts to submit supplementary information about their own ratings

✚ The dynamic management of the organized transactions

The banks investing in the dynamic structures should carefully evaluate the manager's labour conscription, his maturity of thinking and the potential clash of interest in which he could be involved.

✚ The documents' legality valuation

All the bankers should pay attention to the legal documentation concerning the instruments of credit risk transfer, the information should be very clear and without any ambiguity the entities involved in the transaction, the transacted instrument, the exposure and its conditions. In order to reduce the legal risk coming from transactions with credit instruments, we should reinforce the efforts to standardize the documentation for all the complex products

✚ The correct valuation of the legal risk and of the transactions' opportunities

Before getting involved in a transaction with credit instruments, all the participants should clearly identify the legal responsibilities for the client's duplicate, based on their role in the transaction and to determine if the duplicate or the client have the legal authority to carry out the transaction. More than that, they should make use of procedures that evaluate and control the potential risks involved in the transaction. They should especially take into consideration the ability to access the information referring to monitoring of the risk profile of the transaction.

✚ The use of top secret information

The banks having access to top secret information should be able to demonstrate that they have adopted enough policies and procedures that assure the safe preserving of the confidential information. They should obey all the laws and relevant rules as well as the industry recommendations concerning the use of documents that are not addressed to the public because it refers to the involvement in transactions with credit instruments.

✚ The established risk documentation

The transactions participants should adopt written receipts or any written documents associated to the transaction right after the establishment of the transaction accord. They should set down clear standards for the periods of time in which they are allowed to make documents and confirmations exchange.

✚ The operational risk valuation

The managers should assure that the credit risk transfer activities are undertaken by enough experts and with relevant experience, levels of qualification. Before launching a commitment in the market the participants should be sure that the information and the technological systems fit to the nature and level of the market activity.

✚ The valuation of the risk of market solvability

The managers should understand the solvability characteristics associated with the positions of credit risk transfer assumed, especially for the organised products and should be conscious by the limits imposed in the secondary market associated with this kind of products. They should periodically evaluate the way in which their positions with answer in conditions of law solvability and incorporate the results of such evaluations in their own risk management approach.

✚ The continuous reports

The managers should improve the quality of public information on the transactions performed, on the entities financed and respect certain patterns in which the individual companies are presenting their own risk profiles.

✚ The collection for information

The bank managers should develop mechanisms that correctly identify the collections of information on the potential risks.

✚ The reinforcement of the activity of supervising the operations

The managers are being asked to take all the necessary measures in order to intensify the understanding of the development of the credit and banking transactions market. This cannot be realized without a qualified team, without implementing training procedures that improve their knowledge. The supervisors have a lot to gain from the periodical discussions with the market participants.

✚ The elaboration of consolidated balance sheets

The supervising authorities should periodically review the valuation rules and mechanisms concerning the banking transactions. They should make efforts to understand clearly the transactions accounting treatment and their implications, having in the background a good development of the accounting standards adequate to the banking transactions and ask the supervised entities to offer consolidated balance sheets.

✚ The information share among supervisors

The supervising authorities should share information concerning the risk transfer activities with the aim to strenghten the mutual understanding, to promote the improvements in the practices of the risk management and to enlarge the supervising approach.

All these recommandations intend to reduce the management errors in the evaluation and counteracting of the effects of the risks attached to the banking operations. The practice of the evaluations bring serious costs with the logistics and staff, that is the reason why many times the banks do not desire or are not able to cover such expenses. There is the risk that the loss generated subsequently to be much higher than the costs avoided.

The business world has suffered major changes during the last 10 years, changes generated by mergings and purchases, technological evolutions, the stress on the consumer's protection, globalization, the competition evolution, pressions concerning the obligations towards the shareholders. All these generate operational risks, that regularly have been treated with less preoccupation by the banks. The loss generated by the operational risks are beginning to become important in this period as a consequence, the authorities are increasing their interest in the way the banks administrate this risk. In this context the banking management should administrate with attention these risks.

The implementing of an efficient program of operational risk management is offering the banks a competitive advantage through the improving of the operational efficiency, the increase of profitability, the creation of an efficient frame of capital allocation and not at least, the improvement of the bank's image in front of the shareholders, clients and supervising authorities.

The neglecting of one or another risk categories attached to the banking activities emphasized the limits of the risk management and had as result the generation of the banking crises with important economic, financial and social consequences. That is why, the banking management must treat the risk in a systemic vision, that uses all the possible types of risks in order to establish adequate risk identification, evaluation and counteracting politics and procedures.

3. Present tendencies in the Romanian banking system

The Romanian banking system has known two different periods in which its action was manifested. The first period was that of reorganization of the system on two levels. The Central Bank was at the first level while the commercial banks were at the second level. Soon after the reorganization the banking management passed through a very confused period both concerning the Central Bank and the commercial banks.

The transfer from a central economy to a free, market one, with new rules and devices determined the managers formed in the old school to face new problems. The lack of knowledge, experience and qualified staff was very soon felt both in the Central Bank's regulating and supervising activity –whose role had changed significantly- and also in the commercial banks' activity where the management faced new problems and risks. If in the centralised economy the risks were taken over and assumed by the state, in the new conditions the managers were forced to administrate multiple and diverse risks in a more and more inimical and volatile economic background.

The managers' lack of training and expertise in the risks identification, evaluation and administration, together with the lack of logistics and trained staff, had as a result a frequent and intense appearance of the phenomena of information asymmetry, adverse selection and moral hazard in the banking activity. Consequently, between 1996-2000, the commercial banks declared bankruptcy and only the allocation of more than 4 billion dollars from the state budget saved the banking system from collapse.

Risk management errors were registered both in the regulation and supervising activity and also in the commercial banking one, errors determined by the voluntarism and amateurism of many managers, explained by the lack of theoretical and practical knowledge but also by the lack of ethical demeanor and morality.

The beginning of the negotiations with the European Union and NATO, as well as with the Monetary International Fund, World Bank and other financial organizations, as well as the internal pressures forced the Romanian banking management to pass through the second stage, that of modernism, in order to face the process of the banking system administration.

The Central Bank was the first to initiate management and staff training processes with the help of the international organizations. Thus the regulating and supervising quality started to grow, imposing the commercial banks to establish minimal qualification and experience conditions both for the top management and for the staff. The banking sector taking over by the large international banks had as a consequence the growth of the management quality and expertise, through the training programmes organised for the staff and managers. Little by

little, the Romanian banking system changed its image and this was also possible due to the extensive use of informatic technology in the banking industry. They generated many advantages but also disadvantages. Among the advantages we have found:

- ✚ The alignment of the Romanian banks to the best practices ,
- ✚ It reduces the risk of human errors ,
- ✚ Correct monitoring of the client exposure,
- ✚ It reduces the number of reconciled transactions among branches, agencies and subsidiaries
- ✚ It increases the inter-banking transactions speed through the electronic systems,

Among disadvantages we have found :

- ✚ High investment costs including the disaster centres;
- ✚ Supplementary costs with the staff training,
- ✚ The bank reorganization ,
- ✚ Certain types of risks generation.

Although during the last years the Romanian banking management developed and adapted to the risk administration requests, there are still many to be done in order to reach a performant management. A series of new challenges are raising supplementary requests for the banking management in order to evaluate and struggle against the risks generated by the banking activity in a background of countinuous move and change. The Romanian banking management is forced to assimilate new and modern techniques, politics and procedures so that to be able to avoid the loss generated by the following new restraints and challenges:

Preparation for the European integration means :

- ✚ Orientation towards the best corporatist practices;
- ✚ Inevitable convergenge towards the regulations and supervisig practices;
- ✚ The RNB's orientation to a supervision method based on risk evaluation;
- ✚ The regulations' orientation to the top management responsibility.

The diversification of the bank's offer generates:

- ✚ The developement of new credit products that requires a high level of specialization to evaluate, quantify and watch the credit risk;
- ✚ The increase of the credit cards' market have as a consequence the growth of defalcation and money laudry
- ✚ The increase of derivate financial instruments transactions requires teams of experts specialised in the market risk

The setting up of financial conglomerates requires:

- ✚ an integrate vision in the market domination- the synergy effects;
- ✚ the spreading of the risks among more entities- financial insurance ;
- ✚ new requirements of financial reference, the elaboration of consolidated financial statements;
- ✚ the risk evaluation in the financial group;
- ✚ an increase in the cooperation among the regulation and supervising organizations

The putting on of the Basel II Accord requires:

- ✚ a structural approach of the market, credit and operational risk management;
- ✚ the setting down of the risk profile of a bank both from the bank's perspective and also from the RNB's point of view;
- ✚ high profitability and low volatility;
- ✚ management evaluation depending on the efficiency in the risk identification and administration;
- ✚ new regulations concerning the risk management.

All these challenges require the management practices and techniques adaptation to the new action conditions of the banks.

Conclusion

The Romanian banking management is having presently inadequate reactions to the challenges of the banking activity. It is noticed a mentality conformity-oriented rather than investments decisions, a mentality of the type- „Tell me what to do to be allright? and not of the type „What shall I invest in and how to do it?”. In the same time the management is satisfied with a state of expectation rather than preventing action. Deficiencies in the functioning of the corporatist domination and in the establishing of risk strategies are registered. The action priorities are one-sided, the credit and market risk have priority towards the operational risk. The last one does not represent a priority for the management and representative executive managers are not established to carry the responsibility for the operational risk administration. More than that, the lack of knowledge and training in the risk management outside the departments dedicated is maintained as well as the lack of resources. Taking into consideration the reality, the Romanian banking system should be constantly improved through the identification of the weak parts and their expulsion. The process of forming and training of new leaders and qualified staff should be intensified, or the risk management will never be possible.

References

1. *Global financial crises: lessons from recent events*, Kluwer Academic Publishers, Boston.
2. Himino, R (2000): “The roles of banks, supervisors, and the market in balancing sensitivity and stability”, in J Bisignano, W Hunter, G Kaufman and Federal Reserve Bank of Chicago (eds);
3. *Basel Committee on Banking Supervision, Amendment to the Capital Accord to Incorporate Market Risks*, January 1996.
4. Fitch Ratings, *Global Credit Derivatives: Risk Management or Risk?* (March 10, 2003), p. 12.
5. Darrell Duffie and Nicolae Garleanu, “Risk and Valuation of Collateralized Debt Obligations,” *Financial Analysts Journal*, January/February 2001, pp. 41-59.
6. De Nicolo, G (2000): .Size, charter value and risk in banking: an international perspective., *Federal Reserve Bank International Finance Discussion Paper*, no 689.
7. Goldstein, M and P Turner (1996): .Banking crises in emerging economies: origins and policy options., *BIS Economic Papers*, no 46, October.
8. White, W (1998): *The coming transformation of continental European banking?.*, *BIS working paper*, no 54, June.

Transnational Corporations - Key Enablers Globalization

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Abstract

Romania, Romanian economic agents have become in recent years present ever more active in world trade. Association agreements agreed with the European Union and beyond, opening Romania and Romanian participants in international trade relations, prospects of major deep involvement in the world flow of values and knowledge. But it also means aligning our trade laws to European legislation profile, with priority to Community law and assimilation regulatory provisions of international conventions ratified across Romania as part of national law rules. Transnational corporations, which operate in more than one country or nation at a time, have become some of the most powerful economic and political entities in the world today. The United Nations has justly described these corporations as “the productive core of the globalizing world economy.

Keywords: globalization, transnational corporations, global village, e-commerce

JEL classification: L4, L40, L2, L20

1. Introduction

The initial aim is to indicate that globalisation is a process that has a number of dimensions. It can be approached from various degrees of abstraction. I have identified at least four dimensions to globalisation as a set of social processes. There may well be more than four – but that misses the point. The key point is to uncover what is at globalisation’s core, for only in this way can the full extent of the threat to the public services in contemporary social life be appreciated. This core is the value-form of labour.

The paper explores the proposition that ‘globalisation’ is essentially capitalist globalisation: the globalisation of capital, which is at the core of all the economic, social, political and cultural trends that have been associated with conventional (and more superficial) notions of ‘globalisation’.

The convergence of microelectronics, communication and computing technologies has given rise to new information systems, which have the ability to manipulate information rapidly in a number of ways and deliver such information with incredible speed at very low cost. This manipulative attribute of the new systems has itself given rise to new categories of services while enhancing old ones. The Internet in particular, which is at the centre of the information technology mediated world is critical to the globalization process, that is integrating the world into what is termed as the Global Electronic Village (GEV).

2. The pathways of globalization

As Peter McLaren (2001) and others have indicated, for postmodernists and those interested primarily in cultural phenomena, globalisation has been associated simultaneously with the cross-fertilisation and increasing hybridity of cultural forms and identities on the one hand and the homogenisation of culture on the other. The latter trend is manifested in the standardisation of culture, summed up by the concept of McDonaldisation – the product is the same wherever you are. On this basis, globalisation as the embrace of consumer products such as Nike, the GAP, Nokia, Sony and McDonalds incorporates cultural conformism. Globalisation in this sense points towards global markets, consumer identities and choice.

Of course, billions throughout the world cannot afford many of the products associated with upbeat lifestyles and cool dude poses. Drawing on the work of Teresa Ebert, Peter McLaren argues that globalisation as a set of cultural process emphasises ‘global symbolic exchanges relating to values, preferences, and tastes rather than material inequality and class relations’.

Contemporary globalization processes are continuously redefining the ways we live and communicate. In making this statement, I employ a liberal interpretation of the term globalization “as fostering international economic integration and as a mechanism for promoting global liberal capitalism” (Thussu 2006).

This interpretation identifies an international division of labor, a heightened role of markets and transnational corporations as imperatives of the globalization processes, often at the cost of nation-states and indigenous communities (Thussu 2006).

It is generally agreed that giant leaps in information communications technology (ICT) are propelling global dynamism by accelerating greater intra-regional connectivity (Thussu and Sarikakis 2006; Mujahid 2002; Bettig 1996). The consequent trends are the “expansion of an information economy and the convergence of technologies” (Bettig 1996). Additionally, technology as the “new means of production in the virtual age of speed and freedom is associated with borderlessness of capitalist globalized markets” (Thussu and Sarikakis 2006). ICT is hence construed as a “key enabler of globalization” (Mujahid 2002).

The ICT is undergoing a massive revolution in terms of its capabilities, reach and affordability. The technological convergence between computing and telecommunications sciences is its most pronounced manifestation. Some milestones of this synergy are the transition from analog to digital; the creation of the hypertext language and World Wide Web; the capability to digitally convert text and audio files; and the incessant innovations in internet, making it a “network of all networks” (Thussu and Sarikakis 2006).

The upgrade in internet connectivity through digital subscriber lines (DSL), cable modems and wireless options, coupled with wider conventional and cellular telephone services, which extensively use digital GSM and TDMA technologies, has made ICT more accessible and affordable. The growth in fiber-optic telephone exchange and the privatized local-loop systems has further broadened and subsidized telephone density around the world (Thussu and Sarikakis 2006; PSEB 2005; Albarran 2004; Mujahid 2002).

The consequent economies of scale have lowered costs of high-speed international private leased circuits, bandwidth, and satellite-based telecommunication networks. At the same time, wider and subsidized access to DHCP-enabled router technology and voice over internet

protocol (VOIP) is accelerating the volumes of high-speed transfer of voice and data across the globe (Slay 2005; Mujahid 2002).

Technological leaps like these have made it possible to “transmit information at unprecedented speed and volume across the globe”, thereby accelerating the pace of global interconnectedness (Thussu and Sarikakis 2006). The ensuing intersections between information superhighways, digital networks, and transnational communications are aptly described as the rise of an international informational economy (Thussu and Sarikakis 2006).

The globalized informational economic networks have given impetus to innovations in business practices. “In today's highly competitive global marketplace”, (Ueltschy et al 2006) contemporary international business practices emphasize on relentless economic search for the lowest costs, ‘a race to the bottom’ (The Economist 7/26/2007), maximum profits and highest returns on investments. It is universally accepted that cost savings are still the “principal motivation to outsource” (Economist 7/26/2007; Johnson 2007; Duening 2007; Newsweek 5/11/2003).

These objectives are being met through outsourcing and off shoring jobs and production processes by contracting-out work to outside firms and geographical shift of work abroad (Ueltschy et al 2006; Thomas and Wilkinson 2006; Johnson 2007). The terms Business Processing Office (BPO) and also Business Service Providers (BSP) are synonymously used with the voice-based call-center sector, to describe the transferring of business processes to external service providers (Duening 2007; PSEB 2005). These include tele-marketing, customer services, technical support, and assorted back-office jobs, etc. (Duening 2007; PSEB 2005; Newsweek 5/11/2003).

Additionally, it is helpful to identify the geographical locations of such ICT-enabled outsourced jobs. I refer to Kearney’s Global Service Location Index, (GSLI) which evaluates annual outsourcing trends, and classifies 50 countries on the basis of three parameters: (a) financial attractiveness, (b) availability of skilled workers, (c) business environment. According to the 2007 GSLI, India, China, and Malaysia rank as the top three outsourcing choices for US companies for their back-office operations.

The GSLI reports that due to “lower wage, infrastructure and regulatory costs”, India has an edge over China, and the rest of the countries (Economist 8/30/2007). Innovations in contemporary global business practices represent capitalist behavior of U.S. transnational corporations, which function on the doctrine of “primacy of profits” (McChesney 2004). Ingrained in the capitalist ideology, these transnational corporations are in a continuous competition for lowest costs, cheapest inputs, maximum return on investments, and a relentless extension and consolidation of national and international market share. The growing trends to outsource dead-end jobs to offshore locations vividly illustrate this capitalist strategy in action.

Western economies follow neoliberalism with the belief that “market can do no wrong” (McChesney 2004). This belief requires a critical appraisal. Neoliberal capitalism considers that rationality, as a cardinal feature of capitalist markets, empowers it to make rational decisions for common good. I dispute this assertion.

It is problematic to accept this presupposed notion of market rationality when winners and losers are arbitrarily determined. In context of the digitally-driven call center sector, the US transnational companies are undisputed winners in terms of profit levels, market reach, corporate convenience, and heightened strategic focus on core functions. The distant workforce that makes all this possible does not share benefits in the same magnitude.

The most pronounced implication of this scenario is that the ICT revolution has “reinvigorated the spirit of capitalism” (Calbrese 2003), through its stronghold on the industries of computing, telephony and allied information technologies.

The present-day globalization processes are serving to foster “international economic integration and as a mechanism for promoting global liberal capitalism” (Thussu 2006). The emergent remote office outsourcing trends amplify that the “logic of capital has resulted in the concentration of ownership and control of communication systems in the hands of the richest members of the capitalist class” (Bettig 1996).

I am of the view that the above-stated perspectives signify the implicit resurgence of an imperialistic mode in the neoliberal capitalist powers that govern the contemporary global economic system. Such imperialistic tendencies are verified by the hegemony of the English language and English speaking societies in the global business networks. I quote Thussu and Sarikakis who observe that “the language of British imperialism is now the lingua franca of U.S. hegemony, which dominates global international traffic” (2006).

English is the language of information technology, including the World Wide Web, software design, internet communication, and all other forms of communication patterns. This supremacy distinctly divides the world into English and non-English speaking linguistic blocs. This split is reflected in the contemporary outsourcing trends. To support this viewpoint, I explore the job eligibility criteria for call center workforce.

The local third-party firms, which operate remote offices for U.S. business corporations recruit representatives on three criteria: (a) good English speaking ability and listening comprehension, (b) basic skills in computers and internet such as e-mail, chat-programs, and web browsing, and (c) polite and confident telephony skills. (Slay 2005; Dunn 2005; PSEB 2005; Newsweek 5/11/2003) I argue that these prerequisites for acquiring jobs as a lowly-paid back-office worker in an off-shore call center are a manifestation of an imperialistic design.

In order to establish this argument, I unpack this apparently simple wish-list. Firstly, acquiring computer skills requires at least working knowledge of English. Secondly, acquiring polite telephone skills to function as a sales representative, customer support worker, or a telemarketer demands that such a worker is reasonably conversant in the English language. Thirdly, a telemarketer can be confident only with good English speaking and understanding skills, since being off-shore in another country and hooked on to a voice-based communication system, makes him or her a worker in absentia. Being a call center worker implies that he or she is denied other forms of communication options such as facial expressions, body language or genial social mannerism. Thus it is imperative for a call center worker to possess superior English language ability, in order to acquire and retain a job in such a voice-based remote office.

Further, it is “useful to examine the residual effects of colonialism” (Dunn 2005). English language is undoubtedly the principal colonial legacy. This fact is affirmed from the vast stock of ‘how to set-up a call center’ manuals that are prepared by both the privately-run local third-party firms and the public sector which is eager to attract foreign investments into the country. I refer to two such public sources from Anglophone countries.

Despite the immense savings in costs to U.S. transnational corporations, they face some indigenous challenges to their outsourcing initiative. The first one is economic in nature: there is widespread public resentment to the loss of U.S. jobs to overseas workers, since it is

shrinking the local labor market and, is simultaneously making it more competitive. This dislike is confirmed in a Newsweek analysis which reports the “threat that cheap labor in India and in other low-wage countries posed a threat to costlier workers in the developed world was a central theme of America’s 2004 presidential campaign” (Economist 7/26/2007).

However, the rationality of markets and the ‘logic of capital’ have resolved this cultural resistance through renewed innovations in their business systems. Firstly, the U.S. companies have augmented training standards in terms of lingual proficiency of the teleworkers, and vigilantly follow stringent quality control parameters. Secondly, the U.S. outsourced jobs are assigned only to those local operating firms which recruit teleworkers with adequate training in accent-free English skills and orientation of the U.S. society and way of life. (Economist 7/26/2007; Slay 2005; Newsweek 5/11/2003).

Such business practices indicate that global neoliberalism is increasingly functioning “as an instrument of imperialist domination” (Tabb 2007). The doctrine of rationality and logic of market which the U.S. corporations follow in their dealings with regional business associates can alternatively be interpreted as a reinvention of imperialism. This system requires that confidentiality of geographic locations be maintained and stringent U.S. and English intensive training be imparted to the distant workers.

Whether seen as an historical process or an ideological construct, globalization brings about greater interaction between countries, and between peoples. John Tomlinson (1996) defines it as "a rapidly developing process of complex interconnections between societies, cultures, institutions and individuals world-wide. It is a social process which involves a compression of time and space, shrinking distances through a dramatic reduction in the time taken - either physically or representation ally - to cross them, so making the world seem smaller and in a certain sense bringing human beings ‘closer’ to one another". Thomas Friedman (1996) sees it as "the loose combination of free-trade agreements, the Internet and the integration of financial markets that is erasing borders and uniting the world into a single lucrative, but brutally competitive marketplace".

Globalization reduces the world into an integrated system of markets. Under the process, international trade is considered to be the major engine of economic growth, and should therefore be facilitated. This facilitation is to be done through trade liberalization, necessitating the removal of tariff and non-tariff trade barriers. In addition, states are to withdraw from social provisioning by privatizing state social service organizations. The role of states is being reducing to that of creating a conducive environment for private sector-led development.

Ever since Marshal McLuhan used the phrase global village in the 1960s to refer to this contracting world, the concept of global electronic village (GEV) has gained increasing currency and an apparent objective reality. The world has become fully connected and brought together at the instance of a click of the mouse. Beyond this virtual reality, however, lies a social reconstruction of the world through a globalization process, which is seen as the integration of the world into a single market. At the heart of this process is the Information Technology, or more broadly, information and communication technologies (ICTs) that ever-pervasive technology that is changing the ways in which we do things. Information Technology has unleashed a torrent of technological changes that have profound implication in the way in which society is organized.

It argues that globalization is not only enabled by ICTs but that the level of connectivity of a country determines to a large degree the possibility of its benefiting from the globalization process.

The paper then offers an articulation of the substance and nature of this new imperialism that is resulting from both globalization and an unequal access to ICTs in a world that is increasingly becoming knowledge mediated. This new imperialism that is signposted by global governance based on the World Trade Organization (WTO) with new development challenge, which it has to confront.

The paper argues that for developing countries to break the hold of this imperialism, it has to find ways of deploying ICTs, among other things, for development purposes. This leads us to assessing the current efforts and strategies aimed at addressing the digital divide in developing countries and developed countries. One basic fact about this is that in spite of the multiplicity of bridging strategies and efforts; the digital divide is expanding rather than closing. Within this context therefore, the paper seeks to offer an explanation on why these efforts are not successful.

The framework takes as its point of departure that integration of developing countries to the global economy is a reality. However, the nature and mode of this integration need to be contested. It also proceeds from the observation that the digital divide, defined as unequal access to ICTs within and between nations, is part of the wider development divide that has been characteristic of imperialist domination of the third world.

In concrete terms, globalization presents itself as the breaking down of national barriers in terms of trade, flow of information and capital, and in terms of ownership of key industries. Multinational corporations are increasingly displacing local ownership in key and dynamic sectors of national economies. It is also changing the nature of national policy making in that globalization demands conformity with policy prescriptions, which national policy making instruments and processes have no role in articulating.

This last has serious implication to the essence of national democracy. Democracy is about the capacity of citizens to participate in the process of decision-making and to influence their governments in the process. In the context of globalization, the space for this has been constrained as policy flows top-down from the international trade regulating organization to national governments. This means that globalization disembowels citizens, and therefore, substantively undermines democracy globally.

The debate about the nature and impact of globalization is ongoing. However, certain consensus is building. For instance, it is now understood to encompass not "just about deepening of financial markets, but includes a whole range of social, political, economic and cultural phenomena" that is simultaneously driven and facilitated by developments in ICTs (Cogburn and Adeya, 1999:2). O'Neill (1999: 1) talks of them as being "seminal to the globalization process". It is also agreed that in this process, the World Trade Organization (WTO), an organization ostensibly established to regulate world trade, has come to assume the role of global governance, whose modus operandi are, as Dot Keet (1999: 9) remarks "the product of self-serving and highly tendentious political processes; and based on upon and reflecting a particular economic model or paradigm favouring the strong".

What is the role of ICTs in this process? At one level, ICTs provide the pathways with which the world is brought together, conquering both time and space. The critical role of ICTs here is that they allow the flow of information and market intelligence at incredible speed and at very low cost. This means that MNCs have better access to the most comprehensive market intelligence, they can better coordinate their activities and management. ICTs also link up the new manufacturing outposts of the transnational corporations.

The technology of e-commerce has also means an easy and speedy movement of capital. Multinationals can therefore move their capital to where conditions are most profitable. Moreover, goods and services, including stocks, are traded electronically, thus firms do not have to be involved in the actual movement of funds. Electronic transactions are invisible and therefore difficult to tax, thus allowing for bigger profit margins for the transnational corporations.

One of the pillars of globalization is international trade in services such as education, financial, health and telecommunication services. In the past, a country or firm offering these services in another country had to either be physically located in the country that it wants offer the services or set up a local representative, usually, a subsidiary, whose operations were subject to national policies. Now with ICTs, these services are being offered in a wider scope online. Electronic banking, online educational services, telemedicine, data processing, etc are the deliverables through which the WTO's General Agreement on Trade in Services (GATS) is being operationalized. Increasingly, these do not only constitute a significant volume of international trade, but also major sources of exports by leading industrial countries such as USA, Japan and Germany. The ability of any country to participate in GATs is largely dependent on its level of ICT connectivity. A country that has poor ICT infrastructure cannot offer services such as online education, telemedicine and international bandwidth services, even within its national borders.

One other consensus about globalization is that its benefits are not evenly distributed across nations and people. Even within a country, there are losers and gainers. The ability of a country to benefit in the globalization process is dependent among other things, on its access to technology, international bargaining power and the relative strength of its economy. Access to ICTs in particular has been generally recognized as a major enabler for a country and people to benefit from globalization. Countries that are better connected have better chance of benefiting positively than those that are poorly connected.

The effect of this is to remove access to ICTs from the domain of social provisioning and transfer it to the market arena. By making the market to be the dominant driver of the sector, the choice is very clear: investors would only invest to the extent that they would be assured of profits. This means that national disparities and unequal access to ICTs would not be eliminated. Rather, they could be accentuated by the inability of the poor to afford the cost of access in the absence of government subsidy. The WTO would therefore contract rather than expand access to information systems in its member countries. Global trend in ICTs has shown that the information gap is expanding with those countries that have more developed ICT sector better leveraged to develop faster.

3. Conclusion

To prepare the ground for such an exploration, I have tried to widen the perspectives associated with globalization processes and their synergy with developments in information and communications technology. This dimension clarifies the structural forces that dominate the confluence between ICT-enabled globalization and innovations in global business practices. I reiterate that the ICT revolution has "reinvigorated the spirit of capitalism" (Calabrese 2003), through its stronghold on the industries of computing, telephony and allied information technologies.

a. ICTs for Development: much of the discussion about bridging the digital divide treats access to ICTs as end on its own. For the developed countries that are looking for markets to sell ICTs goods and services, this is understandable. For developing contries, access should only be a means to address development problems. This means that ICTs should be used for

development purposes such as providing access to education, healthcare services, etc. In this context, it is important to realize that it does not make sense to have hospitals connected to the Internet when there are no drugs in the hospitals or schools that have no chairs to be connected to the Internet. We need to deploy ICTs creatively and appropriately to address our development needs.

b. One of the myths of the Internet is that it is not owned by anybody. The truth is that there are those who owned the means with which to access the Internet as well those who own the content. The question of content is already a hot issue under the rubrics of Intellectual Right Protection. Current reforms on this being advocated by the industry giants would make it impossible to even read things on the Internet without paying for the content. The strategies of bridging the divide focus on having people to have access to the channels without a stake in the ownership of the channels. Liberalization and privatization are only handing over the sector to companies of the former colonial countries. The channels are not only means of communication but also a mechanism for control.

References

1. Albarran, Alan B. 2004. "**Media Economics**" in *The Sage Handbook of Media*, John Downing, editor, London Sage. pp. 291-303.
2. Berners-Lee, Tim, 1999: **Weaving the Web**, Orion Business Books, London
3. Bettig, Ronald V. 1996. "**Introduction to the Political Economy of Intellectual Property**. Chapter 1 in *Copyrighting Culture: The Political Economy of Intellectual Property*. Boulder: Westview Press.
4. Calbrese, Andrew. 2003. "**Towards a Political Economy of Culture**" in *Towards a Political economy of Culture*. Edited by Calbrese and Sparks. Lanham, Maryland: Rowman and Littlefield. Pp.1-10.
5. Croitoru Gabriel, Ion Stegăroiu 2009: **Economie industrială**, Editura Bibliotheca, Târgoviște.
6. Duening, Thomas N. 2007. **The Micro-Multinational Enterprise (Mme): A Golden Opportunity for Entrepreneurship**. Entrepreneurial Programs Office. Ira A. Fulton. Tempe, AZ: School of Engineering. Arizona State University.
7. Keet, Dot 1999: **Globalization and Regionalisation: Contradictory Tendencies, Counteractive Tactics, or Strategic Possibilities**, FGD Occasional Paper No. 18, The Foundation for Global Dialogue.
8. Mujahid, Yousuf Haroon. 2002. "**Digital Opportunity Initiative for Pakistan**" *Electronic Journal on Information Systems in Developing Countries*. www.ejisdc.org . EJISDC (2002) 8. 6, 1-14.
9. Slay, Suzanne Lombard. 2006. "**How to Start and Operate a Successful Call Center in Pakistan**" Second edition. Available at <http://www.pakistancallcenters.com/howto/>
10. Thomas Friedman, 1996: "The Revolt of the Wannabes: Globalization Suffers a Backlash" in *New York Times* 7 February, quoted in Helen O'Neill: *Globalization, Competitiveness and Human Security: Challenges for Development Policy and Institutional Change* in **The European Journal of Development Research**, Vol. 9, No. 1, December 1997, Frank Cass, London
11. Thussu, Kishan Daya and Katherine Sarikakis. 2006. "**Internet as Ideology**" *Preface to Ideologies of the Internet*. New Jersey: Hampton Press Inc.
12. Thussu, Kishan Daya. 2006. "**International Communication: Continuity and Change**", Arnold and Oxford University Press: London.
13. Ueltschy, Linda C. And Irene Herremans, John K. Ryans Jr. 2006. "**Marketing: Who's Really Minding the Store Globally?**" Publication Date: Mar 15, 2006. *Business Horizons Article*. Product Number: BH190. *Business Horizons/Indiana University*

The Challenges of Global Economic Crisis - Old and New Risks to World Economy

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Abstract

The risk is part of any business. This fact is accepted but constantly measured by the economists. The last months were especially analyzed because the world economy was confronted with the biggest crises that spread to all countries, from developed to emerging and developing economies. We try to find a set of rules that applies in the most categories of affairs so the management can have a guidance line to fight against the effects of the crisis and take the appropriate measurements to minimize the effects.

Keywords: risk, business strategy, crisis, risk management

JEL Code: G01, L21, M21

1. Introduction

The global economy faces a difficult period since the financial crisis has installed. A decade of global economic growth ended, leaving the economies of all types to deal with risks that never appeared in this forms. The financial services sector has been forever transformed through collapse, write downs and forced government intervention.

Credit and funding destined to fuel the global economy has dried to a drip. Property has seen boom and now bust. Energy prices have hit new heights before crashing, and currencies and interest rates have tumbled almost overnight. Even the engines of the emerging markets have slowed. In such a market, it can seem trite to talk about business risk. After all, a risk is not a risk if it has happened. A business risk is a circumstance or factor that may have a negative impact on the operation or profitability of the company. Sometimes referred to as company risk, a business risk can be the result of internal conditions, as well as some external factors that may be evident in the wider business community.

When it comes to outside factors that can create an element of business risk, one of the most predominant risks is that of a change in demand for the goods and services produced by the company. If the change is a positive one, and the demand for the offerings of the company increase, the amount of risk is decreased a great deal. However, if consumer demand for the offerings decreases, either due to loss of business to competitors or a change in general economic conditions, the amount of risk involved to investors will increase significantly. When a company's risk factor is considered to be increased due to outside factors that are beyond the control of the company to correct, chances of attracting new investors is severely limited.

Internal factors may also result in the development of significant business risk for the investor. Often, these are factors that can be identified and corrected. If flagging sales can be attributed

to an ineffectual marketing effort or a sales force that is not performing up to expectations, making changes in the marketing approach or restructuring the sales effort will often result in minimizing the perception of business risk on the part of potential investors. The same is true if a company's manufacturing facilities are not operating at optimum efficiency. Revamping the operational structure of the plants and facilities will decrease the element of business risk and result in higher profits at the same level of production and sales, which will in turn make the company more attractive to potential investors.

In general, any investor will consider the relationship of a company's securities and the business risk associated with the company before choosing to invest in the future of the corporation. While there is an element of business risk associated with any corporate operation, proper management will result in creating a balance between assets and securities that will keep the degree of business risk attractive to individuals and entities that consider investing funds into the operation

2. Importance of analyzing the crisis risks

In this terms seems that has never been a more appropriate time to talk about business risk. Indeed perhaps now, more people will be inclined to accept the importance of the determination of the risks and more, of the solutions that might be applied.

Each of the events that has happened in the past months could, and might, repeat itself. Another global financial institution could crash. The enacted and planned solutions could fail to work. The present recession could turn into a future slump. The world is no more predictable now than it was in 2007, indeed volatility has increased. Business risk has consequently increased. Risk is never static. It is in a constant state of evolution. Risk management must always be seen against the business objectives that are sought. The risks to business today are clearer and fewer than the risks arising next week. They are also different. The massive government interventions in the financial sector may have, for now, prevented even more calamity but the consequent regulation brings a new set of risks. History teaches us that consequences can often be worse than the cause but the lessons will differ and may well be new.

And since performance is always relative, management action matters. In a fast growing market, annual growth in double digits can rightly fail to impress whilst in a falling market, maintaining last year's performance can be the mark of business genius. A rising tide may float all boats but not all ships run aground when the tide retreats. Companies might focus on cost containment and cash management but not all will perform equally well. For every distressed sale, there must be a buyer and there are few more effective competitive actions than to buy your competitor. There are companies, funds and individuals who cashed out at the peak, who paid down their debt and who are well-positioned to take advantage. Winners often make their own luck. In the current climate, it is imperative for companies to form a strategic view of the risks that they are facing and develop their thinking about the necessary action required should the event they fear actually happen. Risk management needs to be taken back from the compliance function into the boardroom. Companies need to enhance their capability to proactively identify these risks with a rigorous and disciplined approach. Management needs to be alert and nimble, prepared to define their risk appetite and tolerance, and monitor it. It should be cautious and focused. And it must take action. After all, we must all cross the road; the mistake is to stand still when you see the headlights. Recognizing the current pace of change and continually responding and adapting to it, is an integral part of the risk management process.

3. Risk management process

Risk management utilizes the right tools, methods and processes to manage risk. Risk is defined as the probability of an unforeseen incident and its penalty. For a business, exposure to

risk could lead to disaster. Risk can range between over-reliance on a single customer, to the merger of two competitive companies in a business. The business can be safeguarded and increase its success rate by having an effective risk management policy. By identifying the risks before they occur, the management have the time and space to prepare and to put solutions in place if needed.

A risk management process involves:

- ✚ methodical identification of the risks surrounding the activities of your business;
- ✚ reviewing the probability of the occurrence of events;
- ✚ identifying the events before they create problems and dealing with them accordingly;
- ✚ understanding the events and ways to respond;
- ✚ systematizing the tools required to tackle the penalty;
- ✚ supervising the risk management approach, effectiveness and control.

Risk management process will results in:

- ✚ improving your decision-making, planning and prioritizing skills;
- ✚ well-organized allocation of the resources and the capital;
- ✚ allows you to anticipate the problems and utilizes the best minimizing amount of fire fighting and preventing a disaster, which could lead to sever financial crunch;
- ✚ risk management significantly improves the probability of the delivery of the business plan, within your time frame and budget.

When the business is at the beginning the risk management help to the risk identification - outlines various categories of risks faced by new business including operational, financial, strategic, compliance related and environmental, political, safety and health risks. It also clarifies the importance and events for tackling the risks that your new business establishments may face. This includes the information about the evaluation of various risks and four options for managing each risk. This also helps in outlining some preventive ideas to decrease the likely hood of risks immobilizing your business.

Outlines disaster planning and also minimizes the impact of the disaster on your business and this includes aspects such as data security, employees, insurance policies and equipment. This outlines crimes disturbing small businesses and derives some simple steps to tackle it. Risk management discusses scams and how they could hamper your business. It also lists the methods that could help to avoid scams such as investigating the source of the scam, keeping and maintaining proceedings and filtering the scam. Risk management discusses theft problems in a business and the areas to protect, such as adopting simple safety measures and by keeping track of the staff and inventory.

This offers a variety of information, which protects the businesses and also secures data. Includes disaster recovery, risk assessment, backups and policies regarding data security. Risk management may seem scary but by having such a plan it is protected the viability of the business for the long term.

4. Main risks for the business environment

In leading organizations, risk management is viewed not as a process, but rather as a 'management competency' — a discipline that adds rigor and enables the enhanced management of uncertainty and volatility, effectively minimizes threats and capitalizes on opportunities. Companies at the height of performance in their respective industries have embedded this competency into their business practices to effectively manage risk across the continuum — moving beyond a traditional focus on controls and compliance, to create a competitive advantage.

The credit crunch and its aftershocks pose existential threats to leading global firms in asset management, real estate, insurance and banking, while capital-intensive sectors such as life

sciences and power and utilities are under pressure from a tighter credit environment. More capital and no change in behavior leads to nothing - hence the importance of governance, where the reforms announced to-date, focusing primarily on executive compensation, are (at least in my mind) very timid in nature.

Regulatory risk is a very important risk. This risk may not have such an obvious impact as the global credit crunch, but continue to be keenly felt at leading firms in sectors such as life sciences, telecoms, oil and gas and power and utilities. Furthermore, uncertainty regarding the regulatory response to the global financial crisis has caused this risk to become more important in asset management, banking and insurance. The global financial crisis and house price declines have delivered a shock to consumer confidence and sparked capital flight from emerging markets, raising the specter of a retraction in developed economies becoming a truly global recession. So, **deepening recession** is one of the most important risks in this period.

Radical greening has become for some time a relevant risk. Environmental and sustainability challenges continue to escalate, most dramatically in carbon-intensive sectors such as automotive, real estate, oil and gas, and power and utilities. The change of administration in the US raises the possibility of concerted government regulation.

New competitors are emerging from adjacent markets and distant geographies. National oil companies now compete with the majors in oil and gas; banking, insurance and asset management companies now compete for the same customers; as do internet, telecom and media companies; and emerging market companies are more competitive in the automotive sector. A solution that seemed to be applied by all companies is **cut costs**. But this is not always a good way or its not made properly. With the global economy slowing, cost containment is now crucial to survival in sectors such as automotive, media, and consumer products. It is impacting both suppliers and consumers. Some say that the success of the affair is depending of the **management** and his **talent** to feel the pulse of the market. What was the "war for talent" is now more complicated: attracting talent is still important, but so is retaining key talent during a downturn and (especially in banking) the intensifying debate over compensation structures that are misaligned with risk management or longer-term returns.

A characteristic of the movements on the important markets, not only in times of crisis is **mergers and acquisitions**. The reason was the desire to control the market, or the most of it. Tightening credit conditions have lessened the pace of M&A activity. Yet alliances and partnerships remain crucial to the business strategies of leading firms in sectors such as telecoms, life sciences, utilities and media. Furthermore, the financial crisis has led to sudden and dramatic 'rescue mergers' for which due diligence must be undertaken after the fact. In sectors such as asset management, life sciences, media, and telecoms, technological change and industry transitions are making long-established business models obsolete, forcing industry-leading firms to reinvent their corporate strategies and structures. Not only the reputations of firms but those of entire industries are increasingly under threat. Environmental and climate concerns threaten oil and gas and utilities companies; pressures to provide wider access to life-saving drugs threaten funding for innovation in life sciences; and the credit crunch is weakening public trust in banking and asset management companies.

5. Specific risks and their way of influence different business

Consumer preferences are shifting rapidly, going green in consumer products, and digital and mobile in media and telecoms. In the automotive sector, the shift towards smaller, more fuel-efficient cars has contributed to the near-bankruptcy of sector-leading firms, "putting the [US] industry upside down in its efforts to shift its product line-up to this sudden, dramatic and permanent shift in consumer demand".

The challenge is not limited to particular shifts triggered by lifestyle or economic trends. "A failure to understand customer trends in today's competitive environment is tantamount to

organizational suicide,” and most firms are well aware of this. The other side of the same coin is what might be called consumer empowerment: on-demand media, niche automobiles, and lifestyle and personalized medicines. New technologies and intensified global competition have made the ability to meet the individual demands of each consumer the ‘gold standard’ in many industries. Emerging markets are an increasingly important competitive battleground, and can pose a novel set of risk management challenges. “Emerging markets represent the majority of the growth opportunity for consumer products companies in the next decade,” we think. This is a fact in many sectors, including insurance and automotive.

However, success in emerging markets is far from guaranteed. Differences in culture, wealth, market structures and politics create pitfalls for companies that do not adapt their strategies to local conditions. As markets in China, India and Russia modernize, levels and quality of domestic competition will increase. Indeed, emerging market firms are already industry leaders in sectors including oil and gas and telecoms. Emerging markets also pose a different risk profile. Labor costs can rise more quickly than expected; it is easy to underestimate the time required to set up production, distribution channels, and sales outlets; and the ‘war for talent’ in these markets can be particularly fierce.

Firms are struggling to build the architecture of truly global enterprises, as asset managers develop global business models, automotive companies optimize their global production capacity, and power and utilities companies grapple with geographically distinct market structures. The mandate for globalization is clear. Globalization allows firms to diversify, which can be crucial during an economic downturn, and it allows them to follow changing patterns of global demand.

However, building a global operating model is not easy. Some companies have been struggling for years to strike the right balance between standardization and localization. Other leading firms have taken aggressive actions such as internationalizing core functions including research and development. With a global economic crisis emerging, there are also risks to the global model: for instance, the threat of trade quotas has become more apparent over the past couple of years and retailers have had to rethink their strategies for importing particular goods. New technologies including ‘cleantech’ — such as next-generation automotive power trains and utilities generation technologies — and information technologies such as the next generation of telecoms networks are constantly emerging. These new technologies challenge companies to develop new competencies.

For instance, as more and more of an automobile’s value is created by electronics (such as air bags, navigation systems, and batteries), the balance of power between different manufacturers is shifting. The impact of emerging technologies will be felt especially in high-carbon sectors. Technology has the potential to change the entire industry’s approach to supplying power. And in oil and gas, technology is increasingly central both to the development of frontier resources, to the efficient exploitation of existing resources, to cost control and to operating within a carbon constrained world.

Forecasting returns for major investments in new areas is never easy, and economic volatility has only increased the uncertainty. The problem is particularly acute when capital requirements are large (e.g., for new telecoms networks) or uncertainty is high (e.g., for digital and mobile media). Generally, government regulation works to limit this uncertainty — as governments seek to encourage and incentivize major private investments in infrastructure, next generation telecoms networks, or new drug development. But occasionally, regulation can increase uncertainty, as policy makers grapple with competing objectives — for instance, the contradictory goals of combating climate change, securing energy supplies, and reducing energy costs. Companies face day-to-day challenges of capital allocation — selecting the most promising drugs to develop, or the right balance between traditional and new media. They also face the challenge of making large, long-term investments pay off, with innovative approaches

such as partnering and financial engineering. But even the best strategies cannot eliminate this risk entirely.

6. Conclusion

Every business faces risks that could present threats to its success. Risk is defined as the probability of an event and its consequences. Risk management is the practice of using processes, methods and tools for managing these risks. Risk management focuses on identifying what could go wrong, evaluating which risks should be dealt with and implementing strategies to deal with those risks. Businesses that have identified the risks will be better prepared and have a more cost-effective way of dealing with them.

Many businesses did not granted the maximum attentions to the risk plan and in this time of crisis are not prepared to deal with it. So, a set of identified risks of present market conditions are necessary and must be took into consideration when analyzing the stage of the business now. I think that to solve the crisis are needed actions as ones proposed by Robert Shiller, witch "calls for an aggressive response--a restructuring of the institutional foundations of the financial system that will not only allow people once again to buy and sell homes with confidence, but will create the conditions for greater prosperity in America and throughout the deeply interconnected world economy". However, the crisis also creates chances for companies that learn to assess risk, recognize opportunity and take action quickly. It can be considered a last lesson for all. Remains to understand it and learn it for the future.

References

1. Borodzicz, Eduard P. – *Risk, Crisis and Security Management*, John Wiley & Sons Inc, 2005, 1st Edition.
2. Doltu, Theodora - *Abordări în economia riscului și incertitudinii*. București, Editura Economică, 2006.
3. Druica, Elena Nolica - *Riscul in afaceri*. București: ASE, 2006, 223 f.; sau online
4. http://www.biblioteca.ase.ro/resurse/resurse_electronice/teza_capitole.php?dela=0&tid=668
5. Shiller, Robert J. – *The subprime solution: how today's global financial crisis happened and what to do about it*, Princetown University Press, 2008.
6. Orfescu, Dorina - *Analiza riscurilor în activitatea întreprinderii și strategii de prevenire*. București: ASE, 2006, 243 f.; sau online
7. <http://209.85.129.104/search?q=cache:5jnh4FHwBZYJ:www.biblioteca.ase.ro/downres.php%3Ftc%3D5822+riscul+intreprinderilor+de+comert+exterior&hl=ro&ct=clnk&cd=1&gl=ro>
8. *A return to risk – The World Bank Group* – www.worldbank.org
9. *The 2009 Ernst & Young business risk report – The top 10 risks for global business*
10. <http://www.businesslink.gov.uk/bdotg/action/layer?topicId=1074404839>
11. *Institute of Risk Management*,
12. http://www.theirm.org/publications/documents/Risk_Management_Standard_030820.pdf

Causes and Consequences of the Global Crisis: Recognizing and Understanding Systemic Risk

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Abstract

The present paper makes an estimation of the causes of the global economic and financial crises effecting the world, it's possible results, it's effects on financial markets, impacts of weakness in regulating financial markets. Then was analyze the tendency of the markets to go from one extreme to the other, namely from being overly optimistic to overly pessimistic, comments, suggestions and the performances of International Monetary Fund and other International foundations, of the economists around the world about the crisis, their future and their strategies were covered.

Keywords: Global economics crisis, Global crisis debate

JEL Code: G10

The current global crisis is considered the biggest one since the Great Depression of the 1930s, it has affected all economies of the world, and some of them, like Iceland, have had to declare bankruptcy. Unemployment is one of the most salient features of the crisis, which means that the factors of production are grossly underutilized in the world economy. In the last months of 2008 year, the world's financial system seized up. Billions of dollars worth of financial assets were frozen in place, the value of securities uncertain, and hence the solvency of seemingly rock solid financial institutions in question. By the end of the year, growth rates in the industrial world had gone negative, and even developing country growth had declined sharply. [1] A comparison of global crisis (2008) and the Great Depression (1929) is illustrated graphically in the following figures:

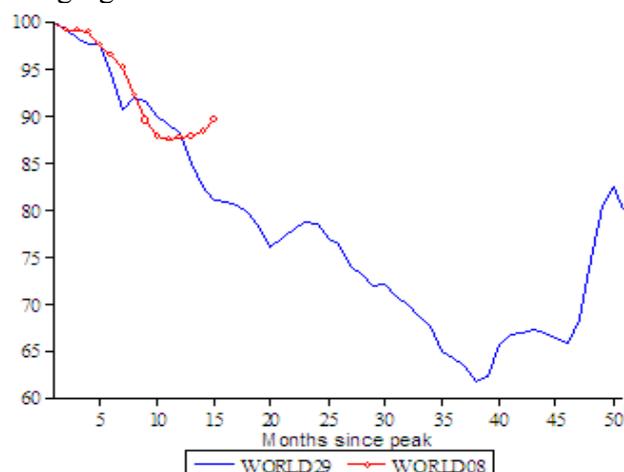


Figure 1. World industrial production -1930 compared with 2008-[2]

Global industrial production continues to follow closely the fall of 1930, without clear signs of growth (Fig. 1).

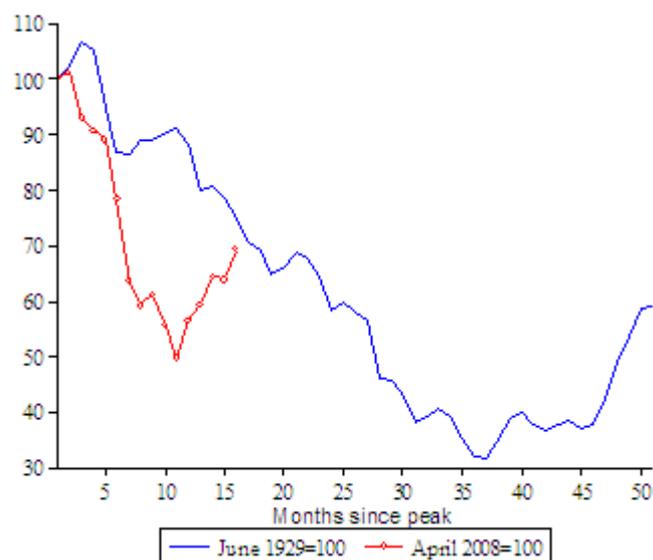


Figure 2. World stock markets -1930 compared with 2008-[2]

With regard to stocks of goods and world trade, and came back a little in March 2009, however, the routes being followed in the Great Depression (Fig.2 and Fig.3).

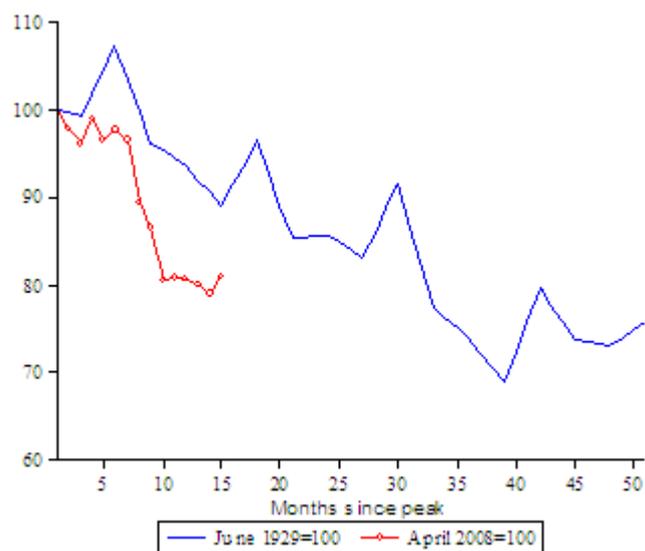


Figure 3. Volume of world trade -1930 compared with 2008- [2]

In diagrams with reference to the export situation, it is noted that Germany and England closely follow the curve of the 1930s, but for France and Italy recorded a much worse situation (Fig. 4). [2]

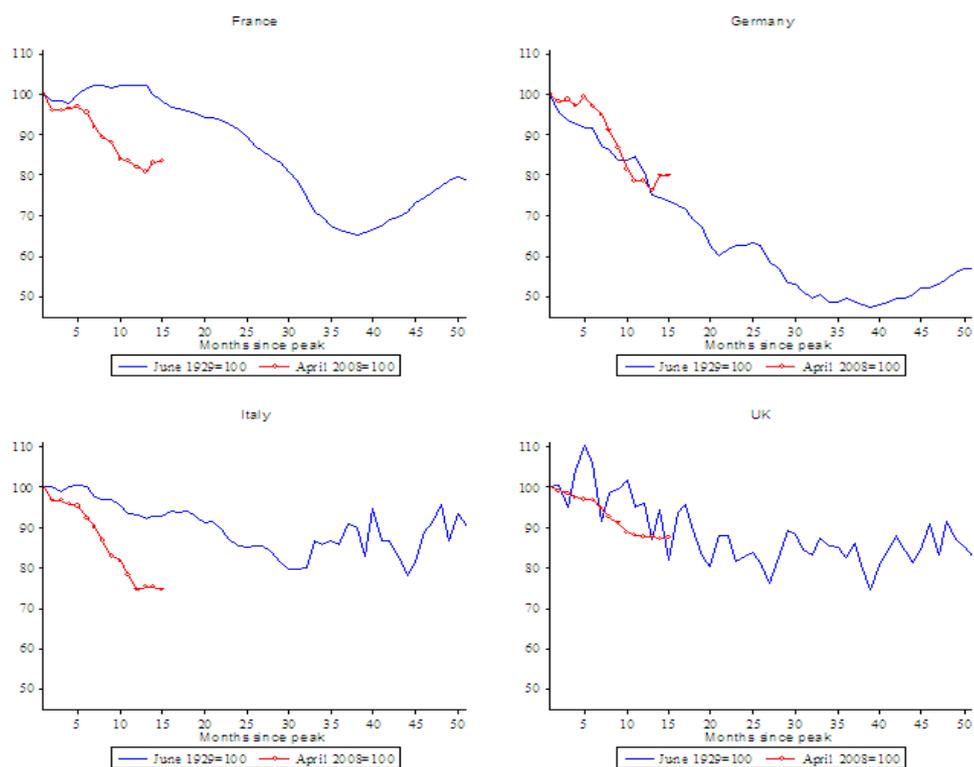


Figure 4. Industrial output, four big Europeans (France, Germany, Italy and England) -1930 compared with 2008-[2]

North America (USA and Canada) is about the same situation during the crisis of 1929, without clear signs of stabilization, a more than good registering for Japan and Chile (Fig.5).

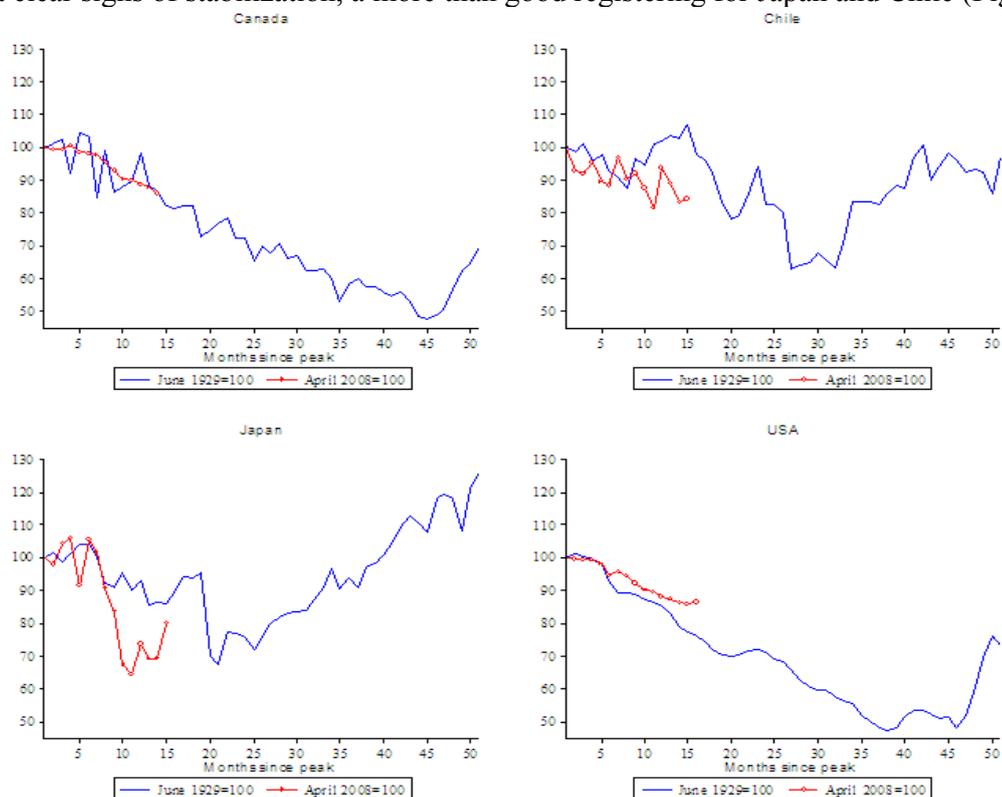


Figure 5. Industrial output, four non-Europeans (Canada, Chile, Japan and USA) -1930 compared with 2008 -[2]

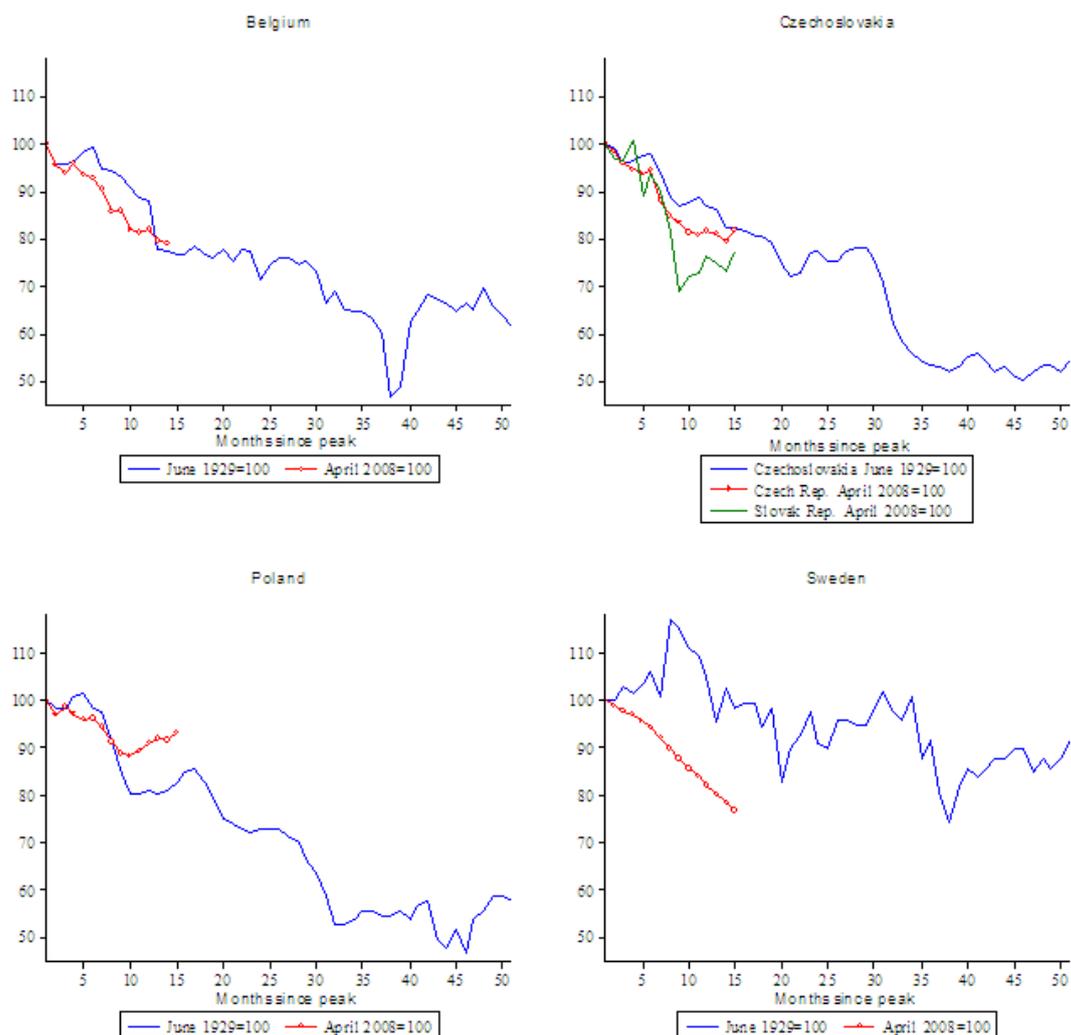


Figure 6. Industrial output, four small Europeans (Belgium, Czechoslovakia, Poland and Sweden)- then and now-[2]

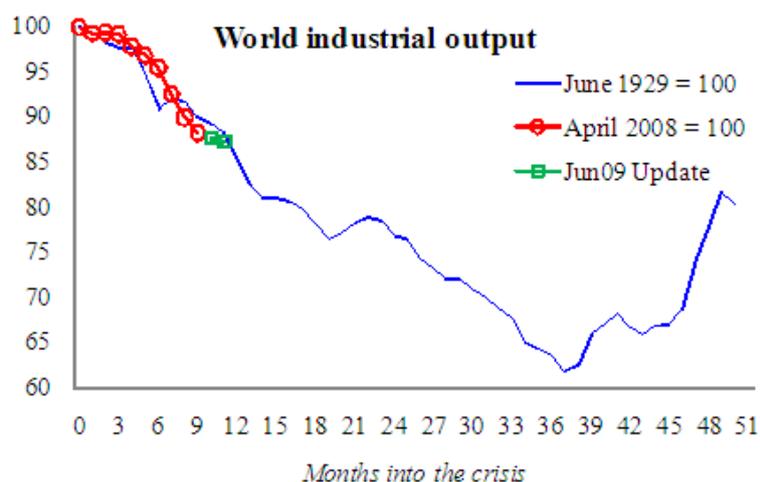


Figure 7. Dynamics and trends in world industrial output -comparison of the two crisis – [2]



Figure 8. Dynamics and trends of World Stock Markets - comparisons between the two crisis –[2]



Figure 9. Dynamics and trends in global trade -comparisons between the two crises- [2]

In conclusion, the world is in any economic impact as high as that of the Great Depression of 1929-30s, and the charts displayed reveal alarming similarity between the current situation compared to 1930. The fall in industrial production generally tracks, the decline in the Great Depression and both world trade and stock market prices have declined faster than they did in June 1929. At the most abstract level of this analysis, the actual economic and financial crisis could be viewed as an attempt of the society to reign in the markets. In effect, the markets, and especially the financial ones, have acquired such power that society has little influence on them.

	% Change in Stock Market, 2008	% Change in SDR Exchange Rate, 2008	Change in Institutional Investor Rating	2008 Growth
Iceland	-90	90	-32.5	-4.7
Bulgaria	-79.7	1	-6.6	5.4
Cyprus	-77.2	3.1	0.8	3.5
Ukraine	-74.3	48.7	-12.1	2.1
Macedonia	-72.8	1.9	0	4.9
Romania	-70.5	12.5	-5.9	7.7
Slovenia	-67.5	3.1	0.5	4
Croatia	-67.1	0.8	-3.7	2.2
Ireland	-66.1	3.1	-7.8	-2.8
Lithuania	-66	1.3	-7.9	3.7
Kazakhstan	-65.7	-2.1	-8.9	3.2
Greece	-65.5	3.1	-4.6	3
China	-65.2	-8.8	-2.4	9
Russia	-64.9	16.7	-4.8	5.6
Estonia	-63	1.7	-9.4	-2.8
Austria	-61.2	3.1	-4.6	1.6
Peru	-59.8	2.1	1.1	9.8
Luxembourg	-59.5	3.1	-2.6	0.6
Egypt	-57.5	-3.1	-0.8	7.2
Saudi Arabia	-56.5	-2.5	-0.4	4.2
Latvia	-55.1	-0.3	-8.3	-4.6
Belgium	-53.8	3.1	-3.8	1.1
Finland	-53.4	3.1	-2.6	1.4
Hungary	-53.2	6.1	-7.6	0.4
Norway	-52.6	26.1	-2.1	1.5
Turkey	-52.4	27.6	-3	1.5
Netherlands	-52.3	3.1	-2.5	2
Czech Rep	-52.2	4.3	-1.7	3.5
Portugal	-51.2	3.1	-4.3	0
Poland	-51.1	18.6	-1.5	4.8

Table 1: Crisis Manifestations (30 countries, sorted by 2008 Stock Market Decline) [2]

The evidence presented in Table 1 covers a number of different financial channels that might link the epicentre of the 2008 crisis to other countries. But the channel through which the crisis was transmitted might have been real, not financial. Accordingly this study was searching for evidence that the channel for contagion was real, and can be measured through bilateral trade exposure. Like many of its East European neighbors, Romania is experiencing a sudden reversal of fortune. After years of record economic growth fueled by easy credit and heavy foreign investment, people here are bracing for a sharp slowdown that they hope does not turn into an outright crash. Two of Romania's neighbors, Hungary and Ukraine, already have been forced to accept bailouts from the International Monetary Fund. Next-door Bulgaria, with a bulging current-account deficit, has troubles of its own. To the north, the Baltic states are also feeling a severe pinch, with consumers deeply in hock to stressed Scandinavian banks. [4] The global economy is in the grip of a severe recession infected by a massive financial crisis and acute loss of confidence. World output is projected to contract in 2009 and recover only gradually in 2010. Achieving this turn around will depend on stepping up efforts to heal the financial sector, while continuing to support demand with monetary and financial easing. [5]

Conclusion

In this short paper, a description of the causes of the international financial crisis that hit much of the world in 2008 was analysed and also compared with the crisis form 1930 year. Financial crises are more frequent than most people think, and they lead to losses that are much larger than one would hope. One of the most invoked concepts during the current crisis has been the "confidence". The usual story is that market participants have lost confidence in the financial situation of other players, so the credit does not flow, and it has adverse consequences for the real sector. The government has to step in to restore the confidence, revive the financial system and the economy, and the financial sector could move on as nothing has happened. [6] The consequences of the present crisis will be either a prolonged period of instability if there is no radical integral reform of the type discussed above, and the latter should be based on the dominance of productive capital over the financial one, a change in the international economic system, more sustainable macroeconomic balances in the world economy, and a more activist role of government.

References

1. Menzie Chinn, Jeffrey Frieden- "Reflections on the Causes and Consequences of the Debt Crisis of 2008", *La Follette*, 2009
2. Barry Eichengreen, Kevin H. O'Rourke and IMF- "A Tale of Two Depressions", 2009
3. Andrew K. Rose, Mark M. Spiegel - "Cross-country causes and consequences of the 2008: crisis international linkages and American exposure", *NBER Working Paper No. 15358*, September 2009
4. Craig Whitlock "Financial Crisis Leaves Romania Reeling", *Washington Post Foreign Service*, November 5, 2008
5. Mazilescu V., *A real Time Control System based on a Fuzzy Compiled Knowledge Base*, *Proceedings of the 13th WSEAS International Conference on Computers, CSCC Multiconference, Rodos Island, Greece, July 22-25, 2009*.
6. Mazilescu V., Nistor C., Șarpe D., *A Solution for Decreasing the Response Time of Knowledge Based Systems*, *Proceeding of the 9th WSEAS International Conference on Applied Informatics and Communications (AIC'09)*, Moscow, Russia, August 20-22, 2009.
7. *International Monetary Fund "Global financial stability report"*, ISBN:978-1-58906-809-4, 2009
8. "Wider Confidence Lifts Economy From Winter's Deep, Dark Freeze", *the Washington Post*, May 21, 2009

Cost- Benefit Analysis of The Fluvial Transport in Romania – an Efficiency Criterion after the Integration in European Union

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Abstract

In Romania a great majority of enterprises is directly influenced by a series of external changes on account of new technology and law regulations, pressed by the increase of either internal or external competitiveness. From the point of view of the specific character of the fluvial transport and harbor services within a monopolistic market we can say that the struggle is for getting the lowest costs possible in order to match certain selling prices imposed by the only local beneficiary, Arcelor Mittal Steel S.A. Galati and therefore in order to obtain as much profit as possible. For that reason, the cost-benefit analysis is essential for competitiveness, taking into account that as a result of the European integration the enterprises will have to face serious competitiveness from either foreign similar or connected enterprises.

Keywords: efficiency, cost-benefit analysis, fluvial transport, competitiveness

JEL Classification: D 61

1. Introduction

In Romania a great majority of enterprises is directly influenced by a series of external changes on account of new technology and law regulations, pressed by the increase of either internal or external competitiveness. The cost-benefit analysis is essential for competitiveness, taking into account that as a result of the European integration the enterprises will have to face serious competitiveness from either foreign similar or connected enterprises. The information technology system of costs consists of an ensemble of complex economic information regarding the costs provided by the supply, production and retail processes and coming mainly from all levels of the enterprise and which are necessary for the company's management in its activity of making decisions in order to reasonably value the material, financial and human resources of the firm and consists of the following components (Barbu Spataru, 2004:94):

- cost information data;
- economic information about cost;
- information processing.

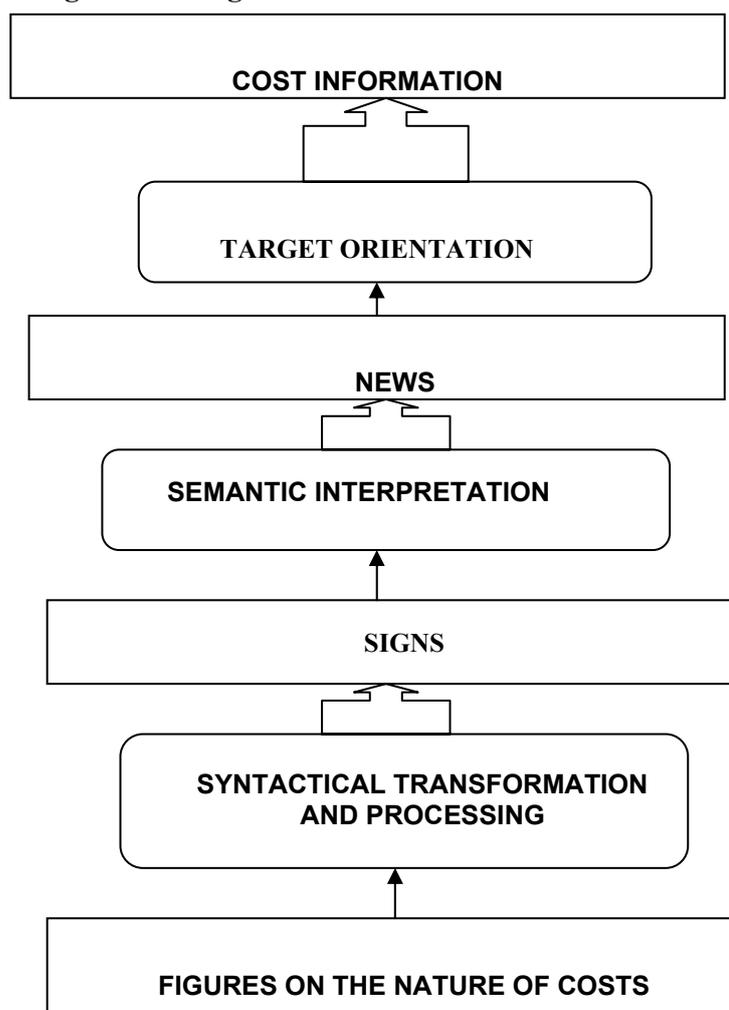
In order to obtain best results the managers of the fluvial transport companies and companies of harbor services must know as exactly as possible and in due time the production cost. The system which best meets these requirements is the information technology system because it enables transmitting the information with an amazing speed regardless the distance separating the supplier from the number of customers. It also solves a series of problems related to the great number of variables with complex and dynamic characteristics such as those regarding the evolution prognosis of the economic unit, programming its level of activity and others which are impossible to be achieved otherwise. Within the fluvial transport companies and the harbor services companies processing the information about costs consists of a series of information technology procedures developed along several stages: collecting, transmitting,

processing, revaluation and preserving the information and it requires the use of a methodological system consisting of specific cost related methods and procedures, the entire use of the means of treating the information concerning the costs etc. The quality of the information depends on taking into account these requirements, which represents an essential condition for providing correct data for the economic financial analysis. The means of treating the information about the costs used within the fluvial transport firms and within the harbor services firms can be manual, mechanical and automatically, the tendency being that of using as much as possible the automatic means because of their advantages such as: transmitting the information automatically, through a terminal; few errors sources depending exclusively on the primary collected data and on those memorized; a quick identification of errors ; endless capacity to store information, the use of complex and refined procedures.

The information sources about costs within the fluvial transport companies and those performing harbor services are different as well according to the type of information. The field the information comes from is classified into three categories of sources:

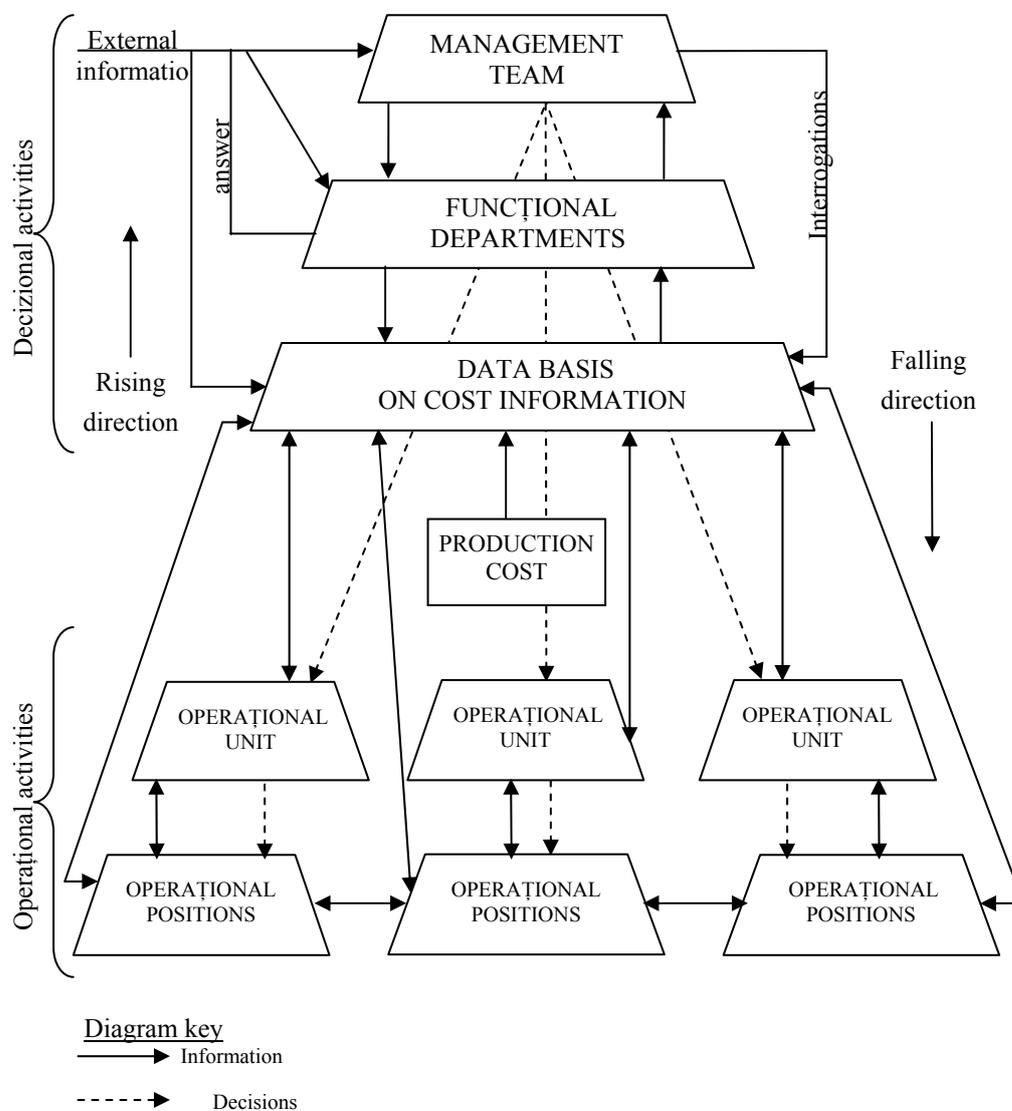
- 1) The economic and financial law referring to laws, orders, methodological norms, instructions: different taxes imposed on the basis of the law or certain contracts.
- 2) The economic and financial planning provides planning or budget information as well as economic prognosis information taking into account both the current legislation and the specific data of each firm: budgetary costs.
- 3) The economic reality giving information on the whole activity developed under different periods of administration: real costs.

Fig. 1. Creating information in the cost field



With a view to the rational and fluid circulation of information about costs especially under automatic processing of data, a judicious organization of this flux has become necessary and this can be seen in the diagram below, fig. 2:

Fig. 2 Production cost information subsystem for fluvial transport and harbor services firms



Source: (I. Medeşan, *Costs and their role in determining the decisional process*, the magazine of administration and accountancy of a firm, no. 3/ 2004)

To avoid secondary information that slow down the management activity the information is being filtered in order to have only the necessary information on each level and this is done according to different criteria of which we mention here the most important ones:

- the importance of some elements or cost categories
- the variation degree of the cost of some services followed daily, weekly, in decades or yearly.
- reporting it periodically and taking into account classification of costs on short-term or long-term intervals
- the possibility to process the information according to the adopted grouping system.

Therefore, within the harbor services firms the cost information system was organized in such a way that enables reaching the following main objectives:

- cost control
- respecting the deadlines
- raising the managers awareness of getting more effective results
- allowing the middle level managers to use the controllable adjustment means for their economic activity
- making data reports at different decisional levels in order to create economic efficacy and responsibility.

With the help of this system the aim is to help the factors of decision to control their own economic result through (Calin, 2000: 354):

- measuring the result; observing the performance;
- calculating the profitability of different activities of the firm;
- knowing the cost prices and their parameters;
- internal transmission of operations at a competitive price;
- result analysis;
- segmenting the results logically, according to the activity performed;
- identifying the economic and technical problems;
- a time report of each and every cost element.

The short – term objective is the achievement of an optimum cost control over the performed services. With the view of doing this the firm's activity has been divided according to responsibility centers taking into account the functional criterion that is the activity object and the types of activities performed. Hence the following centers are organized:

1. Cost centers
 - laminates manipulation;
 - timber manipulation;
 - stacking;
 - depositing;
 - maintenance workshop;
 - other activities.
2. Result centers:
 - income from laminates manipulation;
 - income from timber manipulation;
 - income from stacking'
 - depositing income;
 - other activities income.
3. Profit centers:
 - selling goods;
 - hiring out ships.

Besides the appropriate organization the project undertaken within „Port Bazinul Nou” SA Galatz assumes other themes such as:

- the organization into responsibility sub – units such as manipulation according to types of operations: loading, unloading, direct transfer, or, according to the types of goods: rolls, tubes/pipes, ordinary goods, etc.
- determining the performance between the sub – units and their economic materialization

- organizing the administration accountancy related to the manipulation zone as the area within the harbor called ,''the free zone''
- implementation of a system of boards for the people in charge.

The analytical classification of activities is done by taking into account the firm's staff organization. Thus, all cost units are dependent on the running manager. Each centre has an appointed manager who is in charge of the activity performed here. Each manager has at least three subordinate foremen. They, in turn, have as subordinates the team leaders. The foremen have both technical and economic attributions, of performing the services under the best terms and in due time. The economic responsibilities refer to completing reports about the activities performed and containing data about: the execution term, the manipulating teams, or the manipulating goods, etc. In practice establishing the price starts from the cost level to which the profit is added. As for the analyzed firm there are some characteristics of establishing the price such as:

- the monopolistic type of market within which the fluvial transport is being performed and the demand is represented in a proportion of 99 % by an unique client, respectively S.C. Mittal Steel S.A. Galatz;
- negotiating the prices is only done once a year, which is relatively imposed by the most important client/ business partner.

The services firm, depending financially to a great extent on Arcelor Mittal Steel Galați has a small negotiation influence over the prices , the negotiation referring mainly to the amount of manipulated goods the main negotiation objective being a percentage as big as possible of the production of the company that is to transit the harbor. An important part of Arcelor Mittal Steel production reaches Constanta harbor by rail, which, meanwhile turned it into a carriage owner and this should not be forgotten. Bazinul Nou harbor is currently on the market due to the equipment specialized in transporting the laminated products and also due to the specialized staff which leads to maintaining the quality of the transported products. The transport by rail can lead to possible deteriorations of products and this might lead , in turn, to a lower quality products and to significant financial loss. For example, if we consider a service that turned out to be profitable in 2008 and for which we prognoses an increased profitability in 2009, we can state which is the cost level. For the service called'' unloading flat plates'' in 2075 the following results have been achieved per manipulated ton:

- the selling price was de 6,28 lei/to
- the total cost was 6,24 lei/to
- the profit was 0,04 lei/to
- the profitability rate was 0.6%

In order to have a profitability level of minimum 3 % the service cost is estimated to be of la $6,28/(1+0,03) = 4,83$ lei.

Therefore, in order to obtain a profitability of the service performed of 3%, the cost should be 4,83, which is that it should drop by 22,6% compared to 2008. The cost reduction per unit of product is done as a result of the detailed analysis of the included expenses. Targeting the achievement of a possible reduction of cost under the terms of a certain selling price assumes the analysis of expenses included in fixed and variable, direct and indirect categories cost, thus internal reserves that are to be used being established. As we have previously mentioned, the cost of the operating activities enhances two components:

a) a fix one, independent of the achieved traffic, the success of the activity or the degree of using the existing technology which mainly consists of: the investment cost in the harbor understructure, the investment cost in the harbor over structure, the costs of the

auxiliary staff, the maintenance and repairing costs for the understructure, over structure, technology and equipment.

b) a variable one depending on the achieved traffic raising simultaneously with its increase and it represents:

- ✚ the salaries of the staff directly involved in the operating activity of the ships and possibly those of the temporary employed staff;
- ✚ the increased payment for overtime work on operating the ships;
- ✚ the cost of fuels and lubricants, electric energy and other necessary materials;
- ✚ the cost of some repairs and of the harbor equipment due to a potential overuse.

In order to make these harbor services more effective action should be taken either on the fix components and on the variable cost components. Thus, the fix component will significantly drop at the beginning simultaneously with an increased traffic while for bigger traffic values the drop will be slower. The explanation is that up to a certain value of the traffic, once with its increase staff and repair expenses are decreasing more than the traffic increase. Once this value has been exceeded they have a tendency to increase as a result of the adoption of some measures of extending the hours to be worked, the permanent staff or the equipment or as a result of employing more auxiliary staff and using the equipment intensively, which makes the periods of time between the current repairs and the planned ones to decrease implying the execution of more similar activities simultaneously. The variable expenses remain practically constant till they reach normal values of the traffic after which an increase can be noticed as a result of the adoption of some measures of extending the working hours for permanent staff or as a result of employing auxiliary staff, even if temporarily employed or as a result of hiring equipment to face the necessities of an increased traffic and obviously as a result of an increase in the quantity of goods that can supplementary be manipulated even if it is not distinguishably pointed out. Consequently, the evolution of the specific total cost knows a minimum value showing the optimum traffic to be achieved. Therefore, it can be noticed that once the traffic has increased the total operating costs increase too, even if their increase is slower. If we consider the specific cost per transported ton (loaded and unloaded) this is a completely different situation from the one previously discussed since the fix component will decrease simultaneously with the traffic increase while the specific variable component will remain almost constant. The total specific costs represent the relation between the total recorded costs during an established period of time and the total quantity manipulated within the same period, or, if this is unknown, the harbor activity , respectively the total loaded and unloaded quantity during that period.

Within the total costs generated by the use of ships a very important aspect is represented by the permanent staff cost; knowing this cost is very important in assessing the activity's efficiency. In order to avoid the difficulties related to calculating these costs a simpler indicator can be used called the specific cost of the personnel which establishes a relationship between the personnel cost and the total quantity of manipulated goods or the performed traffic. This indicator can be determined as the connection between the payments performed within a definite period of time, usually a month, for all the personnel involved in the activities (including all the teams working on the ship or in the yard) and the total amount of goods transported within the same period. Taking into account the costs for the permanent staff, for the staff involved in the activity of internal transport and stacking, as well as the other staff components, all these will be considered by each person involved, according to their targets, maintaining the same calculation method for the entire period under analysis being particularly important. The income obtained as a result of the exploitation of ships, particularly ships for ordinary goods, through an increased activity without employing auxiliary staff or other resources such as improving the activity organization and security, are usually very high. This can be easily shown by observing the work productivity indicators that represent the main indicators of profitability when monitories and applying measures for an increased efficacy of the activity. Thus, analyzing securing, for example, which is a very profitable activity for the

firm we are dealing with, it can be noticed that the expenses on the equipment used for securing the goods represent a significant part within the unit price which raises to about 70 %. In order to reduce these costs without endangering the activity of the firm an analysis of the evolution of the specific consumptions, of the technology and the possible replacement of some equipment is required. For salary expenses we should take into account the correlation between the work productivity reflected in the necessary working time per transported ton of goods and the average monthly salary. This type of expense represent an important part within the unit price for the majority of harbor services firms. It is also a type of expense that can be adjusted when taken into account that the firm under discussion has lately initiated a mechanization process of the transport of goods, the physical work being further replaced by more efficient equipment. Another method of making the harbor service activities more effective can be represented by determining the optimum amount of yearly manipulated goods according to some criteria such as the permanent staff and the worth of the fix means of production so that the correlation between the cost and the price to be a realistic and favorable one. For determining the optimum tonnage depending on the personnel directly involved in the activities and the fix productive means the SIMPLEX method can be used according to which the objective function will be a linear one as in :

$$Y = a+bx_1+cx_2$$

X_1 = the number of workers directly involved in working

X_2 = the value of the fix productive means

a, b, c = the parameters to be determined depending on the X_1 and X_2 already known indicators between 2006 - 2008

We have marked x_1^1, x_2^1 the 2006 variables

x_1^2, x_2^2 the 2007 variables

x_1^3, x_2^3 the 2008 variables

Y_1, Y_2, Y_3 the amount of goods transported during the three years

The relations are:

$$Y_1 = a+b x_1^1+c x_2^1$$

$$Y_2 = a+b x_1^2+c x_2^2$$

$$Y_3 = a+b x_1^3+c x_2^3, \text{ with the restrictions imposed by the real activity conditions within}$$

Port Bazinului Nou SA Galați.

$$X_1 \leq 200$$

$$X_2 \leq 55000$$

$$Y \leq 1180$$

The economic interest is to maximize the amount of transported goods which implies the ideal number of people involved in these activities and optimum investment in productive means.

The mathematical formula is the following:

$$\left\{ \begin{array}{l} \text{Max } Y = a+bx_1+cx_2 \\ X_1 \leq 200 \\ X_2 \leq 55000 \\ X_1, X_2 \geq 0 \end{array} \right.$$

We turn the maximum matter in a minimum matter problem in order to make it easier:

$$\left\{ \begin{array}{l} \text{Min } (-Y) = - a - bx_1 - cx_2 \\ X_1 + X_3 = 200 \\ X_2 + X_4 = 55000 \\ X_i \geq 0, i = \overline{1,4} \end{array} \right.$$

X_3, X_4 Compensation variables transforming the inequality relationships into equality ones:
 Here is the matrix associated with the restrictions:

$$A = \begin{Bmatrix} 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 1 \\ a_1 & a_2 & a_3 & a_4 \end{Bmatrix}$$

Determining the parameters a, b, c in the previous equations between 2006-2008 the results will be:

$$\begin{array}{lll} Y_1 = 8971 & x_1^1 = 195 & x_2^1 = 43000 \\ Y_2 = 9530 & x_1^2 = 170 & x_2^2 = 47000 \\ Y_3 = 10544 & x_1^3 = 173 & x_2^3 = 45000 \end{array}$$

The relations system will be represented by:

$$\begin{cases} a + 195b + 43000c = 8971 \\ a + 170b + 47000c = 9530 \\ a + 173b + 45000c = 10544 \end{cases}$$

Resolving the equations system the following figures are obtained:

$$\begin{array}{l} a = 65591 \\ b = -136 \\ c = -0.7 \end{array}$$

We resolve by using the SIMPLEX table, adopting specialized information technology and we get the following results:

$$\begin{array}{l} X_1 = 173 \\ X_2 = 67976 \\ Y = 131182. \end{array}$$

These data show that in order to get a maximum amount of transported goods of 131182 thousand tons it is advisable to keep the current number of workers directly involved in the production field at 173 but to make double the investment of productive means (67.976 lei) which will lead to making the harbor services activities more efficient.

2. Conclusions

The only chance for profitability is the reduction of costs per manipulated ton of product both on total and on categories of manipulated goods which might turn into an increased profit for the company giving great importance to reshaping it from a technological point of view. Another method of correlation between the selling cost and the harboring service cost relies in targeting the achievement of a possible reduction of cost under the terms of a certain selling price. This method assumes the analysis of expenses included in fixed and variable, direct and indirect categories cost, thus internal reserves that are to be used being established.

References

1. Barbu Spătaru E., "Analytical methods of production costs" Phd. thesis, Bucharest, 2004
2. Călin O., "Administration Accountancy" Ed. Tribuna Economică Bucharest, 2000
3. Chifan N., "Mathematical methods applied in economy" E.D.P. București, 2005
4. Pușcaci F.D., "Services Management in transports" Ed. Latina Galați, 1999
5. Sobaru A., Năstase G., Avădanei C., The navigable artery Danube-Main-Rhin European Strategies 2020, Ed. Economica, București, 1998
6. Sirbu C. "The diagnosis and the strategy of the firm" E.D.P. București, 2006
7. Sirbu C. "Financial and economic analysis" E.D.P. București, 2008
8. Livingstone L., "Cost-profit-volume analysis" New York, 1992

The Analysis and the Evaluation of Non-Governmental Institution within the Present Global Economy

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Abstract: Usually, is indicated in a firm, regardless of the type of activity enrolled by this, to be realized a diagnostic one of 3 – 4 years, because it allows to the manager to hold the necessary informations to identify the place on which is situated the firm presently. During the „life” of a firm can appear various forms of crisis, a crisis representing, in fact, a critical situation unpredictable that stops the realization of the objectives established by the management, such as: business figure, rentability numbers, benefits, the security of the work places, etc.

Key terms : symptoms, economic crisis, diagnostic, strategy, the strategic IQ.

JEL Code: M21, O12.

1. The general presentation of the "ADV"⁵⁷ NGO

The subject submitted for the research of the present paper, that vizes the analysis and the evaluation of the economic crisis symptoms is represented by a NGO. The motivation that lead to the choice of taking a NGO for analysis is subjective as well as objective one: if and in which manner the economic crisis influenced a NGO who's profit results only through personal and willingly donations? The „ADV” NGO Romania is a romanian judicial person, being opened according to the Law 26/2000 and modified by the Law number 37/2003. The „ADV” NGO Romania will enroll its activity in a non-profit purpose at national level. The „ADV” NGO Romania tooked place with the help of Holt International Children's Services, Inc. – a foreign judicial person, with the office in Oregon USA, which Romanian office was authorized through the Romanian Government Decision number 708/1992 published in the Official Monitor number 323 from 10 december 1992. The main purpose of the „ADV” NGO is the improvement of the quality of infected and affected⁵⁸ HIV/AIDS persons lives from Romania and has as a jingle the following statement: „Together we give sense to life”. „ADV” leads its activity and its implemented programs by main values such as: family, the partnership, the appartenance, the responsible community and the professionalism. The „ADV” NGO function as: a resource center in the HIV/AIDS domain, provider by social services. Besides the mentioned purpose, the NGO has from the strategic point of view, the following objectives:

- ✚ to respond directly to the infected and affected HIV/AIDS persons needs from Romania;
- ✚ to contribute to the prevention of HIV/AIDS transmission;

⁵⁷ The complete name of the NGO chosen for the present paper is “Alături de Voi”.

⁵⁸ Through the term affected person we understand the person who is infected with HIV/AIDS, his family, the community in which he lives, the school, the work place, any actor through which his activity can generate the exclusion phenomenon.

to sustain the managerial development of the involved actors in the HIV/AIDS domain.

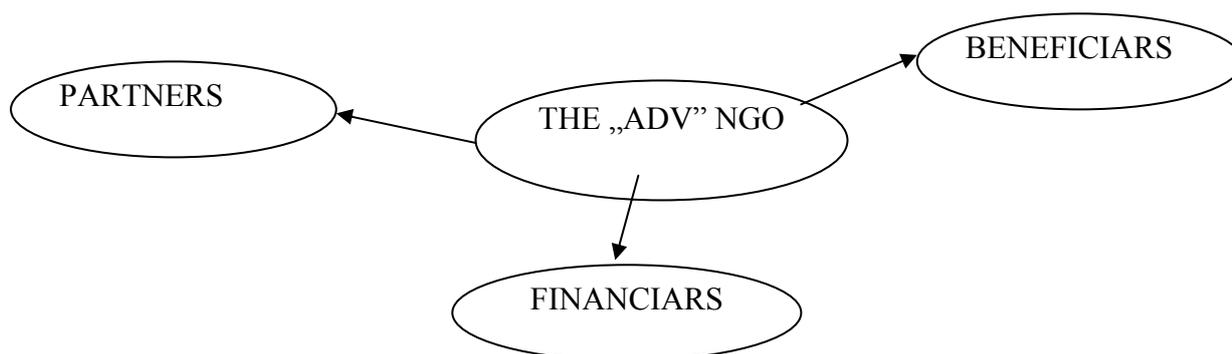


Fig. nr. 1. The present relations in the macroenvironment of the „ADV” NGO

Being a social assistant – services organization (informing, helping etc.), ADV has relations in the external environment with *the beneficiaries* of these relations (the equivalent of the clients in the production firms) – that can be the infected and affected HIV/AIDS persons, as well as various local organisms, but with various *partners* – which help to offer these kind of services (the equivalent of the providers in the production firms).

2. The evaluation of the strategic characteristics of the „ADV” NGO

The synthetic table nr.1⁵⁹: The evaluation of the strategic characteristics of the „ADV” NGO

Strengths	Weakness
1. Market's characteristics	1. Market's characteristics
- the only NGO from Iași, that offers assistance/specialized services for seropositive children and their families; - holds 70% from the market; - has only one competitor: the NGO World Vision ;	- weak penetration on the international market (realized through partnership usually);
Total points = 20	Total points = - 6
2. The number and the nature of the sold services:	2. The number and the nature of the sold services:
- diverse services, existing in the frame of the same services families; - the existence on the market of its services of 16 years ; - market leader ;	
Total points = 18	Total points = - 8
3. The production and the commercialization modalities:	3. The production and the commercialization modalities::
- the realized route regarding the commercialization process is made entirely by the NGO ; - "own distribution network " ;	- being services commercialization, doesn't exist the term of "technological evolution" ; - sometimes it is required space rental (extra spendings) ;
Total points = 12	Total points = - 10

⁵⁹ The 12 strategic characteristics and the system of giving points to each element is according to Jaba, O. (1999), *Analiza strategică a întreprinderii*. The maximum of granted points for a positive aspect is +20 points, and the maximum of granted points for a negative aspect is -20 points.

4. The geographical dimennsion of markets:	4. The geographical dimennsion of markets:
- the market on which activates is a national one ; - it holds multiple branches in the country ; - the implemented activities reveived national and international recognition ;	- weak penetretion on the international market (realized through partnership usually);
Total points = 18	Total points = - 6
5. The perspectives of the sold goods:	5. The perspectives of the sold goods:
- the increasing need of services in the social services area ; - the adopted strategy will be of external growth one (through sponsorships) ;	- it doesn't beneficiate of profits ;
Total puncte = 18	Total puncte = - 7
6. The importance and the technological evolution in the frame of the NGO:	6. The importance and the technological evolution in the frame of the NGO:
- it is noticeble an evolution of the offered serbices (diversion/improvment);	- there is no intenttion to acquire new techonology ;
Total points = 20	Total points = - 8
7. The NGO dimension:	7. The NGO dimension:
- micro-organization (NGO of small dimension) with 23 employee in the whole country ;	- the NGO couldn't be classified according to financial indicators ;
Total points = 13	Total points = - 12
8. The activity rythim:	8. The activity rythim:
- the commercialization of the services offered by the NGO is realized continnualy and cyclic; - relatively continnuous and permanent rythim;	- the NGO production depends on various periods of time (having relatively short periods of time between projects) ;
Total points = 17	Total points = - 9
9. The structure of the perssonel and the human resources administration:	9. The structure of the perssonel and the human resources administration:
- the perssonel is 100% with universitary formation ; - includes 45 volunteers ; - equilibrated internal organization (administrative jobs and direct services jobs) ;	
Total points = 20	Total points = 0
10. The NGO's basis relations :	10. The NGO's basis relations :
- good connections with the programs partners and sponsors ; - the existence of one competitor – the World Vision NGO on the targeted market segment ;	
Total points = 20	Total points = 0
11. The NGO climate:	11. The NGO climate:
- good communication between the 2 managerial jobs ; - efficient collaboration between employees ;	
Total points = 20	Total points = 0
Totally :	= - 66
= 198	

To find the Status Index of the NGO, we first calculate : The total of "strenghts" points (through the adding of the 11 index⁶⁰ from the above table) and The total of "weak" points (through the adding of the 11 index from the above table).

The maximum percentile obtained by the NGO = 11 strategic points X 20 = 220 maximum points

The total points = the total positive percentile – the total negative percentile = 198 – 66 =132 points

The status index = $\frac{\text{The resulted total percentile}}{\text{The possible percentile}} \times 100 = \frac{132}{220} \times 100 = 60 \%$

The interpretation of the results : The ADV NGO obtained a status index of 60%, which frames it according to the evaluation interval between 60% - 69%, having "a not bad" name. This aspect is kindly predictable, because we analized a NGO, and although doesn't mean that the NGO isn't unefficient, but only let's say unprofitable. Another important aspect is that the NGO hasn't profit, doesn't beneficiates by own resources, and only by external resources – in this case by sponsorships. But if we take under analyze its period of activity (already activates for 16 years), the awards and recognitions obtained (other criteria then the financial ones) we can consider the rapport investments – outputs as a favorable one.

3. The evaluation of the strategic IQ of the "ADV" NGO

The concept of "*strategy*" comes from the military term, beeing used for the first time by the antics greecs for naming the art and the science of leading the forces during the war. In management, the strategy shows the measures and the main actions that the managers plann to do for fulfilling one or more long term objectives. The purpose of the strategy is to establish *HOW* to obtain the targeted results through objectives, according to the internal conditions and external factors. The evaluation of the IQ strategic of the NGO has to be analyze two aspects, *a qualitative aspect* (e.g. the forming of the strategy according with the own established objectives and according with the objectives established by the concurrence, the planning of implementation of those strategies) and *a quantative aspect* (e.g. the finality of the implementation of strategies under the efficiency and efficicacy report):

The synthetic table nr.2⁶¹: The evaluation of the Strategic IQ of the NGO "ADV"

THE ANALYZED CRITERIA	THE GIVEN POINTS
1. The company has a vision or "a image" upon the manner in which will appear in future ?	= 5 points
2. The strategic vision establish clearly to avoid the organization to be supracharged with competitive initiatives (and possible conflictual) ?	= 4 points
3. The strategic thinking (without restrictions, entirely) coexists with the strategic planning (limited and nore detailed) ?	= 5 points
4. The company puts the accent on the valueing its resources is orienting towards an ambitious vision more, less then to limit its vision to the pres nt resources ?	= 4 points
5. Is taken in consideration the impact of the outsourcing decisions, giving up and the ellimination of products upon the	= 3 points

⁶⁰ In the case of the NGO we analyzed only 11 index, because *The Structural Characteristics related by the Efficiency of the Activity and The Manner of Functioning* is irrelevant for the present case.

⁶¹ According to the General Frame of the Strategic Planning for the products managers, O. Jaba, where in the first 10 sentences the points are given as fallowing : 1 – weak, 3 – medium and 5 – excellent; and the last 5 sentences the points are given as fallowing : 1 – weak and 10 – excellent.

specific abilities ?	
6. In taking decisions regarding the acquisitions, has to be taken in consideration the impact upon the main abilities ?	= 1 point
7. The organization is centered upon the competence and has an usage on a large scale of the analysis competence ?	= 4 points
8. The company uses the competitive innovation at least as often as (if not more often then) the competitive imitation ?	= 5 points
9. The key persons from all the organization's departments are conscious of all the market tendencies that can have an impact upon the strategy ?	= 4 points
10. The strategic plan plays an integrative role in the development of the yearly marketing plan ?	= 5 points
TOTALLY = 10 items x 5 points = 50 points	GIVEN POINTS = 40 points
11. The company studied the informations regarding its evolution to understand better the abilities and the processes that lead it to a competitive advantage ?	= 10 points
12. The company makes efforts for a portofolio of competitive advantage, in the completing of the products portofolio ?	= 10 points
13. The annual plans don't represent a simple projection of the past and the present in future, but morely describe what it should be done (probable in a different manner) in the next year to be close to the strategic vision ?	= 9 points
14. The company makes efforts to transform the main processes into strategic abilities that bring added value to the clients ?	= 1 point
15. The new developed products shows that the firm knows the client's desires before they even conscious it ?	= 10 points
TOTAL POINTS = 5 items x 10 points = 50 points	GIVEN POINTS = 40 points
TOTAL POINTS = 10 items x 5 points + 5 items x 10 points = 100 points	GIVEN POINTS = 40 points + 40 points = 80 points

Maximum number = 10 items x 5 points + 5 items x 10 points = 100 points

$$IQ_{effective} = \frac{\text{Effective number}}{\text{Maximum number}} \times 100 = \frac{80 \text{ points}}{100 \text{ points}} \times 100 = 80 \text{ points}$$

The interpretation of the results : The "ADV" NGO obtained a strategic IQ of 80 points, which frames it according to the evaluation scale between 80% - 89%, that shows that it has a very good situation regarding the formulation&planning&implementing its strategies (in rapport with itw own apriory setted objectives, as well as the one settes in rapport of the activity enrolled by the competency).

4. The analysis and the evaluation of the economic crisis simptoms of "ADV" NGO

Ussually, is indicated in a firm, regardless of the type of activity enrolled by this, to be realized a diagnostic one of 3 – 4 years, becuase it allows to the manager to hold the necessary informations to identify the place on which is situated the firm presently. The cycle of life of a company has the fallowing steps: opening – development – maturity, but during one cycle can appear various crisis, that can lead to the disparition of the company from the market. During the „life” of a firm can appear various forms of crisis, o crisis representing, in fact, a critical situation unpredictibil that stops the realization of the objectives established by the management, such as: business figure, rentability numbers, benefits, the security of the work

places etc. *The causes of a crisis situation* can be found in the exterior of the organization (e.g. the apparition of new competitors, indecisive valutory courses, recession, etc.), as well as in the interior of these (e.g. the leak of flexibility, the weakness of structures and of conceptions, administration and management mistakes, etc.).

The synthetic table nr.3⁶²: The analysis of the economic crisis simptoms of the "ADV" NGO

In the exterior of the NGO (external)	a) Economy :
	<input checked="" type="checkbox"/> The apparition of unemploying and the inflation
	<input checked="" type="checkbox"/> Fluctuant valutory
	<input type="checkbox"/> Structure changes of the international commerce (markets)
	<input type="checkbox"/> Increasing costs of energy
	<input type="checkbox"/> The danger of the perfectionning measures
	b) Technology :
	- because isn't a production company these elements don't apply;
	c) Markets :
	<input type="checkbox"/> The unknown market part.
	<input type="checkbox"/> The sustained efforts of the competency in certain areas.
	<input checked="" type="checkbox"/> The dispartition of some competitors/collegs.
	<input type="checkbox"/> The pressure upon prices.
	<input type="checkbox"/> The feding-up of the beneficiars.
<input type="checkbox"/> The allarmant of status of the market.	
<input type="checkbox"/> The ignoration of some needs/clients.	
<input type="checkbox"/> The weakness of the brand image.	
<input type="checkbox"/> The dispartition of some NGOs from the "market".	
TOTAL SIMPTOMS ON THE EXTERNAL SIDE:	= + + +
	a) Markets :
	<input type="checkbox"/> The pressure on prices.
	<input type="checkbox"/> The client's feding-up.
	<input type="checkbox"/> The hesitation in making new orders.
	<input type="checkbox"/> The inadapted sortiments (too poor or too rich).
	<input type="checkbox"/> Products at the end of their life cycle.
	<input type="checkbox"/> The weak selling force.
	<input type="checkbox"/> The delivery nonrespected terms.
	<input type="checkbox"/> The beneficiars number in minus.
	<input type="checkbox"/> The NGO becames more dependent to fewer beneficiars.
	<input type="checkbox"/> The market of the organization has bad perspectives.
	<input type="checkbox"/> To the NGO where taken many markets to the competitors.
	b) Finance :

⁶² This synthetic table was adappted to the profile of the analyzed organization – services provider, after „Analiza strategică a întreprinderii”, O. Jaba, pp. 100 – 104

In the interior of the NGO (internal)	<input checked="" type="checkbox"/> Leak of dissporable financial amounts.
	<input type="checkbox"/> Constant rentability.
	<input type="checkbox"/> Defficitary autofinancing.
	<input type="checkbox"/> The "weak" value actives increase in the bilance.
	c) Production :
	- because isn't a production company these elements don't apply;
	d) The administration control:
	- because isn't a production company these elements don't apply;
	e) Leadership :
	<input type="checkbox"/> Insufficient initiative.
	<input type="checkbox"/> Anacronic leadership style.
	<input type="checkbox"/> Encountered problems in team work.
	<input type="checkbox"/> The fear of taking risks.
	<input type="checkbox"/> The tireness of the organization manager.
	<input type="checkbox"/> The leak of knowledge of the organization's activity sector.
	<input type="checkbox"/> The decision's incapacity.
	<input type="checkbox"/> The manager closes in his office and the management becomes innacesibil.
<input type="checkbox"/> The manager works 10 hours from 24 hours and doesn't think of the present administration.	
f) Infrastructure :	
- because isn't a production company these elements don't apply;	
TOTAL SYMPTOMS ON THE INTERNAL SIDE:	= +

After the making of the organization's diagnostic regarding the analysis of the economic crisis symptoms, the results shows, according to the opinion of some specialists, that the situation of the "ADV" NGO is allarmant⁶³, because on the external side exists three crisis elements, and on the internal side exists only one element. The existence of the three elements producing a crisis situation is explicable because of the present context of the national and international economics – financial crisis, that has through others as negative effects : the leak of liquidities, increasing valutary courses, the fiscally – monetary instability, inflation, unemploying, etc. But, if we analyze the profile of the organization's activity – a NGO, without gainings, social services provider, the existence of elements from the diagnostic (e.g. the leak liquidity, the apparition of unemploying and inflation, etc.) cannot determine growth turbulence, and implicitly to determine the apparition of a crisis situation. The explanation is reader simple : the finnality of the "ADV" NGO don't increase the business figure, of profit or net result, but of the social services offering. As well the annual budget obtained by the NGO doesn't depend on sold number of services or on the beneficiars number, but on the national and international financing level ; plus the beneficiars number is independent of variabils, that touch the production companies, for example. The creation of the services offered by the ADV NGO – social services, is uninfluenced, because "the clients"/the beneficiars uses these kind of services from a real need.

⁶³ Allarmant situation: the existence of more then element on the external side, and of more then three elements on the internal side of the organization.

5. Conclusions

The organization is "born", then develop, touches maturity and during the life cycle can have growth turbulences, that takes shape of some crisis, leading sometimes even to its dispartition, if it doesn't interfeers for the elimination of the crisis causes. The crisis is the last step from a long sickness. In general, the weak points of an organization are the following :

- a weak control of the costs ;
- the leak of precise objectives ;
- management, administration and organization mistakes.

For a difficult situation to not develop into a crisis is necessary to discover in time the weakness of the organization. If are found some signals that announces some economic difficulties manifestations, the crisis symptoms begin to become allarmants and is time to hold the situation before that a crisis to develop. As a consequence, it will impose the following :

- the priorities and an urgency order fixing ;
- the conceiving of the necessary improvement ;
- their application planning ;
- the surveillance of their fast application ;
- the systematic surveillance of the situation evolution⁶⁴.

One of the purpose of the organization's diagnostic, besides to discover and to combate the possible economic crisis symptoms, is to establish its strenghts and its weakness, related by : material and financial means, human resources, the job evaluation, used strategies and politics, the activities organization, the administration methods, the control and the management system.

References

1. Jaba, O. (1999), *Analiza strategică a întreprinderii*, Editura Sedcom Libris, Iași ;
2. Jaba, O. (2000), *Economia și gestiunea întreprinderii, vol. I și II*, Editura Universității Al. I. Cuza, Iași;
3. Nicolescu, O., Plumb, I. – coord. (2003), *Abordări moderne în managementul și economia organizației, vol. II - Managementul pe domenii de activitate*, Editura Economică, București ;
4. Nicolescu, O. – coord. (2003), *Sistemul organizatoric al firmei*, Editura Economică, București ;
5. Porter, Michael E. (2001), *Avantajul concurențial – Manual de supraviețuire și creștere a firmelor în condițiile economiei de piață*, Editura Teora;
6. Teodorescu, I. & Popa, A.. (2005), *Fereastră către mine*, Editura Panfilius, Iași ;
7. *Statutul de funcționare al Fundației Alături de Voi*.

⁶⁴ Jaba, O. (1999), *Analiza strategică a întreprinderii*, Editura Sedcom Libris, Iași, pp. 98 - 105

Fiscal Pressure in Romania during the Transition to a New Economic-Social System

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Abstract

On one hand, by anticipating, we make the general specification that the analysis of the fiscal pressure in Romania shall be performed based on the standard taxation theory, by exploiting its general coordinates, such as underlain and enunciated by the great specialists in the field. On the other hand, our analysis shall concentrate on the present realities in Romania, on the strategic objectives of our country, which must be supported by its fiscal policy as well, namely by accurately dimensioning the fiscal pressure.

Keywords: the fiscal pressure concept, a fiscal coefficient, the consolidated taxation rate, the optimal taxation

JEL Code E62

Introduction

My attempt was to exploit *two methodological principles underlain by the great specialists in economy and social and political sciences* when drafting and conceiving "THE FISCAL PRESSURE IN ROMANIA".

The first of these principles refers to the unity (interdependence) between the history of the fiscal policies and the types of political power, the latter reflecting, in their turn, different categories of human communities (society). The second principle, in line with which I approached and analyzed the fiscal pressure in contemporary Romania, resides in the ratio between the general taxation theory, the essential coordinates of the fiscal policies and their material-historical aspects as related to time and space. The fundamental unit, the interdependence between the state categories, the types of human community and the fiscal policies was thus synthetically asserted by **the economist and sociologist Joseph Schumpeter**: „The spirit of a nation, its cultural level, the social structure, the political actions, all of these and even more can be traced in its fiscal history. ... That who knows how to listen to this message will better understand the tumult of the human history.”

The second methodological principle was set forth, within a much wider concept, by the American economist of Romanian origin Nicolas Georgescu Roegen, as following: “The statement according to which the fundamental principles of economy are universally valid can be true only as regarding their **form**. Their **content** is determined by the institutional setting. In the absence of such institutional content, the principles are nothing more than “empty boxes”

out of which we can only obtain “empty generalities”. This does not mean that “the standard theory” operates on empty boxes. The society is not an unchangeable entity, it continuously evolves in uncounted shapes which vary depending upon time, as well as place. It is therefore normal that each great economist filled his analytical boxes with institutional content inspired by the cultural models of the society he knows best.” On one hand, by anticipating, we make the general specification that the analysis of the fiscal pressure in Romania shall be performed based on the standard taxation theory, by exploiting its general coordinates, such as underlain and enunciated by the great specialists in the field. On the other hand, our analysis shall concentrate on the present realities in Romania, on the strategic objectives of our country, which must be supported by its fiscal policy as well, namely by accurately dimensioning the fiscal pressure.

I Overview of the fiscal pressure concept

1.1. The taxation rate according to the “standard theory”

The fiscal pressure term is widely used in the special literature and in the fiscal policy to designate the extent of the national income redistribution (of the gross domestic product or even of the gross national product) by means of tax payment/collection. Sometimes, the quality of the tax payers is not taken into consideration (individual households, private companies, state-owned companies, joint ventures). Other times, the fiscal pressure is limited only to individual contributors, direct taxes payers. There are situations when all collections of the state, all sources of budget income (direct and indirect taxes, excise taxes, all types of taxes) are taken into account when estimating this pressure.

In USA, for example, the fiscal pressure at the federal level is determined by taking into consideration the following: taxes on individual income, taxes on the sale of goods and excise taxes, taxes on social security, income taxes, and value added taxes.⁶⁵ For the estimation of the fiscal pressure, in general, including at the federal states level, one must also take into account the taxes and fees paid to these, such as: property taxes, inheritance taxes, certain taxes on the sale of goods, “vice taxes” etc. The fiscal coefficient or the fiscal pressure is used in the fiscal practice and statistics in certain West-European countries by taking into account the fiscal collections of the state and of the local community resulting from: taxes related to production and import, corporate and patrimony taxes, capital taxes. Consequently, the fiscal pressure expresses and measures the share of paid/collected taxes in relation with the amount of the gross added value in that country within a time horizon, usually a year (Fiscal Pressure = fiscal collections / GDP).⁶⁶

In France, distinction is made between this indicator and the more general indicator which includes the social fees. This latter indicator measures the share of the national income which is used in a social manner or in social purposes. This is calculated by relating the taxes and social fees to the gross domestic product, and expressing the percentage of the compulsory samplings in a wide sense (by virtue of law), such samplings being intended to cover the social needs of the population. During the past years, the fiscal pressure was approximately 25%, and the social fees totaled almost 20% of the gross domestic product. In a general sense, **the fiscal pressure** is a special term which expresses the medium intensity of the task or obligation of all the tax-payers to pay the taxes to the public central authority and to the local authorities.⁶⁷ The respective relation is also called a **fiscal coefficient**, which is calculated as a percentage ratio between the tax payments/collections and the gross domestic product or another

⁶⁵ Samuelson P.A., Nordhaus W.D. – “Political Economy”, Teora Publishing House, Bucharest, 2000, pag. 378-382

⁶⁶ Bremond J., Geledan A. – “Economic and Social Dictionary”, Expert Publishing House, 1995. Pag. 159

⁶⁷ “Economy Dictionary”, Second Edition, Economic Publishing House, Bucharest, 2001, pag. 367

macroeconomic indicator for results (gross national product, gross domestic product, national income).

The amplitude and the dynamic of the fiscal pressure is measured and estimated according to the taxation rate. The size of this rate indicates the share of the national income retained by the state, such size being determined by laws or fiscal regulations. A special form of the respective rate is **the marginal taxation rate**, which represents the ratio between the increase of the fiscal obligations of the tax-payers and the increase of the national income. This can be higher, equal or lower than the previous average fiscal rate. The average taxation rate, as well as the marginal taxation rate, have a significant importance, their amplitudes or dynamics being integrated in the substantiation of the strategy for economic growth and social development, in the policies for securing the economic stability and promoting social justice. Depending upon the average of these rates on a relatively long term in a certain country or in certain groups of countries, as well as depending upon the average rates at a certain moment (within a given period) in the countries ranging at the top of the world economy, weak (low) rates, high rates and optimal rates can exist and be practiced.

The weak taxation rate implies a low pressure on the tax-payers, therefore relatively reduced collections to the state budget and the local administration budgets. In the opinion of certain neo-liberal authors, such a taxation rate can stimulate the general effort to obtain stability of the available national income, to accelerate the economic growth and, therefore, to increase the fiscal collections to the budget.

The high taxation rate, mainly an increasing marginal taxation rate, could generate tax evasion, tax fraud, decrease of the gross domestic product, hence, ultimately, decrease of the tax collections to the state budget.

The optimal taxation or fiscal pressure **rate** represents that taxation limit up to which and beyond which the fiscal collections are lower.

The analytical instrument which assists in presenting the optimal taxation rate is the **Laffer Curve**, named after the American professor which explained the optimal relation between the taxation rate and the dimension of the income collected to the state budget. The American Professor Arthur Laffer insisted on the fact that a rate which exceeds the optimal level has a discouraging effect upon the investors and the wage-earners.

1.2. Different angles for approaching and analyzing the fiscal pressure (national, individual, economic agent)

The fiscal pressure is comprehended by taking into consideration its different display levels:

- a) Fiscal pressure at the national level;
- b) Individual fiscal pressure;
- c) Fiscal pressure upon the economic agents.

The fiscal pressure at the national level first of all aims at the necessity of collecting the resources for covering the public expenses. The fiscal pressure is represented by the taxation rate, which is calculated as the ratio between the total public financial resources, obtained by the state under the form of fiscal taxes and fees, and a macroeconomic indicator for results (usually, the used indicator is the gross domestic product). The calculation formula is the following⁶⁸:

⁶⁸ Anghelache G., Belean P. - "Public Finance of Romania", Economic Publishing House, Bucharest, 2003, pag. 115

$$t_r = \frac{R_{pf}}{GDP} \times 100$$

where:

t_r = taxation rate

R_{pf} = fiscal public financial resources

GDP = gross domestic product

The total financial resources collected by the state, along with the fiscal taxes and fees, also includes the obligatory contributions paid by the employers and the employees in view of creating the funds for supporting the social security actions.

Other derived indicators for estimating the fiscal pressure are used as well at the national level. We shall focus first on three of these indicators⁶⁹:

- ✓ **The consolidated taxation rate** eliminates certain redundant collections, in order to more accurately express that part of the fiscal income intended for financing the activity of the public administrations.
- ✓ **The net taxation rate** is calculated by eliminating from the obligatory collections the part directly redistributed to the economic agents, under the form of social granting for families and subsidies for undertakings.
- ✓ **The extended taxation rate** takes into account, as well, different financing sources for the public expenses, other than the obligatory collections.

There are other taxation rates, along with the three types, which are formed by different combinations of the criteria for defining the numerator in the relation which calculates the taxation rate.

The dimension of the fiscal pressure differs from state to state depending upon the dimension of the financial funds necessary to the respective state, at a given moment, but also depending upon a series of parameters which may lead to the increase or decrease of this rate. Among the parameters which can influence the fiscal pressure, we can mention:

- Domestic parameters, specific to the respective country;
- External parameters, depending upon the environment in the neighboring countries, respectively in the areas where that specific country has economic interests.

One of the most important external parameters is the reduced taxation in the neighboring, nearby countries or those countries that the state has economic relations with. The combination between a reduced taxation in other countries and high taxation in the reference country leads to the migration of capitals towards the states where, obviously, taxation is more reduced. This migration of capitals causes difficulties in the own economy, as this one faces the decrease of the financial capitals important for the economic development.

One of the domestic parameters is the fiscal policy having as a purpose the attraction of domestic and foreign financial capital for the stimulation of the economy. The fiscal policy has a series of methods and instruments by means of which the state can intervene in the economy. Along with the fiscal policy, there are other parameters which determine the fiscal pressure level, among which:

- The performances of the economy during a given period.
- The value of the public expenses as established by the government policy.
- The efficiency of using the public expenses financed from taxes.
- The property structure.

⁶⁹ Brezeanu P. – "Taxation", Economic Publishing House, Bucharest, 1999, pag. 98

- The tax-payers' degree of comprehension of the budgetary necessities.
- The democracy stage in a country or another etc.

The individual fiscal pressure indicates the value which the tax-payer renounces to or better said has to renounce to as related to the dimension of the income obtained by him during a certain period of time. Thus, the fiscal pressure determines transformations of the tax-payer's economic and social behavior, due to the changes that occur at the consumption level, but also at the savings one, therefore being considered as psychological pressure, which analyses the limit of tax tolerance.

In case the fiscal pressure is too high, this situation can have opposite effects to those pursued by the country in question, as the tax-payers tend to modify their economical behaviors. However, we notice the tendency to increase the level of obligatory collections, even if this causes the decrease of collections. An explanation for this situation is provided by the model conceived by two economists (J.M. Buchanan and D.B. Lee), a model⁷⁰ which is built around two main ideas:

- The tax-payer reacts to the modification of the taxation rate by presenting a lower or higher taxation level, depending upon the situation.
- A distinction between the short term behavior and the long term behavior is made. The short term demand is inflexible, but on the long term it can turn into flexible.

The tax-payer regards taxes and fees as necessary evil, which he pays (most of the time, as there are situations of tax evasion), being convinced that he would benefit in his turn from various public goods, which a private economic agent would not provide. But this context in which the tax-payer pays the taxes must not be idealized, as there are situations when problems occur in no time, especially at the moment when the taxes exceed the bearable limits, when the private initiative is restrained (a very important element in the contemporary market economies) or, even more seriously, when they lead the tax-payer to revolts. Under these circumstances, it is obvious that the high pressure negatively influences the tax-payers' behavior within the society and the economy.

Along with the natural entities, the tax-payers also include economic agents. Obviously, they have the obligation to pay various taxes to the state and thus, from their perspective also, fiscal pressure exists. **The fiscal pressure economic agent's level** is as much the higher as the coefficient of taxes in the added value obtained by the economic agent is higher. At the level of the economic agent, the fiscal pressure is calculated as the ratio between the taxes paid by the economic agent and the value added by him. The payment obligations include: profit tax, social security and other taxes (building tax, land tax, etc). The fiscal pressure felt by the economic agent is intensified also by the indirect taxes which, even if not borne by the company, influence the volume of output, as well as the competition by means of prices. On the worldwide level, we notice that in the developed countries the fiscal pressure is higher, as the expenses with the public and semipublic utilities for the population are higher than in the developing or underdeveloped countries. The affirmation above does not denote that in the countries with the same development level the fiscal pressure is the same. Obviously, there are significant differences between the developed countries as well, as there are differences between the countries undergoing transition or between the underdeveloped countries. Differences between the fiscal pressures occur in the same country within different intervals, between different stages undergone by the respective country.

⁷⁰ Greffe Xavier - „Economie des politiques publique” seconde edition, Dalloz, 1997, quoted from Hoanță N., „Economy and Public Finance”, Polirom Publishing House, Iași, 2000, pag. 163

It is obvious that the fiscal pressure can fluctuate, depending upon the fiscal policy adopted by the state, but this is influenced by the economic, political events, etc. It is due to these influences that the fiscal pressure is considered to have the following limitations⁷¹:

- **Psychological and political limitations.** These are imposed by the adversary reactions of the tax-payers due to the increase of the obligatory collections, when these are considered too high. Under these circumstances, the tax-payers resort to tax evasion, fraud, they reduce the production activities and, in the most serious situations, revolts and protests occur.

- **Economic limitations.** During the moments when the obligatory collections increase very much, they cause the decrease of the labor, savings and investment inclination, and also the weakening of the enterprising spirit.

- **The compensations induced by the fiscal pressure.** Apart from the negative aspect, the obligatory collections bring forth a series of advantages for the tax-payer due to the financed public expenses.

The dimension of the fiscal pressure must not be regarded strictly as the relative value obtained in different countries in order to compare them, but it is necessary to have in view the purchasing power of the income resulted after taxation. There are situations when, even if in different countries we encounter the same fiscal pressure, the conditions are totally different, as the income resulting after taxation might or might not be sufficient in order to satisfy the subsistence needs.

By their fiscal policy, the states must have in view not to increase too much the fiscal pressure, in their attempt to maximize their tax income, as the opposite of increasing the obligatory collections can be manifested in several ways⁷²:

- **The risks of diminishing the productive efforts.** It is a known fact that increased fiscal pressure shall lead to discouraging the tax-payers, either natural entities or legal entities, to invest, save, produce and work.

- **Political opposition.** These oppositions take different forms during time and their manifestations are unequivocal claims for reducing the taxes, but also actions as taking a stand and voting.

- **Fraud and fiscal evasion.** These practices have forever existed, but they can be stimulated to generalize given the circumstances of increased obligatory collections.

- **Inflation risk by taxation.** The increase of taxation rates has a direct effect upon the prices established by the producers, who thus try to recover out of the price what they pay as taxes and social contributions.

- **Strict requirements of international competition.** Any country manages, by the competition of its own undertakings, to bring about economic growth and increase of living standard. The increase of taxes borne by undertakings leads to decrease of chances they stand in the competition with the similar undertakings abroad.

Considering the quantum of all the contributions to be paid, a question will always be raised, namely that regarding the maximum optimal value to be reached by the fiscal pressure, so that not to distress the economic and social behavior of the tax-payer, and also the financial resources obtained by the state to be those expected. It is difficult to determine this optimal value, so that this leads to achieving all the established objectives. High taxation restrains the potential investors, but especially determines the tax-payers to look for means of avoiding payment of the different obligations (means which are more or less legal). Loans represent the possibility of avoiding the increase of the fiscal pressure and of obtaining income at the same

⁷¹ Hoanță N. – "Fiscal Evasion", Tribuna Economică Publishing House, Bucharest, 1997

⁷² Brezeanu P. -"Taxation", Economic Publishing House, Bucharest, 1999, pag. 133-138

time. Nevertheless, when loans are contracted, in the attempt to reduce the fiscal pressure, this modality is only valid for short time intervals. For long time intervals, not only that the fiscal pressure is not reduced, but due to these loans it may increase, in case the relevant amounts were unreasonably used. During the last two centuries, we could notice the increase of the fiscal pressure, which is explained by the intervention of the state, to a greater extent, in the economy, as well as in the society. We make this assertion, as the collected financial resources represent the fundamental source for covering the public expenses, the financial resources and the fiscal pressure having the same evolution as that of the public expenses, namely increasing over time.

II. Historical interdependences between the fiscal policy (between the intensity of the fiscal pressure) and the economic growth

The general coordinates of the economic growth were enunciated during the past 7-8 decades by reflecting the realities of the macro-economy in the economically advanced capitalist countries (North America, Western Europe, Japan). The evolution of the economic growth in the indicated countries ascertains the specific interdependences between economic growth and development, on the one hand, and fiscal policy, on the other hand. These interdependences formed over time into virtuous, as well as vicious circles.

2.1. The crisis of the present type of economic growth and the fiscal pressure

The economic activities undergo successive increase, development, standstill and crisis stages, but their intensity differs from one country to another and from one period to another. At present, the economic growth is considered as a synthetic expression of the chances to a better life, being a major objective of all the states. The use of the term "economic growth" when analyzing the dynamic of the macroeconomic results dates back to the beginning of the 30s in the 20th century, when the economic growth theory was set up. The offspring of this theory represented the attempt to solve the problems occurred during the great world crisis between 1929 and 1933. Even if at the beginning the classic and neoclassic economists used to analyze the economy by the perspective of the individual, the person, this crisis lead them to performing the transition from the microeconomic level to the macroeconomic level.

The economic growth⁷³ can be regarded from two perspectives:

- a limitative perspective;
- a wide perspective.

From a limitative perspective, the economic growth represents the upward evolution of certain economic values aggregated within a spatial and temporal setting.

From a wide perspective, the economic growth is interpreted as a positive and upward evolution of the macroeconomic results, which represent the generally accepted point of view.

The economic growth represents the quantitative increase of the activities and their results for the overall national economy, in tight connection with the parameters that contribute to this increase. The economic growth⁷⁴ means positive and upward evolution of the national economy, in the medium and long term, without excluding conjuncture oscillations, or even temporal economic regress.

⁷³ University Staff of the Academy of Economic Studies – "Economy", 6th Edition, Economic Publishing House, Bucharest, 2003, pag. 211

⁷⁴ Ciucur D., Gavrilă I., Popescu C. - "Economy", Tribuna Economică Publishing House, Bucharest, 2004, pag. 319

Among the indicators used to measure the economic evolution of a country, the most significant are the following:

- ◆ *gross domestic product (GDP)*;
- ◆ *gross national product (GNP)*;
- ◆ *national income (NI)*.

In order to understand the content of the economic growth, the following elements⁷⁵ must be taken into consideration:

- ◆ the economic growth depends upon the demographic dynamics determined by specific parameters and the demographic dynamics determined by biological and social parameters;

- ◆ the dynamics of the macroeconomic results must be observed for a long enough period of time, in order to delimitate the short-term conjuncture expansion within the business cycle from the actual economic growth, which represents a dominant tendency during a longer period of time;

- the economic growth refers to the real macroeconomic results, those corrected with the dimension of the deflator;

- from a quantitative point of view, the synthetic expression of the economic growth is the rate of the GNP or GDP increase per inhabitant.

The economic growth is analyzed over long periods of time, so that the successive fluctuations caused by recession and boom do not obstruct, in the long term, the deduction of the trend of macroeconomic results. For those persons with a low income, the economic growth represents an essential condition, not always sufficient to increase that income. However, rapid growth accompanied by the decline of the economy leads to poor results which will be felt by the entire population, but in different ways, as the effects of this juxtaposition shall be unevenly distributed.

The economic growth can lead to increase of the population's income when accompanied by increase of the employment rate, by increase of the wages of the poor population and by redistribution of the public resources towards the human development. It is very important that this redistribution takes place in the economy which displays economic growth and not an economy in decline⁷⁶. When the economic growth is not accompanied by the elements indicated above, the desired effects have an opposite evolution, leading to the aggravation of the inequalities between the incomes. The aggravation of the living conditions for an increasing number of persons indicates the existence of a crisis, as in this case the values of the normal parameters in the economy do not coincide with their natural limits. Under such critical circumstances, people lose confidence in the economic recovery and the immediate effect is to replace confidence by disbelief and to perform activities without responsibility, actually creating a real vicious circle. All these reactions represent each person's concept that the results of his activities lead to satisfying his needs as much as possible, and also they represent the hope to a better future life which would ensure living conditions for their descendants. The crisis of the present growth type only indicates that the desires the population tends to fulfill are more distant for an increasing number of persons. Moreover, the crisis aggravates as other balances are involved, such as that between the manmade environment and the natural environment, their consequences being noticed on the long term and involving a great number of persons. In Romania, almost 80% of the population registered decrease of 30 - 50% as regarding the living standard and the gross domestic product, also the investments and the

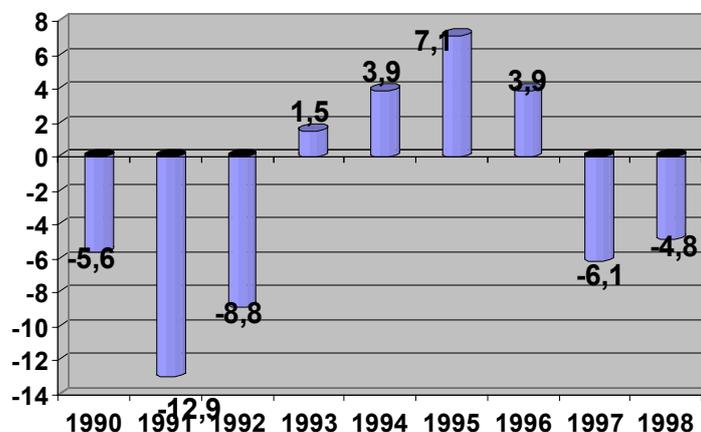
⁷⁵ Quoted work, pag. 213

⁷⁶ University Staff of the Academy of Economic Studies - "Economy", 6th Edition, Economic Publishing House, Bucharest, 2003, pag. 214

export registered important decrease. These diminutions were accompanied by unbalances regarding unemployment, external debt, underground economy, poor economic situation of certain population categories, etc.

Graph no. 1

Evolution in Percentages of the Gross Domestic Product

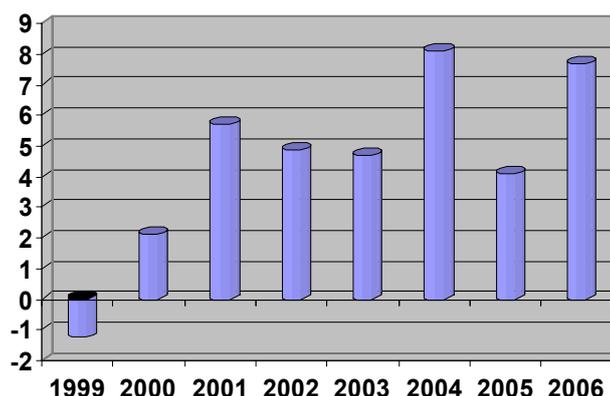


Source: Statistical Yearbook of Romania 2005, 2002, 2000; Statistical Monthly Bulletin no. 1/2006, 1/2007;

During the years 1990, 1991 and 1992 the gross domestic product registered a significant decline. This decrease was caused by: low efficiency in using the economic resources (especially human resources); early retirement of a great number of employees, supplemented by the increase of the wage-earners' income; apparition on the domestic market of significant quantities of import products, which increased the budget deficit and the balance of trade.⁷⁷ Nevertheless, starting with the year 2000, the downward evolution of the economy decreased and we notice an upward process, even if the losses caused by the evolution of the economy during the 90's have not been recovered yet.

Graph no. 2

Evolution in Percentages of the Gross Domestic Product



Source: Statistical Yearbook of Romania 2005, 2002, 2000; Statistical Monthly Bulletin no. 1/2006, 1/2007;

After the year 2000, the Romanian economy has been characterized by a continuous increase of the gross domestic product, the production in the main fields of the national economy has

⁷⁷ University Staff of the Academy of Economic Studies - "Economy", 6th Edition, Economic Publishing House, Bucharest, 2003, pag. 46

had the same evolution, and the rate of inflation and unemployment have been continuously reduced. In 2004, economic growth of 8.1 % was registered. Mention must be made that the increase of activity volume in industry, construction and services contributed to a great extent to the increase of GDP. The gross added value created in these three fields represents approximately 83.9% of the entire GDP value. In 2005, the economic growth was determined by the dimension of the activity volume, that is the gross added value in construction and services. The contribution of these two areas to the formation of the gross domestic product was of 54.8%.

Nevertheless, even in this situation when the economy registers positive evolutions, we must become aware of the serious consequences this crisis might have and start searching for other means and methods to fight it. Such means and methods are not easy to adopt, as they imply alteration of the human behavior, which is more difficult to accept. The changes aim at the present manner of producing and consuming at all levels. Taxation holds an important part in the aggravation of the present situation or in providing a proper environment for performing activities, especially the economic ones. Two different methods can be used, both of them referring to the manner in which the fiscal pressure is managed. Resort can be made to **high fiscal pressure**, a situation when the state accumulates a significant part of the gross domestic product at his disposal, thus restraining the financial resources the population could have disposed of. In this context, the state, by taking over a significant part of the financial resources, can provide the population with a greater range of public goods and services, as it limited the access of the population to the private goods and services obtained directly from the market. The supplement of provided public goods and services has an opportunity cost, namely reduction of private goods and services acquired from the market⁷⁸. The second possibility is expressed by **low fiscal pressure**. Its effect is that the population acquires greater financial resources in countertrade with the state which will acquire a smaller part of the gross domestic product. The consequence is increase of the private goods and services acquired from the market and decrease of the volume of public goods and services provided by the state. Considering the two situations, choice can be made from the two alternatives: to benefit from a greater number of public goods and services and to put up with higher fiscal pressure or to obtain fewer public goods and services and to put up with lower fiscal pressure. In both situations, the modality in which the cumulated financial resources are managed is important as, in case they are inefficiently used, the population perceives the fiscal pressure at a higher level than the real one.

References:

1. Anghelache G., Belean P. - "Public Finance of Romania", Economic Publishing House, Bucharest, 2003,
2. Bremond J., Geledan A. - "Economic and Social Dictionary", Expert Publishing House, 1995.
3. "Economy Dictionary", Second Edition, Economic Publishing House, Bucharest, 2001
4. Brezeanu P. - "Taxation", Economic Publishing House, Bucharest, 1999,
5. Ciucur D., Gavrilă I., Popescu C. - "Economy", Tribuna Economică Publishing House, Bucharest, 2004,
6. Samuelson P.A., Nordhaus W.D. - "Political Economy", Teora Publishing House, Bucharest, 2000

⁷⁸ Gîdiuță M. (coord.) – "Public Finance", Second Edition, Independența Economică Publishing House, 2005, pag. 25

Enterprise Applications - Benefits and Risks of Selection and Implementation Process

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Abstract

The software applications, enterprise applications, can managed not also the whole business value chain but also the dynamic adaptability of economic processes and information systems to changes's market and international competition. The implementation of a software package (enterprise application) is an important investment for an organization, which is characterized also by a high degree of risk. Selecting the most appropriate software is a necessary condition for a successful implementation. The purpose of this article is to present the major aspects of software selection and implementation (methodologies, benefits, risks).

Keywords: eBusiness environment, ecosystem of enterprise applications, IT selection, IT implementation

JEL code: M15, C88

1. The new Business Environment. e-Business Environment

High dynamics and complexity of technical, economical, informational and managerial evolutions are reflected by fast renewal of companies' informational system. This brought a series of informational and managerial trends that become stronger every day [2] and the most important is dematerialization of information and elimination of intermediaries. Dematerialization of information is based on a series of processes recently developed: modern computing technology is the support of dematerialization, modern informational technologies, complement of the computing technology, represents the way to exploit the functional and constructive advantages of computing technology, construction of databases that reunite large sets of data concerning a certain do-main or group of domains in a single system, easy to access and use, Internet and intranet represent two of the best-known informational approaches that are at the same time sources and manifestations of information dematerialization. Internet allowed companies to access a huge volume and variety of exogenous information, while the intranets allow access to endogenous information, from within the company, ensuring real time collaboration within the company network of all its resources. Internet revolutionizes informational management of organizations, radically changing the relations between consumer, intermediary and producer. Internet allows producers to address directly to consumers, individually and interactively, facilitating closer relations. At the same time, Internet allows consumers to play a proactive role: requesting information, distribution of information inside virtual companies, price proposals. All these transfer a part of power from

the producer to the consumer, radically changing the nature of organizations' informational systems in the informational society.

The post decade the business environment was altered with direct impact to the way business organized and managed by the following major worldwide changes:

- a) emergence and strengthening of the global economy with major change in the way the management and control are applied in a global marketplace,
- b) the transformation of industrial economies and societies into knowledge (and information) based service economy,
- c) the transformation of the business enterprise into knowledge (and information) based economies offering new products and services and where knowledge considered as a central productive and strategic asset,
- d) the emergence of digital firm – for convenience defined as “Organization where nearly all significant business processes and relationships with customers, suppliers, and employees are digitally enabled, and key corporate assets are managed through digital means”[1].

The challenges of this e-business environment [3], including:

- how customers use the Internet and how they expect Web-based applications to work,
- the shortened product life cycle,
- component-based development,
- integration with legacy systems,
- the challenges of large-scale e-business applications.

In this new era, competition is not company against company but business chain against business chain. These chains include suppliers, partners, distributors, logistics providers, regulators, and even competitors. Successful companies realized that integration along the entire process chain was the only way to gain a lasting competitive advantage. The need for change grew under the terms of global competition. So far, few companies have used the time profitably, redefining their own strategies and reshaping business processes for a truly customer-driven enterprise. Developing applications for e-business environment raises a host of new challenges, not just for developers, but for IT managers as well. For instance, Web-based applications require the creation of highly scalable applications and the use of component-based development. In present, a viable solution are the open source software as well. The e-business value chain can be designed considering a several enterprise applications, such as:

- ERP (Enterprise Resource Planning)
- CRM (Customer Relationship Management)
- SCM (Supply Chain Management)
- SRM (Supplier Relationship Management)
- PLM (Product Lifecycle Management)
- BIW (Business Intelligence & Warehousing)

Because the firms became more digital, it proposed the Ecosystem of the Enterprise Applications – the system of all integrated, generalized and configurable applications which respond to computerization necessity of companies [4]. A general view which reflects these considerations is in the following figure. For each type of enterprise application it can find, every moment, a vast offer (any search with, for example, Google returns a variety of possibilities). But the implementation of a software package (enterprise application) is an important investment for an organization, which is characterized also by a high degree of risk. Selecting the most appropriate software is a necessary condition for a successful implementation. For this reason, in the paper are described the major aspects of software selection and implementation process (methodologies, benefits, risks).

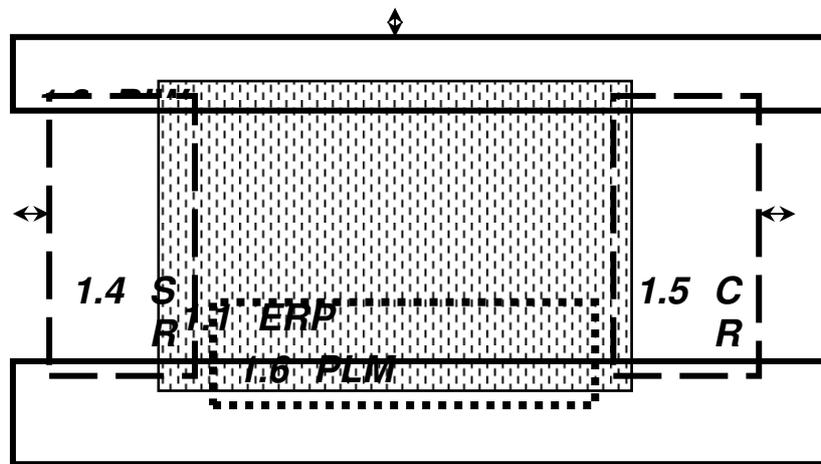


Fig.1. The Ecosystem of the Enterprise Applications

(Source: Komartin Robert-Emilian, Contributions to improving the development methodologies of integrated information systems, doctoral thesis, Bucharest, 2004: 33)

2. Methodology for Software Selection Process

Software selection is a topic concerned the process, methods and tools applied by organizations in order to decide which software they choose from the wide range of available solutions on the market. Such a decision must be taken very carefully, as the adoption of software solutions is having an important impact in the medium and long term. This impact is related to purchase and operating costs, but also to the way the software is helping the company to build competitive advantage. Selecting an enterprise software solution requires a significant investment of an organization's time, energy, and resources. Due diligence during the selection process requires time and resources that must be subtracted from core operations. As a result, the cost of an enterprise system begins before a software package is even selected—and extends long after it is implemented.

The criteria to be used for ERP software selection, as presented in the literature, include several categories of criteria. Generally, it can included:

- ✚ functionality – the coverage of functional requirements,
- ✚ technical architecture – technical requirements, including integration with existing systems
- ✚ cost – both for implementation, maintenance and further adaptation / extension
- ✚ service and support levels provided by the vendor
- ✚ ability to execute
- ✚ vision

Most authors also include the vendor evaluation as a significant criterion. However, there is no standard regarding the defined categories and criteria. The presented criteria can be used as a basis for the selection of an enterprise applications package. Still, simply applying such criteria in a formal manner does not guarantee the most appropriate choice. It is suggested that, before the criteria are established, a proper identification of the selection objectives is necessary, so that the real needs to be fulfilled by the software are

stated. Furthermore, a large number of criteria may prove to be inefficient, and it is recommended to filter the most significant criteria for evaluation. The evaluation of a single criterion should be based, as far as possible, on facts rather than opinions or impressions. This is made difficult by the ambiguous formulation of criteria, e.g. "friendly user interface". Studies of the selection criteria used by companies have shown that there are differences between mid-sized and large companies, related to the relative importance of selection criteria. For example, cost and adaptability were considered more important by medium or small companies, and integration aspects with customers and suppliers, internationality were more relevant for larger organizations.

The final list of criteria to be applied should hence be established by each organization according to its specific situation and needs. Because this topic is difficult, complex and very important, further, a recommended methodology for the selection of an enterprise application is presented. Enterprise software selection can be broken down into four main phases: *research, evaluation, selection, post-selection*. The initial *research phase* consists of preliminary study and the defining of own organizational strategy and tactics. Organizations at this stage should begin to understand what their overall strategy is regarding the software they are looking to implement. In addition, they need to know both their short- and long-term objectives and constraints with respect to their business processes. During this phase, it's also important for organization to review systems currently in place in order to gauge whether it's worth upgrading own current software, as opposed to acquiring an entire new system.

Phase two: Evaluation. Once it have a basic grasp of the different functional requirements of the software, each organization can begin to evaluate software vendors and put together a shortlist of products for further, more in-depth analysis.

Phase Three: Selection. It benefit from enterprise software only when organization make the right selection. By using accurate and relevant criteria on enterprise software functionality, it are better informed of own options. Using proper analysis, own selection team can make accurate assessments about how well a vendor can meet own needs, which should ensure that organization select the most appropriate enterprise software.

Phase Four: Post-selection

Important steps involved in this phase include the following:

- auditing each implementation milestone
- coordinating necessary resources to keep the project on track
- auditing the progress of implementation against products and services promised
- negotiating additional costs associated with increase in the scope of projects
- monitoring the implementation process
- briefing the stakeholders from an independent perspective on the progress of the implementation

The following figure (figure 2) illustrated a selection process with a free 2-hour trial evaluation project (www.technologyevaluation.com).

Fig.2.Selection process software

Accounting (ERP for SMB) Free Trial Project
 Evaluation Project Powered By eBestMatch*

www.technologyevaluation.com Welcome Marinela Lazarica Exit

Select Vendors Prioritize Needs Compare Results What-If Ratings Graphs Reports Send Feedback Project Map

Assign your priorities for the modules below. These priorities are relative to each other. To further refine your priority distribution for any module, please click on the module name. If any priority is set as "Critical," you will have the option to specify a minimum requirement for that module. By assigning minimum requirements, you can identify which vendors fail to meet your minimum acceptable ratings. [More about minimum requirements...](#)

#	Main Module	Set Priorities	Minimum Requirement	Relative Importance
1	General Ledger	Must Have		8%
2	Accounts Payable	Very Important		8%
3	Accounts Receivable	Must Have		8%
4	Payroll	Must Have		8%
5	Inventory	Very Important		8%
6	Job and Project Costing	Must Have		8%
7	Fixed Assets	Must Have		8%
8	Order Entry	Critical	Full Support	8%
9	Budgeting	Very Important		8%
10	Manufacturing	Must Have		8%
11	Multinational Accounting	Must Have		8%
12	General	Must Have		8%
13	Technology	Critical	Minimal	8%

Accounting (ERP for SMB) Free Trial Project
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Select Vendors Prioritize Needs Compare Results What-If Ratings Graphs Reports Send Feedback Project Map

The radar graph below illustrates the strengths and weaknesses of the products across the selected level in the knowledge tree. The numbers along the outside of the graph represent the corresponding criteria in the legend, and the figures down the middle represent the product's or products' performance (weighted average).

Accounting (ERP for SMB)

Product Comparison Product Differences Sensitivity Analysis

Criteria Legend

- 1 General Ledger
- 2 Accounts Payable
- 3 Accounts Receivable
- 4 Payroll
- 5 Inventory
- 6 Job and Project Costing
- 7 Fixed Assets
- 8 Order Entry
- 9 Budgeting
- 10 Manufacturing
- 11 Multinational Accounting
- 12 General
- 13 Technology

Legend: Infor ERP Visual (Blue), Agresso Business... (Orange), TRAVERSE (Green)

Your Shortlist Show forthcoming vendors

Qualified Vendors

- Aplicor - Aplicor
- Infor - Infor FMS SunSystems
- ComPiere - ComPiere Open Source ERP & CRM
- Mesonic Business Software - WINLine ERP

What is next?

Free 2-hour Trial
 Compare three vendor solutions head to head, according to your specific needs

Shortlist Evaluation
 Select up to five vendor solutions

The phases are: Questions, ShortList and Evaluation. After a number of questions, it is possible to select the type of evaluation project, in this example is a version free. The evaluation project consist in: Select Vendors, Prioritize Results, Compare Results, What-If, Ratings, Graphs and Reports. The results are obtained through by comparison three solutions and, finally, are the results (graphs). It is a valuable tool for the selection process.

3. Benefits and Risks of Implementation Enterprise Applications

Clients who are implementing Enterprise Resource Planning software for the first time tend to be initially intimidated by the time and cost of an implementation and seek to accelerate the go-live date. Such acceleration, when accomplished with the right strategy and tools, can be of tremendous benefit, including a reduction of costs and reduced time-to-benefit (TTB). However, without the right strategy and tools, implementation acceleration carries the risk of abbreviated end user training and change management, a lack of post implementation planning, over-engineering of business processes, and other problems that in fact lead to higher over-all cost of ownership and the erosion of business benefit. For some, the question is: to accelerate or not to accelerate? Without acceleration, the implementation will be more costly but other risks will be mitigated. Cost versus risk appears to be the choice.

In short order, the market was saturated with “success” stories of six-month implementations, four month implementations, and even two-week implementations. Many were expecting an ultimate claim of an implementation being completed during a long lunch hour. While it is true that these new methodologies reduced the time needed to implement, the sheer acceleration created new problems, such as inadequate knowledge transfer, abbreviated change management, and deficient post-implementation planning. In the ensuing ten years, most of these methodologies have been refined to address such problems. All the same, as will be detailed further in this document, accelerated implementations bear such risks.

The most crucial *element of acceleration* is the re-use of existing and proven assets. As the business flows, or processes, of firms within an industry are nearly identical, pre-configured processes can be easily implemented. For example, an order to cash business process that has already proven viable for hundreds of consumer packaged goods firms will probably be a good fit for another consumer packaged goods firm. In similar fashion, how much will sales order entry differ for a firm that sells automotive parts from a firm that sells aircraft parts?

Re-usability depends upon a client willingness to adapt itself to new business processes rather than bending the software to adapt to custom processes. The closer a client adheres to this principal, the faster the implementation due to:

- ✚ A major reduction in the business process design and software configuration phases, which normally comprise more than half of the consulting effort expended
- ✚ Higher level of re-usability of scripts, templates, set-up tools, reports, and user documentation
- ✚ A reduction in scope management.

The Benefits of an Accelerated Implementation

The key benefits can be derived from an accelerated implementation:

- Reduced time and cost
- Reduced probability of over-engineering
- Accelerated time to benefit

We begin with time and cost, the traditional measures of engagement success. An accelerated implementation is first and foremost intended to reduce time to implementation and, by

consequence, time-to-benefit. In both instances, an accelerated implementation should result in reduced cost. The level of cost reduction is not simply a matter of total hours spent but also a matter of the client-systems integrator relationship. There are two poles of this relationship. At one extreme is client ownership, in which the client actively partners with the systems integrator in order to hasten the go-live and knowledge transfer. At the other extreme is client acquisition in which the systems integrator completes the implementation with a minimum of client input or collaboration.

Another advantage of accelerated implementation is the reduced probability of over-engineering. Following more standard implementation methods, the business process design and software configuration activities tend to be iterative in a trial-and-error fashion as clients and systems integrators seek an "ideal" process. In doing so, the team will continually re-configure the software until they "get it right" and often the result is unwieldy for users and difficult to maintain. One feature of accelerated implementation is a reduction of the business process design (or blueprint) phase as clients accept "out-of-the-box", proven business processes. Such processes are not over-engineered and are often pre-configured, which also contributes to a reduction of the configuration process. In all implementations, as clients climb the ERP learning curve, they discover that there is more that they can do than was included in the original project scope. The temptation is to expand the scope to include new benefits, thus lengthening the time to go-live.

In accelerated implementation, project scope is usually frozen prior to business process design. This means that newly-identified potential benefits in the course of the project will not be addressed. Obviously, if such benefits are truly desirable, they can be pursued after go-live. In any case, clients are urged to adopt a strategy of continuous business improvement after go-live, in which business processes (and, by consequence, configuration) will continue. Beyond cost reduction, the greatest advantage of an accelerated implementation is the reduction in time to benefit. Depending upon the business goals, this reduction can be marginal or dramatic. For example, if a client is targeting a new market that requires the software, the difference between a six-month implementation and a ten-month implementation will be dramatic.

In essence, perhaps the greatest advantage of an accelerated implementation is the sense of urgency and purpose it will engender.

The Risks of an Accelerated Implementation

Establishing a sense of urgency is essential to the success of an accelerated implementation. However, if the sense of urgency turns to alarm because deadlines are slipping or budgets are stretched, project speed can become a liability.

Key risks to a client opting for accelerated implementation are:

- Abbreviated end user training
- Abbreviated or inadequate change management
- Deficient knowledge transfer
- Lack of post-implementation planning

End users fulfill the business processes that are supported by ERP software and their competency, or lack thereof, has a direct effect on the efficacy of those processes. Unfortunately, end-user training is one of the more neglected aspects of ERP and can be even more neglected in an accelerated setting. This training is nearly always the penultimate step before go-live and if the project is running late and/or over budget, the tendency has long been to foreshorten it in order to save time. This time-savings will later be overwhelmed by end user

incompetence and an inability to effectively fulfill the intended business processes. Further, organizational change management often goes by the wayside in an accelerated implementation as there may be insufficient time to orient business staff to new business processes. This can be further exacerbated by the fact that "out-of-the-box" business processes may well be vastly different from those being replaced. The result of inadequate organizational change management is business disruption after go-live that can erode benefits as well as nerves. Speeding toward go-live without taking a long-term view is also a risk of an accelerated implementation. In essence, clients should view the implementation phase as the "wedding" and the deployment of their software as "the marriage". While the wedding may last for six months or longer, the marriage may well last twenty years. A failure to plan for the post-implementation phase in which the client will have to be properly positioned to operate and enhance its ERP plant will lead to a longer and costlier shake-out and erode intended benefits. Think of an accelerated implementation, go-live is only the end of the beginning. Post go-live, client self-reliance will depend upon the level of acceleration. Highly-accelerated implementations will leave the client in a vulnerable position if continued knowledge transfer and change management are not emphasized after go-live.

4. Conclusion

The merge of the information technology and the web standards have formed the electronic business "e-business". Succession in e-business, in particular e-commerce, will need organizations to revise their strategies and goals to meet market rules of demand and supply. Conversion of ordinary business into e-business has forced organizations to be redesigned and reshaped, to become more digital organizations (*Organization where nearly all significant business processes and relationships with customers, suppliers, and employees are digitally enabled, and key corporate assets are managed through digital means*). Developing applications for e-business environment raises a host of new challenges, not just for developers, but for IT managers as well. The software applications, enterprise applications, can managed not also the whole business value chain but also the dynamic adaptability of economic processes and information systems to changes's market and international competition. The implementation of a software package is an important investment for an organization, which is characterized also by a high degree of risk and benefits. Selecting the most appropriate software is a necessary condition for a successful implementation. Because the selection process is difficult, complex and very important, we recommended a methodology for the selection of an enterprise application composed of four main phases: research, evaluation, selection, post-selection. Such a decision must be taken very carefully, as the adoption of software solutions is having an important impact in the medium and long term. This impact is related to purchase and operating costs, but also to the way the software is helping the company to build competitive advantage.

References

1. Kenneth C. Laudon & Jane P. Laudon, *Management Information Systems: Managing the Digital Firm (10th Edition)*, Prentice Hall
2. Ion Gh. ROȘCA, Bogdan GHILIC-MICU, Marian STOICA, *Informational Trends for Organizations in Information Society*, *Economics Review*, no.1(41)/2007
3. Lazarica Marinela, *The aspects regarding the design of e-commerce systems*, doctoral thesis, Bucharest, 2007
4. Komartin Robert-Emilian, *Contributions to improving the development methodologies of integrated information systems*, doctoral thesis, Bucharest, 2004
5. www.technologyevaluation.com

Return On Investment (ROI) In Human Resources Policies

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Abstract

The new economic climate adds pressure on companies, which, in order to survive, see the need to reduce their operational costs. HR budgets are within the first to be cut. To be trustworthy human resources specialists must demonstrate they can deliver tangible, quantifiable value. Our aim in this paper is to emphasize the need to establish the value of HR using the calculation of human resources return on investment. We believe that companies should develop a HR ROI methodology and use this costs/benefits analysis to argue the investments required.

Key-words: human resources, return on investment, HR value, human resources policies.

JEL Code: M54, M53

1. Introduction

The new world economic climate has been the main topic of discussion for the past year. Phenomena such as bankruptcy, unemployment, restructuring kept the headlines worldwide, but, after a year of crisis a "new normal" is settling in. For many companies this means an environment less secure than the one of the pre-crisis world. The majority of companies is still cutting costs, and remain sceptical about the economic health of their countries.

A McKinsey Global Economic Conditions Survey⁷⁹, published in September 2009, based on the responses from 1,677 executives, representing all regions, industries, company sizes, and functional specialties, reveals the priorities of companies a year after the worldwide economic system almost collapsed. Many companies use a mix of short and long term planning, and cutting costs is still in the top of priorities. A hierarchy of the top priorities of companies, as revealed by the McKinsey Survey is presented in the exhibit above (Exhibit 1).

⁷⁹ McKinsey&Company, The crisis - one year on: McKinsey Global Economic Conditions Survey results, September 2009

https://www.mckinseyquarterly.com/Economic_Studies/Productivity_Performance/The_crisis_one_year_on_McKinsey_Global_Economic_Conditions_Survey_results_2009_2437, visited at October 10 2009.



Exhibit 1 - Currently, which of the following actions are among the top priorities in companies?(% of respondents)

Source: McKinsey&Company, *The crisis - one year on: McKinsey Global Economic Conditions Survey results, September 2009.*

After understanding the importance of human resources, companies started to endeavour to develop their human resources in order to achieve their vision. Accordingly, companies consider human resources not as a consumable resource, but as an asset that will increase in value through carefully managed and monitored investment. But, as shown in the exhibit above, the main survival strategies target costs reduction. Given the fact that corporations spend an average 36 percent of their revenue on human capital expenses, it is self understood that HR budgets are within the first to be cut. Consequently, human resources executives, now more than ever, are *under pressure to demonstrate the business value of the HR function.*

2. Human Resources Return On Investment (HR ROI)

Human resources management is successful if and when its stakeholders perceive that it produces value. The value is defined by the receivers of human resources work – investors, customers, and line managers – more than the givers⁸⁰. It is imperative to demonstrate the value human resources specialists deliver.

To be trustworthy human resources specialists must demonstrate they can deliver tangible, quantifiable value. The exhibit below (Exhibit 2) demonstrates the reason why human resources specialists must focus their attention on calculating the value HR function delivers. The lower the ratio between HR costs and the value delivered, the more indispensable the HR; and its future is assured, regardless of the economic or organizational changes.

⁸⁰ Deiric McCann, *Return On Investment In Human Resources*, Profiles International, October, 2009.

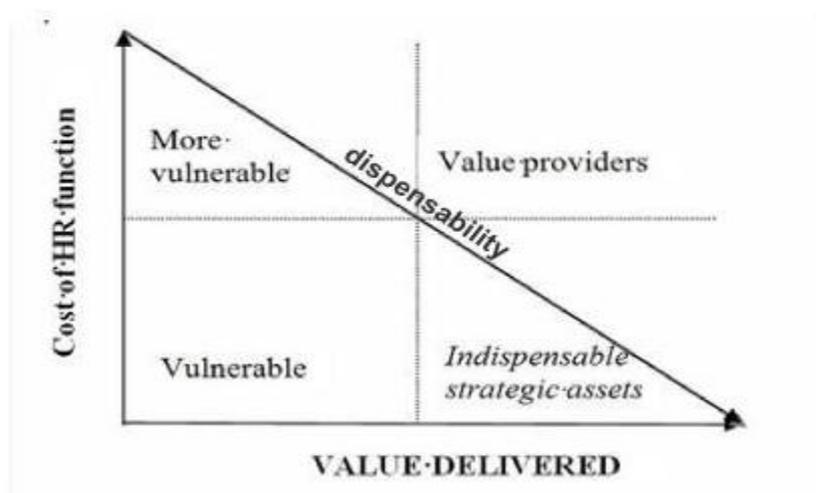


Exhibit 2. – HR dispensability

Source: Deiric McCann, Return On Investment In Human Resources, Profiles International, HR Conference, Brasov, October, 2009

The human resources accountability methods have changed and developed during the past 50 years⁸¹. The early approaches, at global level, included:

- MBO in Personnel
- Feedback surveys
- Human resources case studies
- Human resources auditing
- Human resources key indicators
- Human resources cost monitoring
- Human resources satisfaction surveys
- Competitive human resources benchmarking

Attendant to the understanding of the importance and complexity of human resources, modern and more efficient accountability methods were developed. Some of the leading modern approaches include⁸²:

- Human capital measurement
- Human resources macro studies
- Balanced scorecard
- Human resources profit centre
- Human Resources Return On Investment (HR ROI)

Return on Investment (ROI) is a comparative analysis of the benefits against the costs of HR policies. In simple terms, *ROI is the way to determine if HR policies have achieved their objectives so as to justify the costs*. If so, that money was invested with use, and if not, it means that losses were generated.

⁸¹ Jack J. Phillips, Ph.D., *Measuring ROI in Human Resources*, ROI Institute, 2007, http://media.roiinstitute.net/pdf/uploads/Webcast_Measuring_ROI_in_Human_Resources_Programs_Conference_Board.pdf, visited on October 10 2009.

⁸² *idem*.

Return on investment is generally measured as a ratio of costs to the monetary value of results. In time, the process of ROI calculation has been refined. The ROI Methodology developed by Dr. Jack J. Phillips which has been implemented globally is presented in the exhibit below.

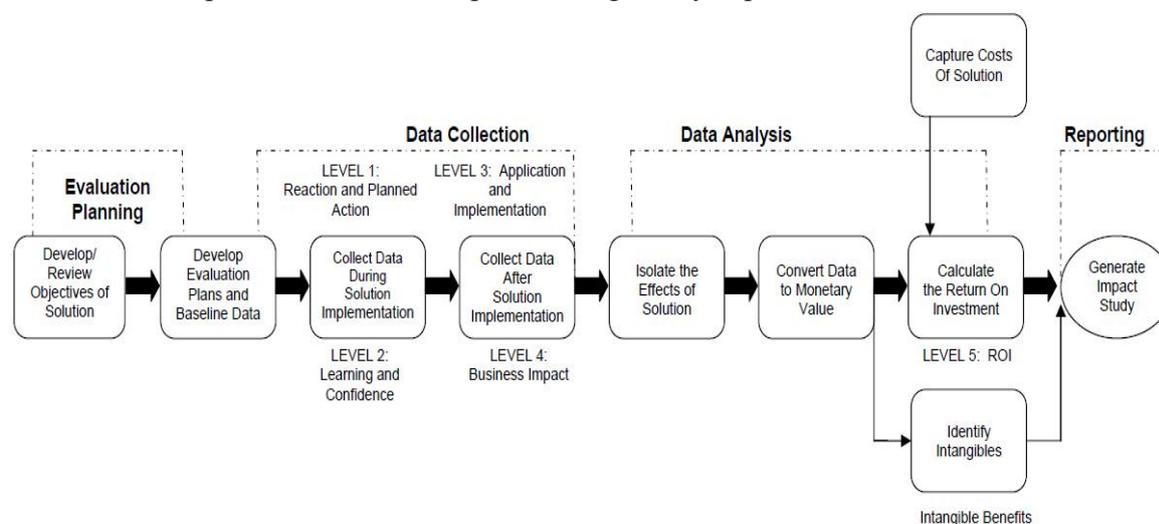


Exhibit. 3. ROI Methodology

Source: Jack J. Phillips, Ph.D., Measuring ROI in Human Resources, ROI Institute, 2007, http://media.roiinstitute.net/pdf/uploads/Webcast_Measuring_ROI_in_Human_Resources_Programs_Conference_Board.pdf, visited on October 10 2009.

Normally, the formula used for the return on investment (ROI) calculation is:

$$(\text{total benefit} - \text{total costs})/\text{total costs} \times 100 = \text{ROI}$$

Total benefits include money saved by the organization, money made, and anything that adds directly or indirectly to the bottom line.

Total costs include the obvious and the not-so-obvious: development costs, learner's time away from doing something else, overhead of education department, physical materials, etc. Depending on what a company includes as returns and costs, the formula for the calculation of the ROI can be modified to suit the situation. However, this flexibility has a drawback: ROI calculations can be easily manipulated to suit the user's purposes, and the result can be expressed in many different ways. For measuring and valuing HR ROI, companies must have some standard techniques and a standardized methodology. Usually, the return on investment (ROI) is calculated as the *ratio of inputs (in €) to outputs (in €)*. But, because human resources activities frequently don't directly result in obvious savings or revenue output, the calculation of ROI for human resources is different. HR influences processes and behaviours in manners that can be correlated to earning or savings that can be quantified in €. Therefore, **HR ROI is calculated as the ratio of inputs (in €) against outputs (impact on behaviour, process, structure) that are converted to outputs (in €).**

Because of this particularity of human resources return on investment (HR ROI), the value of HR is rarely demonstrated. There are a number of *intangible benefits* which are difficult to convert into monetary value outputs, such as:

- Complaints
- Conflicts
- Teamwork

- Customer service
- Commitment
- Stress
- Job satisfaction
- Loyalty.

Human resources activities are apparently difficult to measure. However, the necessity of HR value calculation is undeniable. Yet, some HR managers don't even have a rough calculation of several key-elements that can be used to justify the ROI: recruitment costs, selection costs, relocation costs, working hour at HR department, the cost to achieve productivity, what sources of recruitment are financially more profitable, which are the department statistics: how many recruited, how many selected, how many employees, retention and others.

3. Return on investment of training programs

Worldwide specialists consider that the key to surviving the crisis is **training**. To calculate the training ROI, a company must identify the total financial benefit it draws from a learning program and then subtract from that the total investment made to develop, produce, and deliver that program. Though it's difficult to measure all of the costs associated with the program and even harder to isolate the financial benefits from the program.

Returns can come in many forms and, for the quantification of the training benefits, companies can use the following formulas⁸³:

a. Time saving:

- Shorter lead time to reach proficiency:
(*Hours saved × € per hour*)
- Less time required to perform an operation
(*Hours saved × € per hour*)
- Less supervision required
(*Supervisory hours saved × supervisory pay per hour*)
- Better management of time
(*Hours freed × € per hour × opportunity cost of freed hours*)

b. Increased productivity:

- Faster work rate
(*€ value of additional units, sales, etc.*)
- Time saved by not waiting for help
(*Hours saved × € per hour + hours of helpers time saved × € per hour*)
- Decreased downtime
(*€ value of reduced nonproductive time*) *Improved Quality*
- Less scrap produced
(*€ value of scrap × decreased scrap level*)
- Fewer rejects
(*€ value of reject × decreased reject level*)
- Improved market share
(*Percentage increase in market share × € value of increase*)

c. Better personnel performance:

- ✚ Less absenteeism/tardiness
(*Hours of increased production × € per hour*)
- ✚ Reduced grievances, claims, accidents

⁸³ Kapp Karl M., Transforming Your Manufacturing Organization Into a Learning Organization, www.btedemo.com, visited at March 15 2009.

(€ saved on paperwork, actions, medical claims, insurance, and lost time)

 Avoiding the need to hire new employees.

(Salary and benefits savings)

Studies that were carried on the last years show a correlation between a company's present investments in employee training and the future financial performance. Researchers at the American Society for Training & Development and at Saba Software have examined the relationship between companies' information about education and training investments and their publicly reported financial performance data. The question at the heart of the researchers' work was whether training investments in one year affected a firm's total shareholder return (TSR includes both change in stock price and any dividends issued during a given year), during the year that followed.

The central finding of the research is that information on organizational training investments has a major contribution to the future total shareholder return: The study reveals that:

1. An increase of \$680 in the training expenditures per employee of a company generates, on average, a six percentage point improvement in TSR in the following year, even after controlling for many other important factors.
2. When ranked according to how much they spent on training, companies in the top half had a TSR that was 86 percent higher than those in the bottom half, and 45 percent higher than the market average.
3. Knowing how much a firm invests in education and training improved the ability to predict the future TSR of a company by 50 percent. Without taking training into account, the other factors explained only 12 percent of the variation in TSR. This increased to 18 percent when training and education expenditures were added in.

American Society for Training & Development researchers found other correlations when looking at other key measures of financial performance. For example, the firms in the top quarter of the study group, as measured by average per-employee expenditures on training, enjoyed higher profit margins (by 24 percent), higher income per employee (by 218 percent) and higher price-to-book ratios (by 26 percent) on average than firms in the bottom quarter⁸⁴. These findings offer a powerful new incentive to make training a priority: having the right information about corporate training expenditures, stock analysts and investors can dramatically improve the ability to predict a company's stock-market performance. In order to obtain the highest ROI, it is necessary that the company uses highly focused training programs. Training returns are the highest when the program is focused on a specific business problem, such as high staff turnover. At the same time, ROI is higher for short and sharp training, and for the training programs linked to innovation, particularly technological change.

4. Example of ROI calculation

For a better understanding of how ROI works, we consider this example⁸⁵: A company has a team of ten salespeople, each carrying out a quota of € 600,000. The process implies taking a number of steps before formulating a strategy. In our example the steps are:

1. Ranking the salespeople from top to bottom.
2. Creating performance levels.
3. Identification of salespeople on each performance level.
4. Identification of average sales per level.

⁸⁴ Bassi Laurie J., Ludwig Jens, McMurrer Daniel P., Van Buren Mark, Profiting From Learning, www.betdemo.com, visited at March 15 2009.

⁸⁵ McCann Deiric, *Return On Investment In Human Resources*, Profiles International, HR Conference, Brasov, October, 2009.

5. Using the information to create a profitable business strategy.

Step 1. Ranking the salespeople from top to bottom.

This is the ranking in our example:

1. Salesman 1 - € 1,000,000
2. Salesman 2 - € 1,000,000
3. Salesman 3 - € 700,000
4. Salesman 4 - € 700,000
5. Salesman 5 - € 600,000
6. Salesman 6 - € 500,000
7. Salesman 7 - € 500,000
8. Salesman 8 - € 400,000
9. Salesman 9 - € 300,000
10. Salesman 10 - € 300,000

Step 2. Creating performance levels.

To create performance break-points that will allow us to allocate the salespeople across three performance levels we must calculate the sum of all sales and divide it by three.

Total sales = €6,000,000

$€6,000,000/3 = €2,000,000/\text{performance level}$

Step 3. Identification of salespeople on each performance level.

We must assign the members of the sales team on each of the three levels of performance. This is the result:

Top level (Stars):

Salesman 1 - € 1,000,000
Salesman 2 - € 1,000,000
€ 2,000,000

Middle level (So-So):

Salesman 3 - € 700,000
Salesman 4 - € 700,000
Salesman 5 - € 600,000
€ 2,000,000

Bottom level (Passengers):

Salesman 6 - € 500,000
Salesman 7 - € 500,000
Salesman 8 - € 400,000
Salesman 9 - € 300,000
Salesman 10 - € 300,000
€ 2,000,000

Step 4. Identification of average sales per level.

- *Stars*

Salesman 1 and 2 = € 2,000,000/2 = € 1,000,000

- *So-So*

Salesman 3, 4, and 5 = € 2,000,000/3 = € 667,000

- *Passengers*

Salesman 6, 7, 8, 9, and 10 = € 2,000,000/5 = € 400,000

Step 5. Using the information to create a profitable business strategy.

If we calculate the difference between a *So-So* salesman and a *Passenger* salesman we obtain €267,000. This result has the following consequences:

- Every time the company hires a *Passenger* instead of a *So-So* it cost € 267,000.
- Every time the company hires a *Passenger* instead of a *Star* it cost € 600,000.

- If the company hires five *middle-level* salesmen instead of the five salesmen with *bottom level* performance (*Passengers*) it means an increase of € 1,300,000 (€ 267,000 x 5).

The company must act towards the raise of the bottom level performance salespeople to the middle level. If the company raises one bottom level performance salesman to the middle level of performance, the result is an increase of 4.4 percent annually. If the company raises all five of the salesmen with bottom line performance to the middle performance level, the company will register an increase of 22 percent annually, from € 6,000,000 to € 7,330,000. If the company manages to raise all five of the salesmen with bottom line performance to the top level of performance, the result would be an increase of 67 percent annually.

5. Conclusion

The importance of human resources return on investment is not clear and fully understood yet. The problem is that nobody is certain what the appropriate metrics are for measuring ROI. In the long run, however, businesses, investors and government will need to forge collectively a solution to these problems. The changes needed include revising accounting and reporting standards to reflect the understanding that human resources are an investment, not a cost. HR ROI should not be left to accountants, because ROI is one of those cost / benefit analysis which should be made by the CEO, together with human resources specialists. Now more than ever, human resources specialists must fully understand the necessity of HR value demonstration. When used correctly, the return on investment is an infallible method of calculation. ROI can demonstrate the monetary value of: hiring the “right” people; retaining the “right” people, maximizing the productivity of those “right” people, and developing the “wrong” people.

References

1. *Abrudan Maria-Madela, Matei Mirabela-Constanța, Popa Adela Laura, Training Programs And The Return On Investment (ROI), Annals of The Oradea University, Fascicle of Management and Technological Engineering, Volume VIII, 2009.*
2. *Bassi Laurie J., Ludwig Jens, McMurrer Daniel P., Van Buren Mark, Profiting From Learning, www.btdemo.com, visited at March 15 2009.*
3. *Dictionary, www.investopedia.com, visited at October 10 2009.*
4. *Kapp Karl M., Transforming Your Manufacturing Organization Into a Learning Organization, www.btedemo.com, visited at March 15 2009.*
5. *McCann Deiric, Return On Investment In Human Resources, Profiles International, October, 2009.*
6. *McKinsey&Company, The crisis - one year on: McKinsey Global Economic Conditions Survey results, September 2009, https://www.mckinseyquarterly.com/Economic_Studies/Productivity_Performance/The_crisis_one_year_on_McKinsey_Global_Economic_Conditions_Survey_results_2009_2437, visited at October 10 2009.*
7. *Nechita Radu, Măsurarea ROI (return on investment) în instruirea angajaților, February 18 2008, <http://www.financiarul.ro/2008/02/18/masurarea-roi-return-on-investment-in-instruirea-angajatilor/>, visited at October 10 2009.*
8. *Phillips Jack J., Ph.D., Measuring ROI in Human Resources, ROI Institute, 2007, http://media.roiinstitute.net/pdf/uploads/Webcast_Measuring_ROI_in_Human_Resources_Programs_Conference_Board.pdf, visited on October 10 2009.*

Development Strategies of the Female Entrepreneurship in European Union

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Abstract

This is a comparative study, which want to evidence some aspects of the female entrepreneurship related economic contribution, specific motivations, obstacles faced in the pursuit and the government measures taken to remove these inconvenience. We can appreciate that the female entrepreneurship represents a growing up economic resource unexploited. The women are creative, have necessary training, but there is less of scale entrepreneurial, which need significant funding.

Keywords: female entrepreneurship, small and medium sized enterprises, business women

JEL Code: L26, M14

1. Comparative Analysis of Female Entrepreneurship in Romania and European Union Countries

1.1. General considerations of the situation of women in the labor market in Romania

Statistics on the gender structure of population in Romania since 1930 highlight a slight superiority of the percentage of women than men (balance of forces is 96 men per 100 women). Through a natural, but also training and education received, women accounted for a significant proportion of the workforce in Romania. Not the same was reported of their involvement in the management structure of the public sector, political or business, where the percentage of their implication continue to remain, even after 1990 rather small. In Europe, growth of Western economies has resulted in the transfer of certain activities in the commercial domestic sphere, as the transfer of certain family responsibilities to public bodies.

A study elaborated by the National Institute for Scientific Research in the Labor and Social Protection Field in Romania highlighted for the period 1994-1996 following situation (table no. 1).

Table no. 1 Share of women in employment by employment status (%):

Name of indicators	1994	1995	1996
TOTAL employment, which:	46,2	46,6	45,3
- employees	41,1	40,5	41,6
- employers and associates	24,8	27,4	23,7
- self-employed	41,7	43,1	37,2
- unpaid family workers	73,4	74,8	72,7
- member of an agricultural society or a cooperative	55,9	46,2	45,7

Source: National Institute of Statistics, Statistical yearbook

Data table suggests at least two reviews:

- the share of women among employers and members was between 23.7% -27.4%, lower registration process for total employed population (40-47%);
- the share of women among unpaid family workers (usually wives or daughters on their own account workers and family members of peasant farms) was, also very significant. In most cases it was about survival solutions to supplement income and to combat poverty.

Paper entitled „The Status of Women in Romania 1997-1998” published by United Nations Development Program appreciates that good professional training and proven skills in science constantly determined increasing the number of women specialists with intellectual occupations as it follows: 46,1% in 1994 to 49,7% in 1997. This justifies the fact that compared to men, women have the best most jobs in the legal field (about 80%) where, as in activities like banking, finance and insurance (68%), salaries were above average ordinary. Large percentages of female employment in labor were found to be in the period 1997-1998 in education (71,5%), in hotels and restaurants (65,4%), commerce (54,9%), post and telecommunications (53,6%), as well as in agriculture.

1.2. Characteristics of the Female Entrepreneurship in Romania

In the Romanian business environment, 36% of start-up companies attend to the women, while in Western Europe, on average, 26% of new firms are created by women. In 2006, in Romania has been realized a survey analyzing the situation of female entrepreneurship on a sample of 1009 firms, ordered by telephone from a database of over 3000 numbers⁸⁶.

The sample of companies presented the following features:

- share of firms interviewed (over 60%) were established and began operating during the period 1990-1996;
- from the total of interviewed firms, only 261 were micro firms, and the remaining 748 companies had more than 9 employees, from which percentages of women employees were less sensitive to the percentage of women employees from the 261 micro firms. The conclusion is that the small companies prefer to recruit more.

The survey was conducted on the basis of a questionnaire with 44 questions. After analyzing the responses were drawn conclusions which constitute a picture presentation of the main characteristics of the female entrepreneurship in Romania (see table no. 2).

Table no. 2 Criteria for analysis of female entrepreneurship

No.	Criteria of analysis	Characteristics
1	Women situation in companies	<ul style="list-style-type: none"> • percentage of company employees is inversely proportional to the size of the firm • prevailing reasons for starting a business are: the need to earn money for the family and financial freedom • advantages in collaboration with a company headed by women consist of their diligence and dynamism
2	Motivation in starting a business	Financial motivation is the most important
3	Advantages of the women in business	There are noticed in particular: diligence, dynamism and charisma
4	Policy staff	The fundamental criteria in engage employees is the professional qualification, regardless of class, the size of companies, areas of activity or development region
5	Family situation	<ul style="list-style-type: none"> • over ¾ of women involved in small enterprises haved children, majority of them over 16 years old;

⁸⁶ The study is published on the Ministry site

No.	Criteria of analysis	Characteristics
		<ul style="list-style-type: none"> majority of the women are taking care personal of their own children;
6	Investments intentions	The trend towards smaller investments
7	Number of jobs created as a result of investment	<ul style="list-style-type: none"> we may remark a limited view over the future perspectives of the companies, which not bring the issue of creating new jobs; daily problems caused by business development prevent manager women developing a long term strategy in which hiring additional staff to be an essential
8	Sources of funding	<ul style="list-style-type: none"> the most important funding source is represented by own funds, followed by banking credits and leasing; the criterias using in chosing a bank are interest rates and fees, the simplicity of the banking procedures, followed by location and, respectively, of the required guarantees
9	Spirit Association of SMEs	A significat procentage of companies (over 75%) are not and not want to became a member of an association. The isolation resulted due to this state of affairs make the SMEs leading by women to be more vulnerable towards the external environment because of a lack of information
10	Using information technology	<ul style="list-style-type: none"> the degree of IT equipment and services increases in proportion with the companies' dimension. Most companies enjoy the basic facilities (internet, computers)
11	Stage of introduction of quality management system	<ul style="list-style-type: none"> Number of companies that have introduced or are about to introduce quality management varies in direct proportion to company We may remark a high interest to introduce the quality management in the next regions: Nord-East, South – West and middle of Romania
12	Apreciation regarding the Support program for manager women implemented by the Agency Manager for SMEs and Cooperatives	<ul style="list-style-type: none"> It is the best known program for small enterprises and for companies action in the „transport and telecommunications” field, but least known by the companies from the industry sector. regarding the activities under this program, the most interest are represented the information under the funding resourses, consulting business services and courses for managers

We may conclude that the many women creates their own companies, which manage successfully. Business women guided by the priority of light industry, textile, cosmetics, consulting, training, tourism services, agro-tourism and hairdressers than by research and heavy industries. Regarding the SMEs manage by women on the international markets, resulted that the firm dimension is critical to economic strength and power sales to the EU market. Percentage of the companies which succeeded to make sales to the EU market increased in proportion to their size. In Romania has been placed on entrepreneurship courses free sessions held in Vaslui, Brăila, Bistrița-Năsăud, Drobeta Turnu Severin, Miercurea Ciuc și Bușteni. These interactive courses supported legislation led modules of legislation, enterprise psychology, financial enterprise, basis of accounting, commerce, marketing, franchise system etc. Certificate obtained after completion of these courses offered graduates the opportunity to engage into SME's or to start their own business.

2. Characteristics of the Female Entrepreneurship in European Union

France

In the past 40 years, the entry of women into working life deeply affected the economic life of France. However, women in management positions remain a minority, are it private sector, be it by public officials in the state.

The issue of female entrepreneurship is a constant concern for the analysis of specialized institutions in France. Their research focused particularly on two criteria, taken into account when analyzing female entrepreneurship in the industry-commerce-service (ICS) field: the legal status and the size of these enterprises.

As for the legal status, the companies in the industry-trade-services field (ICS) were decomposed into two main components:

- Private individuals (or individual companies);
 - Legal persons (or companies).
- According to size businesses ICS were divided into
- Companies without employees (individual companies)
- Companies with employees, classified as:
 - o Companies with 1-2 employees;
 - o Companies with 3-5 employees;
 - o Companies with 6-9 employees;
 - o Companies with 10-19 employees;
 - o Companies with more than 20 employees

A study elaborated by the Centre for Research ESSEC⁸⁷ in 2005 specify that the repartition on activity sector for the female entrepreneur is like in table no. 3.

Table no. 3 Evolution of women entrepreneurs in the sectors of activity

Domain	Percentage of women entrepreneurs (%)
Services for individuals	28,7
Comerce and repair	30,0
Transportation	1,2
Real estate activities	3,2
Construction	3,5
Industry	7,9
Education, health and social actions	9,8
Servicii pentru întreprinderi	15,7

According to a study undertaken by the APCE on a sample consisting of 1600 companies of which 800 with 20-249 employees and 800 with 0-19 employees, most women entrepreneurs (62%) used to be simple employed, 13% housewives, 13% students, 10% company managers, only 2% being unemployed. The 85% women entrepreneurs were satisfied with their choice.

We notice that the management operation is considered difficult by only 29% of women entrepreneurs, the difficulties being caused by: reconciling work and family life, acquiring a sense of security, the access to markets, the recruitment of competent employees, the relations with government and obtaining finance. The percentage of 71% of women entrepreneurs who consider that management is not difficult closely corresponds to the percentage of 84% of women entrepreneurs who are fully satisfied with their status.

According to the study "Rapport de l'Observatoire Fiducial de l'entrepreneuriat feminine (janvier 2005)", in 2005 female entrepreneurship represented 25-30% of the total number of

⁸⁷ Beaufort V. – La creation d'entreprise au feminin en Union européenne, Étude proposée dans le cadre du partenariat academique ESSEC – Womens Forum – p. 11

companies created, and the study "Chiffres-clefs, l'égalité entre les femmes et les hommes "(2005) specifies that 12% of company managers are women.

As for the distribution of female entrepreneurship according to the financial investment we see the following categories:

- Less than 4.000€: 34,6%;
- between 4.000-8.000€: 16,9%;
- between 8.000-16.000€: 15,6%;
- between 16.000-40.000€: 14,1%;
- more than 40.000€: 18,8%.

Thus 46% of women were able to create a company with less than 7600 €, while 5.9% of women entrepreneurs have started their business with more than 76,000 €. It is known that women find more difficult to access financing sources and they are considered unable to generate growth⁸⁸. In 1989 Guarantee Fund Women Initiative (FGIF) was created with the purpose to facilitate access to finance for women who want to create, resume or develop a company offering them amounts ranging from 5.000-38.112€ for a period of 2-7 years. In 2008, in France, 95,000 women have launched a business, action also stimulated by facilitating their access to bank loans by creating FGIF (Fonds de garantie pour la création, la reprise ou le développement d'entreprises à l'initiative des femmes).

Belgium

A study made by the National Institute of Statistics indicated that in the last 40 years, the number of women in the Belgian business almost doubled from that of men which increased by almost 4%. However, the creation of companies by means of women initiative knows a positive development. GEM Report - Wallonie 2001 (Global Entrepreneurship Monitor, VLG et Bobson College, 2003) reveals that rate of feminine entrepreneurial activity in Belgium is one of the weakest in the European Union (27% in the entrepreneurship - individuals and 16% in the corporate entrepreneurship).

Among the fields experiencing a high rate of female entrepreneurship the prevalent ones are the corrective, social and personal services, hotels and restaurants, health, social actions and education. The fields experiencing a rate of female entrepreneurship lower than the average are: transport-telecommunications, agriculture-hunting and forestry, manufacturing industry and construction.

A more detailed analysis coordinated by Lambrecht J. Pirnay F.⁸⁹ shows that the ratio of female entrepreneurship rate observed in the most male sector (construction) and in the most female sector (collective, social and personalized services) varies in proportion of 1 to 3 for the individuals and from 1 to 60 for the legal persons. The differences between women and men entrepreneurs are:

- ✚ age - women entrepreneurs are older than their male counterparts to get started (an average of 34 years versus 30.9 years for men);
- ✚ Marital situation - most women entrepreneurs (40%) had the status of single women without children when they started the business, while most men (80%) started the business while being part of a couple with children;
- ✚ Professional experience before starting the business is seen in women in a proportion of 82% compared to men in this situation - 72%;

⁸⁸ Rapport OCDE Istanbul, L'entrepreneuriat feminine: question et actions à mener, Juin 2004

⁸⁹ Lambrecht J. și Pirnay F. – Entreprenoriet feminin en Walonie, Centre de Recherche PME et D'entreprenoriet, Universite de Liege, 2003

- ✚ For female entrepreneurs the reasons to start a business are divorce and inheritance, while for men the main motivation is personal autonomy;
- ✚ Incomes are generally low, more than 32% of entrepreneurs having incomes situated below the poverty threshold;
- ✚ access to financing is considered equal for both women and men.

In 2004 a project was started with the subject "women's affairs, who also was put in practice and offered micro-loans that have helped financially the female entrepreneurship.

WES 2006 Progress Report shows that in Belgium, as a rule, fewer women are affiliated with professional organizations, business networks or private groups, which means that they have fewer professional contacts. There is even "the persistence of old mindsets that tend to favor the husband's career against of his wife's, which explains why women are not taken seriously into account in the world of entrepreneurship."⁹⁰. There is the "Diana" project which in 2006 focused on the image of women entrepreneur in media.

Germany

In Germany there are 1.3 millions of businesses that have a female owner. Germany supports the setting and support of small and medium enterprises SME both through policy and funding programs at federal level as well as at the land or local level. The projects are sustained both through funding and counseling. After 1999, applicants could receive a transition allowance if they created their own enterprise. But women can take advantage of programs which are not intended for them specifically, but can mobilize particularly their creative potential.

A quantitative and qualitative study carried on women entrepreneurs, published by the Ministry of Economy and Labor in 2003, shows the state of female entrepreneurship in Germany and the barriers that must be surmounted. In this perspective, the Federal Agency for women starting a business, created in December 2003, is supported by 3 ministries: the Federal Ministry for Education and Research, the Ministry of family, of elderly, women and young people and the Federal Ministry of Economics and Technology. It is a platform that provides information on business creation by women in political, academic and professional environments, whatever the stage of the cycle of establishment (foundation, consolidation, succession). The site of the above mentioned agency has 544 experts, 545 counseling organizations and 285 networks (informal working groups), all in order to allow the process of training and exchanges of experience.

In 2005, its activities have focused primarily on the creation of companies in the field of new technologies and innovation. Federal Agency for women creating a business is supported by the European Social Fund by means of which, since 2006, it supports some programs such as:

- ✚ "Power of women entrepreneurs" - initiated by the Federal Ministry for Education and Research, which supports mainly the following actions:
 - ✚ the creation by women of technological companies;
 - ✚ the proposal of measures to increase the proportion of women in the management of technological enterprises, in universities and research centers;
 - ✚ diplomat women inclusion in the humanities and social services based on knowledge;
 - ✚ developing a method to optimize the devices of institutional support and of services for women creating a business;
- ✚ "Women Exist" - a program that is addressed to young women who aim at leadership positions after training.

England

15% of businesses in England are held by women.

⁹⁰ WES Activity report , 2006, p. 10

After 2005, in the UK an Action Plan was implemented in collaboration with the main banks in order to access financing dedicated to women.

Phoenix Development Fund Program brings considerable financial support to innovative projects, supporting businesses created in unfavorable regions or managed by social groups under-represented in the professional world - especially women. There is a body called Prowes, encouraging female entrepreneurship, which has benefited in the period 2000-2005 of grants worth £ 580,934. After all these measures, since 2002 women created more business than men did (with + 16% more in 2002)⁹¹. In 2002 the Union of women entrepreneurs was created, which aims to promote female entrepreneurship in Britain. In addition, it provides training and advice to both English women and those from ethnic minorities. It also developed criteria for good practices on women's employment, effective partnership and understanding the needs of women (takeover of child care problems, mobility problems), etc

Moreover, in England, a Ministry of Women exists, whose main aims are to ensure equal opportunities and to take measures concerning the feminine entrepreneurship. The success of women entrepreneurship development is measured by the:

- ✚ the rise of contribution in terms of gross value added to the British economy businesses owned by women
- ✚ an increasing number of businesses owned by women in the United Kingdom;
- ✚ an increasing turnover of businesses owned by women.

Spain

The Spanish government has taken measures on two fronts: on one hand it favored the bureaucracy reduction and on the other hand it established decentralization in particular cases of creation of new companies.

The Spanish government acted on two fronts: on one hand it favored the reduction of bureaucracy and on the other hand it established decentralization, particularly for the creation of new companies. The Spanish autonomous regions have proposed reductions of interests on loans for investments, subsidies to encourage the management of the establishment period, provision of micro-credits and lower rates for counseling operations. An original idea was to allow the unemployed who want to create their own business to capitalize their benefits, which allows the monitoring of the project by the Bank. In 1997 the "Instituto de la Mujer" was founded whose objective is to promote female entrepreneurship through training, funding and tutoring programs for processes of setting up a business.

The institute works in collaboration with the Higher Council of Chambers of Commerce and Industry and the Institute for Creation and development of enterprises in order to promote female entrepreneurship. It is co-financed by the European Social Fund. After the creation of a program to access micro-credits, in 2002, by the Institute of formal credit, in 2004 there were 129 transactions worth 3.512 million Euros. In 2004, too, a micro credit program was created encouraged by the collaboration between the Spanish Institute of Women (attached to the Ministry of social activities) and the General Direction of SME Policy (attached to the Ministry of Industry, Commerce and Tourism), and it was co-financed by the European Social Fund. In collaboration with the General Direction for SMEs, the government conducts a micro credit program for women who have set up businesses in less than a year and whose employees are 50% women. The Spanish government distributes grants to migrant women, to women who manage themselves their family, and to unemployed women aged over 45 years. The amounts allocated have values between 6000 and 12,000 Euros and are intended for women to create their own business, to rent premises, in order to secure advertising and training in the field of

⁹¹ Beaufort V., Ibidem, p. 8

the management. In 2005 an Internet platform for women was also created. In addition, since 2006, the Spanish Government supports women with disabilities, unemployed women for a long time, women victims of violence and women leading mono-parental families.

Luxembourg

Women represent 16% of the small enterprises leaders and 11% of the big enterprises leaders.

Austria

In 2005, 30% of the entrepreneurs were women. A series of measures were launched with the purpose of promoting the women's entrepreneurial spirit:

- ✚ supporting programs and activities, for instance creating a tutoring salon for the enterprises led by women (2004-2005)
- ✚ Electronic trade platform for women (2004);
- ✚ Some institutions' interest for supporting the women willing to start a business;
- ✚ The creation within the Chamber of Commerce of a unit called "Women in the business world", publishing magazines and platforms on the Internet and programs seminars having subjects in the field. For instance they publish quarterly the "Unternehmerin" magazine offering present interesting information and various and useful advice for the female entrepreneurs.

This unit has inserted on the Austrian territory the "Betriebshilfe" project, allowing the women leading the small enterprises to be replaced by a skilled person for a temporary period, in case of temporary disablement due to an accident. Such an action has already registered 500 applications per year. In addition, for the women leading one-man enterprises, this unit has facilitated the availability of an expert and an attendant for the situation of employment of the first person employed. The network developed in 2003, called "Eurochambres" has launched in 2007 the third project "Woman on Board of Local Development" having as business partners the Chamber of Industry and Trade from Slovenia and the Chamber of Industry and Trade from Schwerin. Within the work group there were prepared the guiding directions concerning the women's increased presence in the councils of the Chambers of Industry and Trade at the national and local level as well.

4 times a year the Ladies Lounge (salons for women) are organized where the female entrepreneur or those working in the enterprises led by their husbands have the opportunity to change ideas with an outstanding personality from the political or economical world. Under these circumstances, in Austria, in 2006, 31, 8% of the enterprises were led by women. The average age of the female entrepreneurs was 44, 9 years.

Italy

In 2007, women represented 25% of the Italian entrepreneurs. According to the law no. 215/1992 for the female entrepreneurship, the Italian state places at disposal to the women promoting programs for the entrepreneurial training and for the development of the assistance and counseling services for the small enterprises managed by women.

In 1997 the Observatory of the female entrepreneurship was created (through the Decret al Ministro per le Pari Oportunita), which allowed reuniting a significant volume of statistical data concerning the female entrepreneurship. In 2004 15 million Euros were allocated for this field. The female Italian entrepreneurship has started to become obvious in the traditional sectors dominated by men, such as the building sector, the financial and trading sector. A characteristic aspect of the female entrepreneurship is represented by the women's nationality, as 3, 5 belong to the extra-community countries, among which 10000 have Chinese nationality.

Cyprus

In 2002 there was elaborated a program dedicated to the women aged 18 and 55 wanting to be employed in sectors such as the manufacturing industry, trade, services and tourism. The program is addressed to women who are unemployed for 12 months before the date of registering the project. Their participation must represent less than 75% of the total stockholder ship of a capital of the company. The selected female candidates must found a limited liability society; the female stockholders must function as part of it and participate to a program of training of the staff being financed by the government. Nevertheless, the governmental subventions were parsimonious⁹² in 2004, 82.000 Euros were distributed to 4 enterprises that had applied for the funds in 2002, and out of the 40 proposals that have been introduced in 2006, 22 have received subventions⁹³ for the amount of 690.000 Euros. Since 2007, projects initiated by young people and women are co-financed by the structural funds for 2007-2013.

Denmark

In Denmark there aren't separate programs for women entrepreneurs. These benefit from the assistance of various private networks.

Finland

Since 1997, a micro-credit program aimed especially for women entrepreneurs has been running in Finland. Loans are targeted at enterprises employing maximum 5 people and having women as the majority of its owners (over 50%). The amount of the loan can be between 3000 and 35.000 Euros. In 1987 a program called "Ladies trade school" was created for the female executives or who work in the key positions at the SME's, program co-financed by the European social fund. On the other hand, there are different tutorial projects such as: the Council Centre for women entrepreneur, the Agency of the enterprises led by women or advisory organizations with the purpose of developing the rural areas. In addition, after 2004, the Finnish government has encouraged the entrepreneurial spirit in schools.

The Czech Republic

After 2004, the Ministry of Industry and Trade has supported different programs out of which the women entrepreneur have benefited under the form of bank loans with low interest and subventions dedicated to investments for the creation of new enterprises. Therefore, 226 women have received a total sum of 2, 8 million Euros. The sectors that have received these facilities are manufacturing industry, trade and services.

As for the counseling with the purpose of creation of an company, in 2004 women have benefited of 1859 services at a low price. According to the statistics for the year 2006 in the Czech Republic, women were representing 26, 7% out of the total number of entrepreneurs. The project "European Woman Entrepreneur of the 21st Century" is included in the EQUAL program in collaboration with 11 national partners, being focused on the training of women in business, and the project "Entrepreneur women" is co-financed by the European Social Fund. The promoting actions of the female entrepreneurship are locally developed.

The SBAWEM (Entrepreneur and Leading Women Association from South Bohemia) has organized an international conference called "Women in Economy and the Enterprise Management" and has participated to an international conference "Women entrepreneur without Frontiers" which was held in Bavaria. CBAWEN (The Association of entrepreneur and leader women from Central Bohemia) is partner within the project "Professional Reinsertion" put into practice by the program EQUAL. Between 2005 and 2006 the following projects have started: "Guarantee", "Market", "Progress", "Consultation", "Design", "Alliance" part of the

⁹² Rapport d'activite 2004 du Wes, mai 2005

⁹³ Rapport d'activite 2006 du Wes, mai 2007, p. 19

support of participation of the SME's in the 6th framework program of the European Union and the operational programs in industry and enterprise. The "Guarantee" program made it possible the provision of SME's with collateral for bank loans and capital inflows. The "Market" program has provided 11 grants to enterprises led by women, and through the "Consultation" program 164 women benefited from counseling. The program "Start" supports the projects starting up with interest free loans payable within six years. The "Credit" program provides loans for development projects with an interest rate of 3% and 4% with a repayment period of up to 6 years.

The Slovak Republic

The Slovak Republic has become one of the strongest economic performers in Central Europe. The access to finance of SME's was encouraged through the TRATOKI - INTERREG III C East zone and the ecological tourism was encouraged, being introduced the quality system into the tourism understructure and preparing a strategically book of communication with the purpose to facilitate the communication between the ecologists and the tourism entrepreneurs for the period 2005 - 2013.

Hungary

Operational Program for Human Resources Development (sustained by the European Social Fund) pointed out: "there are supported women entrepreneurs in the incubation centers projects, in circles and networks of entrepreneurs.

In 2004, 8 organizations benefit of 562.000 euro oriented over the development of the development projects for women – managers of enterprises in the fields: dissemination of information, support services, incubators center projects, training processes, innovative methods etc.

Bulgary

In 1987 was created the SME's Agency⁹⁴, which have the role to record the new SME's and to ensure the formation and consulting fonctions. The priority is given to the SME's involved in new technologies, export, creation of different functions or environmental compliance. Although it has been created the Promoting Bank for SME's, as a national organism specialized in their financing.

Although there are no special programs for women, which benefits of some program included in „vulnerable groups”. A very concrete help is given by the external medium. For example, Female Entrepreneurship Centre was created in 2002 with the assistance Austrian

Since 2006 new projects were started new projects⁹⁵:

- ✚ The "Family Center for Children" – which sustain unemployed women, in the idea to facilitate create their own activities in kindergartens. In 2006, 14 women created family centers and other 13 were benefit of consulting in the same field.
- ✚ The project "Training in entrepreneurship" in 2006 aimed at training 77 people jobless, of which 66 were women. The project was managed by the Chamber of Commerce and Industry of Bulgaria.
- ✚ The project „On Board” was also managed by the Chamber of Commerce and Industry of Bulgaria, which aims and objectives: improving knowledge on sources of funding for female entrepreneurship actions and creation of assistance center for female entrepreneur.
- ✚ The project WENETT (Promote participation of women entrepreneurs in technology transfer at European level) aimed at fostering cooperation and transnational technological partnerships through interdisciplinary regional networking, which involved women

⁹⁴ Rapport d'activite 2004 du Wes, mai 2005

⁹⁵ Rapport d'activite 2006 du Wes, 2007, p. 14

scientists, women business of innovation and key regional actors in the regions participated.

Bulgarian business women have a high level of education, ahead in these respect women entrepreneurs in the European Union. 62.97% of Bulgarian women entrepreneurs have higher education and only 35.14% have a bachelor degree.

Latvia

For the development of the small and medium sized enterprises, in Latvia were initiated professional training courses and tutoring for entrepreneurs. In 2006 was started a tutoring program for female entrepreneurs in the technology industry.

Greece

After 2000, the program „Reinforcement of female antrepreneurship” elaborated by the Ministry of development ffinancial encourages women to approach and create their own businesses in the fields of manufacturing, trade, services and tourism. In 2008, only 21,1% of the jobs from SME’s are occupied by women.

General Secretariat of gender equality has supported several projects and programs such as:

- ✚ "Financing of integrated interventions for women" - which were allocated 59 million euros for formation of 9018 women;
- ✚ “The operational program of training and initial training” (EPEAEK).

In this approach were integrated the Research Center for Gender Equality (which were supported by 2007 programs worth 267,567 euros) and Hellenic Organization of Small and Medium Enterprises and handicrafts. Starting 2007 takes place also the project "Business development and women entrepreneurship”.

Sweden

In Sweden is developing a program specifically designed to promote an entrepreneurial spirit of women, which is applied starting with 1993 by the Swedish Agency for Enterprises Development (NUTEK). This program were allocated in 2004, 1.3 million euros. NUTEK exercise activities for the dissemination of knowledge and visibility of successful women entrepreneurs, as well as consulting and awareness activities of the banks in financing problems of specific actions of the domain. In the legislative frame, the Swedish government also promotes female entrepreneurship, facilitated to the women entrepreneurs to continue to benefit from unemployment benefits for 6 months to 1 year after they succeeded to establish an enterprise.

Slovenia

In Slovenia was created the National Information Centre for women, centre which meet women who have managed to create a successful business and is intended for rural women and women who seek to engage first. The objective of this centre is to stimulate the female entrepreneurship and to ameliorate the women position and visibility in the whole society. Slovenia is also the one that has an important role in female entrepreneurship from the Balkan region, being the one who is organizing the regional conference (e.g. Brioni Conference, Star Group etc.). The Sloven state is engaged into a powerfull action in promoting the female entrepreneurship, because in 2000 year was observed a strong gap between women and men who create businesses (3/1). Is has been organized workshops to motivate women in entrepreneurial activities.

Poland

In 2000 was founded the Polish Agency for enterprises development which dependent on the Ministry of Economy, Labor and Social Affairs. In the last years were initiated a large number

of projects, especially for formation in the female entrepreneurship domain, like: „Being a business woman is formidable” and "Stereotypes: equality between men and women in the business worlds”.

Portugal

In 2004 was launched a special program for female entrepreneurship with particular emphasis on training initiatives. After the investigation relised in 2006 by the Observer for the creation of enterprises on a sample of 1084 firms and 1748 entrepreneurs resulted that 34% of the entrepreneurs are women, 29% of these having a university degree, and 18,2% have an entrepreneurial experience. In the same time, in Portugal was developed especially consulting services, which offers assistance and consulting services and the programme „Female Entrepreneurship Sustainable” financed also by the European Social Fund are made a lot of actions to encourage the female entrepreneurship.

Estonia

Almost 35% from the total of entrepreneurs are women in Estonia.

Netherlands

In Netherlands, the Ministry of Economic Business maintains numerous contracts with the “Entrepreneurship Female Federation” and with “Black women owners of a business” organization. In the same time there is a guarantee fund for micro credits, which benefits the Dutch women and is financed by the national government and different banks.

3. Conclusions

Regarding the female entrepreneurship in Romania, we can stating that the women tend to establish business smaller than the men business. Considering the initial number of employees as a dimension criteria, we may observe that it is about 3 employees in the women business and 4 employees in men business.

Although, the female entrepreneurship are more involved in the international business than the business man. 13,2% from the products create by business women are for export, while 13,14% from the men products are for export. This is a prove that show us statisticly the potential of the business women. In the same time we believe that the results of the comparative studies between countries should be interpreted with pudency because of the economical and social context different from one country to another. That is why we consider that a very good continuing study started from this one will be a macro economic analysis in a specific national context, which can contribute to a better understanding of the differences between the entrepreneurial activity of the business women all around the European Union. It is also important to determine the key factors for the development in each country. Certainly it is obviously that the European Union directions are oriented mainly to this aspect thanks to the awariness of its importance and benefits to the entire European Community.

References

1. *Beaufort V, La creation d'entreprise au feminin en Union europeenne, Étude proposée dans le cadre du partenariat academique ESSEC – Womens Forum*
2. *Lambrecht J. și Pirnay F., Entreprenoriet feminin en Walonie, Centre de Recherche PME et D'entreprenoriet, Universite de Liege, 2003*
3. *National Institute of Statistics, Statistical yearbook*
4. *Rapport OCDE Istanbul, L'entreprenoriat feminine: question et actions à mener, Juin 2004*
5. *WES Activity report, 2004, 2005, 2006, 2007*

Global Economic Crisis and how to Survive It

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Abstract

We experience nowadays the worst economic, financial and social crisis since the 1930s. Experts all over the world are trying to solve the puzzles linked to this crisis and answer the questions: When did it start? Why? What can we do to stop it? And finally how will it affect our lives from now on? The paper tries to explain the causes, examine the facts, and forward some advice for all who are interested in driving their businesses safely out of this economic crisis.

Keywords: crisis, economic, business, customer, people

JEL code: G01

1. Introduction

Why did the current financial crisis happen? This is a question that haunted every single analyst since the crisis started and various answers have been provided depending on the nature of the economy that was studied. Whatever the answer though, some elements were the same.

As far as our knowledge goes, a fully comprehensive answer could not fit into this work's few paragraphs but some brief thoughts must be presented in order to better understand this matter. Therefore, we will provide the viewers with an analysis of the elements that are believed to be the cause of this global crisis, and then we will discuss the legacy that this situation will leave us. It is widely thought that the reason the financial difficulties started and later developed into a global financial crisis is **greed**. Over the years, in the USA, mortgage lenders gladly lent money to people who couldn't afford their mortgages. There was nothing to lose in this business so they did it anyway. Charging higher interest rates and making more money on sub-prime loans was the trend that everyone followed. If the borrowers bailed out, they would simply take the house and put it back on the market. Furthermore, they were able to pass the risk off to mortgage insurers or package these mortgages as mortgage-backed securities, which meant easy money.

The whole thing was one big vicious circle. Everything was great when houses were selling and their values went up constantly due to the fact that lenders made it easier to borrow money. Higher house values gave lenders protection against foreclosures, and meant more money for the lenders, insurers, and investors. Unfortunately, this circle broke and many borrowers could not afford paying their mortgages anymore and when too many of them couldn't afford to make their payments, lenders suffered from liquidity issues and found themselves in the

situation where they could not sell all foreclosures. The carousel ride was just fine, but it reversed course and is now coming back to hurt everyone with a vengeance. As a conclusion, **Stephen Popick**⁹⁶ states that “this crisis further serves as an illustration that our actions have tangible effects on others. Our actions affect others. The risky behavior of many investment firms which have led to the credit crisis (...) strained home mortgages, and reduced confidence worldwide of our financial system’s health”.

2. Opportunities in the Economic Crisis

Some have found ways to profit from the Economic Crisis and made huge steps forward for them and their countries. Thanks to their visionary actions the crisis is finally backing up and the worldwide economy is starting to revive. After many years of huge economic growth Chinese economy received a tremendous hit with the start of the global recession. Exports went down due to lack of money and the unemployment rate was historical.

Chinese economy was widely known to produce anything from toys to cars at a low price and of questionable quality. The crisis changed the way people grasped spending money and thus the way they chose what to buy. Suddenly there was no demand for poor quality things at an unbeatable low price but people highly searched for quality products at a decent price. The consumers had finally understood that it was better to buy one quality item than buy dozens of poor-quality items. This new way of shopping demanded a change from the Chinese enterprises in order to survive the crisis and make a profit. Aspiring Chinese enterprises may be able to seize opportunities that emerge from the economic crisis and elevate their position in global value chains, if the European and North American markets don’t suffer for too long [1].

The Chinese economy strength comes from one feature that was well understood by Chinese organizations and led to their economic power growth – the number of Chinese people. They are many and strength comes from numbers because they produce anything at the lowest production costs possible. This means that Chinese products are at the lowest procurement costs. Amid an economic recession, the consumers from Europe and the US have a stronger demand for lower procurement costs and this is why some see the economic crisis as a great opportunity to expand overseas. Of course, this optimistic plan would be feasible if the European and North American markets would not have to deal with a protracted economic downturn. Otherwise the freezing market will freeze the opportunities as well.

In contrast to the Chinese enterprises the USA’s concerns go to the fact that it may be impossible to restore people’s faith in the positive forces of the free market and globalization. A recent poll quoted by President Bill Clinton in Harvard Business Review states that nine out of ten Americans view corporations in a bad light. This is not a good thing because public trust is essential for long term business success, which in turn is essential for the American economy to regain its vitality.

The organizations finally realized that choosing profit over doing well is wrong, but they did not take the easy path to figure this out. After the crisis started, more and more companies tried to shift their motto and core businesses into a mixture between doing well for the company, as in profits, and doing good for the people. By doing so firms are well positioned to help people and/or communities in this economic downturn, and as hard as it is to believe it, it may seem they can also make or, at least, save money by doing so.

⁹⁶ **Stephen Popick** is an American government economist. He’s also the administrator for the **Get Rich Slowly discussion forums**

Stronger brands with a more loyal following are not created by putting the company in the center of its investments but by investing in the growth of communities and of welfare. Thus, the companies learned the hard way during the financial crisis that a corporation empowers tomorrow's customers. Stronger brand companies can face out economic downturns, ensure greater long-term profits, and attract more investors as well. This is especially true in emerging markets, where rapid growth is shrinking the distance between old-fashioned "charity" and smart investment [2].

This last idea can be easily highlighted by looking at the great multinational companies that invested a great amount of time and money in developing projects in emerging countries, such as African countries, Eastern Europe or Asia. For example Coca Cola invested in Africa, Mercedes in Eastern Europe, in Hungary as well as Ford and Nokia did in Romania, and the list could go on. These investments created not only profits to the organizations by lowering the production costs and fees, but also provided a huge help to the society by providing direct employment to tens of hundreds of people, as well as indirect employment to even more people by creating infrastructure, building plants, warehouses and so on.

Another thing that seems to resonate in the ear of all CEOs is the fact that it is believed that green technology will be the greatest growth sector since the information technology development of the early 1990s. The fear that oil and gas are running out, corroborated with a great concern about the wellbeing of our planet, made people worldwide turn their attention to renewable energy resources, designing green buildings and eco-friendly constructions or retrofits. There is a greater care about energy transportation and how to keep it clean and safe, and also how to use lighting sources and appliances more wisely and efficiently. This shifting focus turned these issues into promising markets for investors which will generate jobs and profits worldwide.

A thing is certain – today, a good company or corporate organization requires more than business skills. It requires a great deal of investments in society and the environment as well as long-term actions. Short-term thinking is the cause of the financial and social problems we face today and we must not make the same mistakes again. Long-term investments, that also benefit the world around us, could provide the answer to reviving the global economy.

3. Maintaining Customer Base during Economic Crisis – the Key to Surviving It

Following certain methods may help firms handle customers and their requirements during times of economic challenge, when the supply is more than the demand, when many people face a great deal of problems and the credit crisis has tied their hands.

As an entrepreneur it is vital that you adopt certain measures to maintain your business and its customer base. This is the only way you can grow steadily and also help you manage your business in times of economic distress.

Firms should be versatile and always ready to change in order to survive nowadays. They should look forward to diversity thereby reaching into a variety of new areas.

Even if it is very frustrating as a business owner to see that when things start to go wrong with the economy, people immediately start making cutbacks as a proactive measure, it is highly important to understand that this is a normal reaction and owners would do the same if they were in distress. Although the cutbacks will grow bigger and bigger as the crisis deepens there are few things within the reach of each business owner that can be done in order to ensure that the costumers continue to use their business during tough times.

In order for the business to survive and even thrive during times of economical struggle owners should:

- know their costumers;
- survey their costumers;
- make changes to meet demands;
- provide excellent customer service;
- continue to keep their promises.

Knowing your costumers and meeting their needs is an integral part of any successful business. So anyone who wants to be successful should make sure that he knows who his typical customer is.

Market research is needed as customers change over the years. This would be an easy task in the case of a small business where one interacts with the client base on a regular basis. It is slightly more challenging if you have a larger business that does not require regular customer interaction.

The **survey of your customers** will help you to understand them and see if you are truly meeting their needs. Surveying customers can be a simple issue. Easy things like posting a survey on your web page or having a suggestion box on your business site will help you to have a clear view of the customers' demands. Then simply search for any common trends among the suggestions and make sure to pay attention to frequent visitors.

In order to show your customers you care about them and their needs and to prove them you are willing to change your point of view in order to please them, you need to **make changes to meet their demands**, thus showing commitment to them.

Providing excellent customer service is indeed common sense, but, everyone must understand that this must be taken to another level in order to be entirely successful. You must provide your customers with services that they would want to receive again and as soon as possible. For that you must make them feel like they are family. Personalizing your approach will give customers this impression and will most likely bring them back to you.

If you promise something to someone and you do not keep that promise you will surely loose that person. Loosing a client is not an issue that is to be taken lightly. Often loosing a client means bad advertising for you and your business, and this kind of defamation is deadly in times of economic struggle. Against all odds, in order for your clients to come back to you when the dust settles, you must always **continue to keep your promises**.

Even though we all agree that customers do buy less in an economical recession, they still buy and every owner of however small a business should ask himself the question: "why don't they buy from us?" Where is the customers' loyalty that all businesses are so used to in times of financial thriving? The first instinct of each and every one of the investors is to think that the customers search cheaper solutions for the products or services they need because they lack money. But in most cases the reason for the low costumers' loyalty is not the price.

According to *Conceptual Selling*, by Robert Miller and Stephen Heimann, in over 50 percent of cases, lack of trust is the primary reason customers decide not to buy. The next highest categories for not buying, "no need" and "no desire to change," both hover around 10 percent. "No urgency" and "no budget" trail even further behind [3].

So the most important department is the sales one, which, in case of failure, will bring along an absence of customer trust and, furthermore, lack of customer loyalty. In an economic recession this will be the primary factor that will decide whether the business will rise or fall.

We have known this for years, of course. Well over 20 years ago, J. D. Powers' surveys in the car sales market told us that customers would buy a car they liked, but weren't crazy about, from a salesperson they trusted, rather than buy a car they loved from a salesperson they did not trust. What is new, though, is the importance of customer trust when it comes to all brands' customer loyalty [3].

4. Maintaining customers with PR solutions

Not all firms and organizations are affected by a recession, some understand that the most important thing during an economic crisis is to support the consumers that are still buying. They found that the best way to do so is by applying strategies of aggressive publicity combined with low-cost marketing.

Some know intuitively, others from experience, that even when the economy slows down to a minimum, it does not grind to a complete halt, as previously highlighted in this paper. Many companies will still do business in times of crisis and, even if they are huge multinational organizations that are well capitalized, or thrifty and agile family-firms or small businesses, the customers still need to buy from someone. If they are buying, the businesses can sell to them, but the customers must know that the products are available.

With that in mind, we can easily emphasize some reasons why publicity and public relations (PR) is more important now than ever before.

1. *Good PR allows you to show your expertise, which helps you build and extend your credibility*

If your customers and partners see you as an expert in your field, this will contribute to enlarging and growing your business. It has become almost a "must" nowadays that PR should be a media feeder as much as a way to reach for ultimate consumers. The publicity you generate can put you on the highest level of expertise and knowledge, making you the Subject Matter Expert and making everyone think of you as the leader in your region and industry. This can be done by showing a stable and clear vision about all things that are happening around you, as well as keeping a cool head as everyone else panics, which will give you a mature image.

The best ways to accomplish this PR goal is through articles, blog posts, forum comments, op-ed articles, business-related letters to the editor, newsletters, live or online presentations [4].

2. *By showing how to use it better, you can extend the value of your product*

When facing financial problems, your clients will surely start to cut costs/expenses. All businesses waive non-essential products and services during a downturn, but they would not do the same with mission-critical suppliers, because this will certainly mean their damnation. If you are aware of these aspects, you can keep your existing clients by making them understand that your product/service is mission-critical to their success.

Help them see how to get more out of what they have already invested in your business, by explaining advanced or "off label" uses of your product. Show them creative extensions for

little or no money that help them do more with the product/service they already have [4]. Not only does this let your current users believe that they are getting more for the money they have spent, but also it could make them decide to invest further in your business because you are just the business they were looking for.

Press releases help you get visibility for free and are also more credible and detailed than paid advertising. Extending the value of your product/service can also be done through live/online demonstrations, seminars, web videos, and articles posted on online distribution sites.

3. *Pay attention to user education*

As stated above, we must not assume that the current economic crisis means that no one is buying. Businesses that want to stay open will still need support services, raw materials and supplies but they will just be looking for a better deal. That does not necessarily mean they will refuse to pay the price you ask, but they will need to be assured that the value of your service is worth it and they will want to be convinced of its benefits.

Here is your chance to prove that your service is the best they can get. Focus on the strengths of your products and help your current clients see the value in adding more of your services for a small upselling. Also take advantage of the uneven severity of the economic crisis and market your product to the world by using the Internet, a cheap and unlimited resource.

Some economies are hit worse than others, and you do not have to limit your selling to your own back yard. The best way to seize this opportunity is through live presentations and online broadcasting on the Internet.

In conclusion, PR must become a low-cost and high-visibility way to reach the world. Creativity is required rather than cash, and it is the foundation for future sales, even if prospective buyers cannot invest at the moment.

Well developed PR deepens existing relationships with clients and vendors when you seek common ground to help everyone weather the storm [4]. It will again be proven during this economic downturn that we are always stronger together than alone.

Start using PR to sell to those who are still buying, providing them extra product-uses as you wait patiently for future sales during the recovery that is sure to follow.

5. Fighting the downturn

As we all know, by now the world's greatest economies are winning the "war" waged on the crisis. This was possible due to a never before seen campaign led by the US Government which helped the country to survive this financial fall and slowly regain control. They learned from this experience and acted wisely and we all should learn from them.

Soon after the crisis stroke, the US economy had had great losses, the Government launched an official online portal called [Recovery](#). As it is presented by its founders, Recovery is the U.S. government's official website providing easy access to data related to Recovery Act spending and allows for the reporting of potential fraud, waste, or abuse.

The American Recovery and Reinvestment Act (ARRA) is an unprecedented economic stimulus package that provides about \$787 billion in federal funding to foster economic growth through the current economic crisis. Authorized by the 111th United States Congress and

signed into law by President Obama in February of 2009, the Recovery Act serves as a means to put money back into the states through social welfare provisions and other means.

Federal agencies are now reporting on a weekly basis the amount of Recovery Act funds that they are making available to the states (figure 1) as well as presenting which of the Agencies have paid out the most money (figure 2).

Rank	State	Funds Announced	Funds Available	Funds Paid Out
1	California	\$26,121,790,557	\$25,393,978,619	\$14,223,311,252
2	New York	\$18,131,960,229	\$17,316,315,109	\$7,260,252,076
3	Texas	\$16,880,053,426	\$13,150,869,871	\$4,321,561,394
4	Florida	\$11,910,793,671	\$10,865,422,857	\$3,997,405,465
5	Illinois	\$10,645,243,843	\$8,899,757,277	\$4,749,344,345
6	Pennsylvania	\$8,915,702,103	\$7,352,135,305	\$3,059,431,559
7	Michigan	\$7,235,375,693	\$7,246,526,952	\$3,534,488,759
8	Ohio	\$8,073,007,424	\$7,184,658,187	\$2,831,736,048
9	New Jersey	\$5,420,164,845	\$6,226,060,281	\$2,745,636,260
10	Georgia	\$6,495,886,672	\$5,937,726,447	\$2,458,662,087
11	North Carolina	\$6,024,903,290	\$5,534,150,527	\$2,464,747,529
12	Massachusetts	\$5,574,452,094	\$5,498,602,591	\$2,612,598,482
13	Indiana	\$4,630,075,859	\$4,321,080,667	\$2,156,082,216
14	Washington	\$6,904,563,525	\$4,266,672,534	\$1,790,607,374
15	Arizona	\$5,246,956,078	\$4,248,319,013	\$1,922,083,796
16	Tennessee	\$5,258,045,150	\$4,086,628,770	\$1,434,851,158
17	Virginia	\$5,238,513,306	\$3,834,561,150	\$1,150,176,214
18	Wisconsin	\$3,948,995,525	\$3,714,638,595	\$1,907,537,219
19	Missouri	\$4,452,145,432	\$3,700,375,442	\$1,355,424,970
20	Minnesota	\$3,888,087,857	\$3,614,077,380	\$1,613,259,989
21	Maryland	\$4,094,339,439	\$3,471,451,028	\$1,070,380,810
22	Alabama	\$3,352,212,413	\$2,992,769,656	\$869,701,052

Figure 1 – Funding for all States/Territories

Source: Federal Procurement Data System; USA Spending.gov

WHICH AGENCIES HAVE PAID OUT THE MOST MONEY?	
1.	Department of Health and Human Services \$31,717,383,350
2.	Department of Labor \$24,665,638,574
3.	Department of Education \$18,377,432,458
4.	Social Security Administration \$13,194,617,576
5.	Department of Agriculture \$4,709,569,570
6.	Department of Transportation \$3,144,716,111
7.	Department of Housing and Urban Development \$1,485,973,848
8.	Department of Justice \$1,125,214,712
9.	Department of Energy \$697,249,598
10.	Department of the Treasury \$646,849,459

Updated: 09/18/2009 [View All](#)
[Source](#)

Figure 2 – Agencies that paid the most money

Source: Federal Agency Financial and Activity Reports; Recovery.com

Also they have provided investors with an interactive map on which they can track the Recovery Act money and find out where it is going, and even who is getting it. This way people that want to invest are always well informed and seize every opportunity possible to help the country get back on its feet. USA gives us a valuable example of how things should be done when confronted with this kind of financial difficulties, but, even though they seem to have defeated the crisis they have suffered important losses. Many people remain without a home due to the fact that the unemployment rate is still very high. Almost every single one of them had mortgages which they could no longer afford to pay since they found themselves without a job. The economy is still weak and some huge companies are struggling to make it,

while others have declared bankruptcy. But there is still hope, and if the US companies revive, then the whole global economic mechanism will too, sooner or later.

Romania should follow this example as well, and start the long and hard process of creating a fund such as the USA's Federal Reserve that would allow it to survive in harsh economic periods. The Federal Reserve System (also known as the Federal Reserve, and informally as the Fed), as Wikipedia⁹⁷ describes it, is the central banking system of the United States. It was created in 1913 by the enactment of the Federal Reserve Act, largely as a response to a series of financial panics or bank runs, particularly a severe panic in 1907. Over time, the roles and responsibilities of the Federal Reserve System have expanded and its structure has evolved. Events such as the Great Depression (1929) were some of the major factors leading to changes in the system. It is said that people learn from their mistakes, but smart people learn from the mistakes of others. Romanians, should learn from the USA's experience, recognize that their system has proven its utility and make our own. The Federal Reserve helped the USA prevent a far greater economic crisis and collapse, and we must not wait for another crisis to strike in order to take preventive measures.

6. Conclusions

The global economic crisis we are facing today was due to happen because people tend to overuse all that they are given. Humans are driven by greed and the ambition of making a fortune that they do not think wisely on the long term. Short-term actions caused a blockage in the banking industry, mostly because extensive crediting without any thought given to the impossibility of recovering these debts. This caused the real estate business to thrive and prices went up uncontrollably and without a solid reason, which, if clear minded, bankers would have interpreted as a possible threat, but they were blinded by the opportunity to make an easy profit. This crisis could have been anticipated and its effects diminished if only businesspersons had put costumers in the center of their actions rather than themselves. The global economical downturn is due to the domino effect of globalization, and has showed us we are not ready to think, act and live global yet, due to the fact that many of us are still stubborn enough to believe that they are worth more than others. In a globalized world we must learn to live as a globalized society rather than on our own. This is the legacy this economic crisis left us – we are stronger together than we are alone! Companies changed their way of understanding value forever and realized that society is the key to success. By helping it they help themselves. Furthermore, in the middle of the economic crisis, the world realized that energy is expensive and that we should turn green. To protect the nature is to conserve our species. Too bad it took us so many centuries and an economic downturn to realize that. But there is more to it than just preserving nature. Green-tech is a billion dollar industry yet to be discovered, and it is an opportunity for many to regain their lost money. Nevertheless we could say that this crisis woke us up from a very pleasant dream but we can still state that it was "nothing so bad but it might have been worse".

References

- [1] *China Business Feature – Opportunities in the Economic Crisis*, February 19, 2009;
- [2] *Harvard Business Review – Creating value in an Economic Crisis*, September, 2009;
- [3] *Customer Management IQ - Winning Customer Loyalty in an Economic Crisis*, April 27, 2009;
- [4] Gail Martin – "154 Power-Packed PR and Marketing Tips", [e-book](#);

⁹⁷ [Wikipedia](#), the free encyclopedia

Decision Support Systems using Fuzzy Neural Networks

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Abstract

In this paper we concern on the applications of fuzzy neural networks in decision support systems, like control or classification, insurance. Fuzzy neural networks have shown good abilities to derive the membership functions and fuzzy rules directly from a set of experimental data and also to implement and adjust a fuzzy rule set provided by human user. First we present two different structures of fuzzy neural networks used in process modeling and control, which use modified integration and activation functions for networks nodes in order to perform fuzzy computation. Then, we developed a controller based on a fuzzy neural network, which consists only of neurons in standard form.

Key - Words: decision support systems, fuzzy neural networks, fuzzy rules

Jel Code: C4, C45

1. Introduction

In the last years, there is a great interest towards the integration of fuzzy systems with neural networks in order to combine the advantages of two approaches and in the same time to compensate their limits. Fuzzy neural networks is a paradigm which combines the comprehensibility and capabilities of fuzzy reasoning to handle uncertainty and the capabilities of neural networks to learn from examples [5, 6, 7, 8, 9]. The parameters of a fuzzy neural network, which are predefined or updated during training, correspond to the structure and parameters of a fuzzy model, and to the operations performed by a fuzzy inference system. Different than a common neural network, the nodes of the fuzzy neural network implement operators such as t-norms, t-conorms, or membership functions of the linguistic terms of the input or output variables. In the paper we deal with networks consisting of nodes with real number inputs and weights, the fuzzy computation being performed by choosing the proper input and activation functions for nodes. Some authors [2] in the field of hybrid systems call these neural networks as hybrid neural networks. They consider that a fuzzy neural network must obligatory consist of nodes with fuzzy inputs and/or weights. But, we term the networks used in this paper as fuzzy neural networks like almost all authors in the field of fuzzy-neuro computation. Fuzzy neural networks help user to develop fuzzy models [1, 3, 10, 11, 12, 13] directly from input – output data, without any assistance from human expert. Additionally, fuzzy neural networks allow the utilization of prior knowledge on process functioning and then to reduce the time needed for training the network. An initial model, based on user experience, is used to initialize the structure and the weights of a fuzzy neural network. After training with input – output data, a refined model is obtained. The paper is structured as follows. Section 2 presents fuzzy logic (FL) and some economic applications. Section 3 presents two types of fuzzy neural networks which can be found in the literature. The first fuzzy neural network structure can be used to develop or adjust a Mamdani fuzzy model, while the second fuzzy

neural network structure is used to develop or adjust a Sugeno style fuzzy model. In the section we proposed some ideas to use genetic algorithms for training Sugeno fuzzy neural networks. In section 4 we present a neuro-fuzzy topology used for fuzzy computation, with all network nodes being in standard form and a controller based on such a network and also some simulation results. The paper is ending with some conclusions.

2. Fuzzy logic and economic applications

Fuzzy logic (FL), in its wide sense, has four principal facets. First, the logical facet, FL/L, [fuzzy logic in its narrow sense], is a logical system which underlies approximate reasoning and inference from imprecisely defined premises. Second, the set-theoretic facet, FL/S, is focused on the theory of sets which have unsharp boundaries, rather than on issues which relate to logical inference, [examples of which are fuzzy sets and fuzzy mathematics]. Third is the relational facet, FL/R, which is concerned in the main with representation and analysis of imprecise dependencies. Of central importance in FL/R are the concepts of a linguistic variable and the calculus of fuzzy if-then rules. Most of the applications of fuzzy logic in control and systems analysis relate to this facet of fuzzy logic. Fourth is the epistemic facet of fuzzy logic, FL/E, which is focused on knowledge, meaning and imprecise information. Possibility theory is a part of this facet. The methodologies of the studies reviewed in this article cover all of these FL facets. The term "fuzzy systems" also is used to denote these concepts, as indicated by some of the titles in the reference section of this paper, and will be used interchangeably with the term FL.

Insurance Application Areas. The major application areas of insurance include classification, underwriting, projected liabilities, ratemaking and pricing, and asset allocations and investments. In this section, we briefly describe each of these areas. (1) *Classification.* Classification is fundamental to insurance. On the one hand, classification is the prelude to the underwriting of potential coverage, while on the other hand, risks need to be properly classified and segregated for pricing purposes. Operationally, risk may be viewed from the perspective of the four classes of assets (physical, financial, human, intangible) and their size, type, and location. (2) *Underwriting.* Underwriting is the process of selection through which an insurer determines which of the risks offered to it should be accepted, and the conditions and amounts of the accepted risks. The goal of underwriting is to obtain a safe, yet profitable, distribution of risks. Operationally, underwriting determines the risk associated with an applicant and either assigns the appropriate rating class for an insurance policy or declines to offer a policy. (3) *Projected Liabilities.* Projected liabilities are future financial obligations that arise either because of a claim against and insurance company or a contractual benefit agreement between employers and their employees. The evaluation of projected liabilities is fundamental to the insurance and employee benefit industry, so it is not surprising that we are beginning to see technologies applied in this area. (4) *Ratemaking and Pricing.* Ratemaking and pricing refer to the process of establishing rates used in insurance or other risk transfer mechanisms. This process involves a number of considerations including marketing goals, competition and legal restrictions to the extent they affect the estimation of future costs associated with the transfer of risk. Such future costs include claims, claim settlement expenses, operational and administrative expenses, and the cost of capital. (5) *Asset Allocation and Investments.* The analysis of assets and investments is a major component in the management of an insurance enterprise. Of course, this is true of any financial intermediary, and many of the functions performed are uniform across financial companies. Thus, insurers are involved with market and individual stock price forecasting, the forecasting of currency

futures, credit decision-making, forecasting direction and magnitude of changes in stock indexes, and so on.

Linguistic Variables and Fuzzy Set Theory. Linguistic variables are the building blocks of FL. They may be defined as variables whose values are expressed as words or sentences. Risk capacity, for example, a common concern in insurance, may be viewed both as a numerical value ranging over the interval $[0,100\%]$, and a linguistic variable that can take on values like high, not very high, and so on. Each of these linguistic values may be interpreted as a label of a fuzzy subset of the universe of discourse $X = [0,100\%]$, whose base variable, x , is the generic numerical value risk capacity. Such a set, an example of which is shown in figure 1, is characterized by a membership function (MF), $\mu_{high}(x)$ here, which assigns to each object a grade of membership ranging between zero and one.

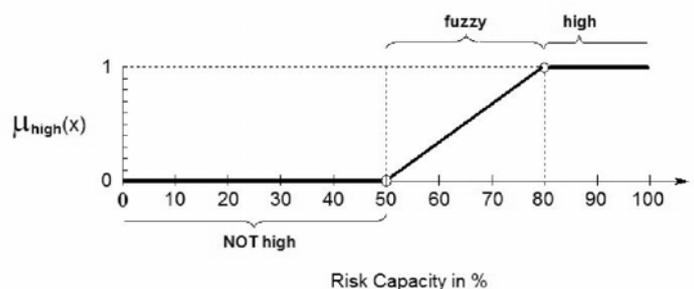


Fig. 1. (Fuzzy) Set of Clients with High Risk Capacity

In this case, which represents the set of clients with a high risk capacity, individuals with a risk capacity of 50 percent, or less, are assigned a membership grade of zero and those with a risk capacity of 80 percent, or more, are assigned a grade of one. Between those risk capacities, (50%, 80%), the grade of membership is fuzzy. In addition to the S-shaped MF depicted in Fig. 2, insurance applications also employ the triangular, trapezoidal, Gaussian, and generalized bell classes of MFs. As with other areas of application, fuzzy sets are implemented by extending many of the basic identities that hold for ordinary sets. This subsection presents an overview of some insurance applications of linguistic variables and fuzzy set theory. The topics addressed include: earthquake insurance, optimal excess of loss retention in a reinsurance program, the selection of a “good” forecast, where goodness is defined using multiple criteria that may be vague or fuzzy, resolve statistical problems involving sparse, high dimensional data with categorical responses, the definition and measurement of risk from the perspective of a risk manager, and deriving an overall disability Index. An early study was by [7], who used pattern recognition and FL in the evaluation of seismic intensity and damage forecasting, and for the development of models to estimate earthquake insurance premium rates and insurance strategies. The influences on the performance of structures include quantifiable factors, which can be captured by probability models, and nonquantifiable factors, such as construction quality and architectural details, which are best formulated using fuzzy set models. For example, he defined the percentage of a building damaged by an earthquake by fuzzy terms such as medium, severe and total, and represented the membership functions of these terms. Fuzzy numbers are numbers that have fuzzy properties, examples of which are the notions of “around six percent” and “relatively high”. The general characteristic of a fuzzy number often is represented as shown in Fig. 4, although any of the MF classes, such as Gaussian and generalized bell, can serve as a fuzzy number, depending on the situation. This shape of a fuzzy number is referred to as trapezoidal or “flat” and its MF often is denoted as $(a1,a2,a3,a4)$ or $(a1/a2, a3/a4)$; when $a2$ is equal to $a3$, we get the triangular fuzzy number. A

fuzzy number is positive if $a1 \geq 0$ and negative if $a4 \delta 0$, and, as indicated, it is taken to be a convex fuzzy subset of the real line.

Fuzzy Arithmetic. As one would anticipate, fuzzy arithmetic can be applied to the fuzzy numbers. Using the extension principle, the nonfuzzy arithmetic operations can be extended to incorporate fuzzy sets and fuzzy numbers. Briefly, if $*$ is a binary operation such as addition (+), min (\wedge), or max (\vee), the fuzzy number z , defined by $z = x * y$, is given as a fuzzy set by $\mu_z(w) = \vee_{u,v} \mu_x(u) \wedge \mu_y(v)$, $u, v, w \in [0, I]$ subject to the constraint that $w = u * v$, where μ_x , μ_y , and μ_z denote the membership functions of x , y , and z , respectively, and u, v denotes the supremum over u, v . A simple application of the extension principle is the sum of the fuzzy numbers A and B , denoted by $A \oplus B = C$, which has the membership function.

Fuzzy arithmetic is related to interval arithmetic or categorical calculus, where the operations use intervals, consisting of the range of numbers bounded by the interval endpoints, as the basic data objects. The primary difference between the two is that interval arithmetic involves crisp (rather than overlapping) boundaries at the extremes of each interval and it provides no intrinsic measure (like membership functions) of the degree to which a value belongs to a given interval. Reference [2] discussed the use interval arithmetic in an insurance context.

3. Fuzzy neural networks

The most common fuzzy neural network used to develop or adjust a fuzzy model in Mamdani form given by relation (1), directly from input – output data, is a five layers network as shown in figure 2. A Mamdani fuzzy model consists of a set of fuzzy if-then rules in the following form:

$$\text{If } x_1 \text{ is } X_{1i_1} \text{ and } x_2 \text{ is } X_{2i_2} \text{ and } \dots x_n \text{ is } X_{ni_n} \text{ then } y \text{ is } Y_j \quad (1)$$

where: x_1, x_2, \dots, x_n are the system inputs, y is the output, X_{ki_k} with $k=1,2, \dots, n$ and $i_k=1,2, \dots, l_k$ are the linguistic values of the linguistic variable x_k , and Y_j $j=1,2, \dots, l_y$ are the linguistic values of the output. Every linguistic variable x_k is described by l_k linguistic values $X_{k1}, X_{k2}, \dots, X_{kl_k}$. Layer 1 is the input layer and each node corresponds to each input variable. Layer 2 is called membership function layer, the nodes from this layer mapping each input x_i to every membership function X_{ij} of the linguistic values of that input. It is possible to use, in the layer 2, a subnet of nodes to implement a desired membership function, instead of a single node [8]. Each node in the layer 3 performs the precondition matching – the IF part – of a fuzzy rule. The most common fuzzy AND operator implemented by these nodes is the traditional fuzzy min operator, but it can be as well another fuzzy AND operator. The nodes from layer 4 combine the fuzzy rules with the same consequent, each node implementing a fuzzy OR operator, such as fuzzy max operator. Each node in the layer 5 corresponds to an output variable and acts as a defuzzifier, usually implementing the center of area defuzzification method. A complete learning procedure [8] of such a fuzzy neural network is summarized bellow: 1) Find the centers and the widths of membership functions by self-organizing techniques. 2) Find the fuzzy rules by competitive learning or use the initial fuzzy rule base to initialize the network links between layer 3 and 4, if some prior knowledge is available. 3) Eliminate the incompatible rules from rule base. A sound fuzzy rule base is obtained, where for each output variable there is exactly one rule in the fuzzy rule base for each possible antecedent and each linguistic value of the output variable. 4) Rule combination. Eliminate the redundant rules in order to obtain a small number of fuzzy rules. 5) Find the optimal membership functions by backpropagation learning algorithm.

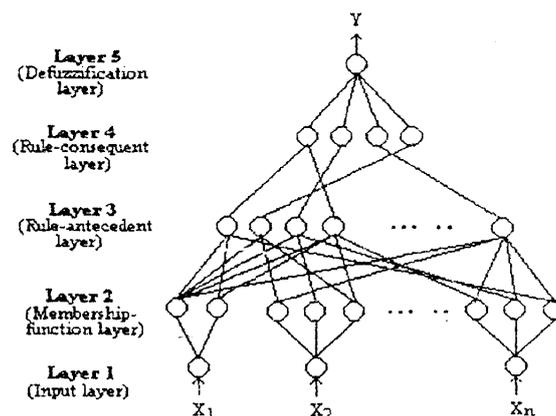


Fig. 2. The structure of a fuzzy neural network for Mamdani models

The integration and the activation functions of nodes for such a network are chosen [9] so that to perform specific operations in a fuzzy inference engine as described before. So, the neurons in a fuzzy neural network doesn't respect the standard form of a Mc Cullough and Pitts neuron. In order to have a neural network in a more familiar form which perform fuzzy computation, section 3 presents how to modify the network topology using only standard neurons. Another major class of fuzzy neural networks which can be found in the literature are the fuzzy neural networks used to develop and adjust a Sugeno style fuzzy model [10,12]. The structure of such a fuzzy neural network is shown in figure 3. The first layer is the input layer and pass the inputs variables to the next layer. Layer 2 is the fuzzification layer and it is similar to the second layer of the fuzzy neural network used for the implementation of a Mamdani style fuzzy model, shown in figure 1. Also bell-shaped membership functions are frequently used as membership functions for the linguistic values of the input linguistic variables. Layer 3 is called rule layer, and each node implements the fuzzy intersection. The traditional fuzzy min operator as well as product operator are the most common used fuzzy intersection operators. Usually, all weights of this layer are set to 1. If some prior knowledge on process functioning is available, it can be established the number of nodes in layer 3 (the number of rules or fuzzy partition regions) and the corresponding links between layer 2 and 3. In [13] the authors developed a fuzzy neural network for process modeling. The main shortcoming of this structure is that the user must partition the process operation into several fuzzy operating regions before training the fuzzy neural network. The partitioning is made empirically, looking to the process functioning, and it may be a very difficult task when the process has a complex nature. So, instead of the predefined links between layer 2 and 3, we used links with 0 or 1 weight values, and allow genetic algorithms to change the links and to find the best fuzzy operating regions. Layer 4 is called the model layer, and each node implements an ARMA model corresponding to a rule node in the rule layer, respectively to a fuzzy operating region. The weights of a node are the parameters of the ARMA model and the inputs of the node are the past system inputs and outputs. Layer 5 consists of a single node which performs the defuzzification, usually center of gravity. All weights of this node are 1. We considered the most general structure of Sugeno fuzzy neural network, which implements a set of fuzzy rules with ARMA models in the consequence part of the rules. The rules are in the following form:

$$R_k: \text{If } x_1 \text{ is } X_{1i_1} \text{ and } x_2 \text{ is } X_{2i_2} \text{ and } \dots x_n \text{ is } X_{ni_n} \text{ then } y_k(t) = a_{0k} + \sum_{j=1}^{n_1} a_{jk}x(t-j) + \sum_{j=1}^{n_2} b_{jk}y(t-j) \quad (3)$$

where $k=1,2, \dots, m$ and $x=(x_1, x_2, \dots, x_n)$ is the input vector. In figure 3 is depicted a fuzzy neural network for Sugeno models, where the consequents of the rules are represented by first order linear ARMA models. When linear ARMA models of higher order are used, every node

from layer 4 must be replaced by a subnet, which implements the ARMA model of the desired order.

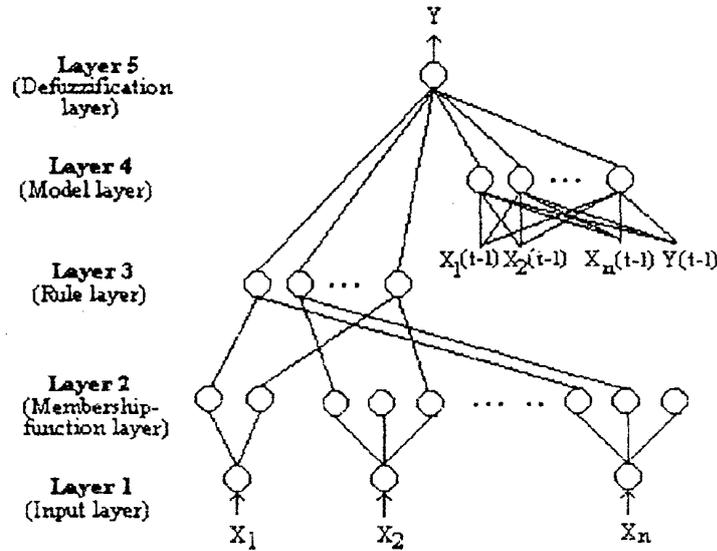


Fig. 3. Fuzzy neural network for Sugeno model implementation

Genetic algorithms are used for training such a fuzzy neural network, GAs adjusting the weights at layer 4 – parameters of the ARMA models, and the weights at layer 3 – fuzzy operating regions. If the prior knowledge is not available, there are two strategies to be followed in order to determine the right number of rules and the right parameters of the ARMA models. One of them is to start with a small number of rules and with first order linear ARMA models in the consequences of the rules. The fuzzy neural network is trained and if the model is not accurate, then it must be increased the number of rules or the order of the ARMA models. Another strategy is to start with the maximum number of nodes in the layer 3 ($l_1 \times l_2 \times \dots \times l_n \times l_y$ nodes) and with ARMA models of the desired order in the consequence. After training, if there are more fuzzy partitions than it is necessary, that means there are more nodes in layer 4, which implement the same ARMA model. So, these nodes have almost the same weights. What we have to do is to search for the nodes with closer weights in layer 4, and to eliminate these nodes, except one, and their corresponding rule nodes from layer 3.

4. Using standard nodes in fuzzy neural networks

Following the idea developed in [4], in this section we present a particular case of fuzzy neural network which implements a multi-premise fuzzy rule set, all nodes in the networks being in standard form. Considering gaussian membership functions, the nodes from layer 2 in the fuzzy neural network for Mamdani models presented in the previous section would calculate the following value:

$$\mu_k(x_i) = \exp \left[- \left(\frac{x_i - m_k}{\sigma_k} \right)^2 \right]$$

where m_k and σ_k are the center and the area of linguistic value k of input x_i . Considering also the common product operator as fuzzy AND operator, the node j from layer 3 calculates the value:

$$h_j = \prod_{k=1}^{n_j} \mu_k(x_i) = \prod_{k=1}^{n_j} \exp \left[- \left(\frac{x_i - m_k}{\sigma_k} \right)^2 \right] =$$

$$= \exp \left[\sum_{k=1}^{n_j} \left(\frac{x_i - m_k}{\sigma_k} \right)^2 \right]$$

The relation given above suggests that we could take a quadratic activation function in layer 2 and an exponential activation function for nodes in layer 3. The integration function for nodes in both layers are in standard form. The calculated value h_j represents the evaluation of the antecedent of the rule j . Considering the sum operator as OR fuzzy operator, the nodes from layer 4 will have as integration function the regular sum function, and as activation function the identity function $f(x)=x$. In a regular fuzzy neural network, the node from layer 5 calculates the crisp output according with a center of gravity defuzzification method as given below:

$$y = \frac{\sum_{k=1}^{l_y} M_k \alpha_k}{\sum_{k=1}^{l_y} A_k \alpha_k}$$

where M_k and A_k are the momentum and the area of the output linguistic value k , and α_k is the output of node k in layer 4. Applying a logarithmic to an exponential function, the quotient given above is converted into a difference between two arguments, and it will be calculated in two subsequent layers. So, in layer 5 we will have two neurons. The integration functions of the two neurons calculates each of the two terms of the quotient, and the activation functions will be the logarithmic function. In layer 6 we have a single neuron with exponential function as activation function. The two weights of the neurons in layer 6 are +1 and -1.

Case study: *A Controller implementation using fnn with standard neurons*

As a case study, we chosed a common benchmark process, the liquid tank, described by the following equation:

$$\frac{dy}{dt} = \frac{1}{A} [u - K\sqrt{y}]$$

where $K=7$, $A=30$, $u \in [0;40]$, $y \in [0;10]$. The problem is to design a controller based on a fuzzy neural network using only neurons in standard form.

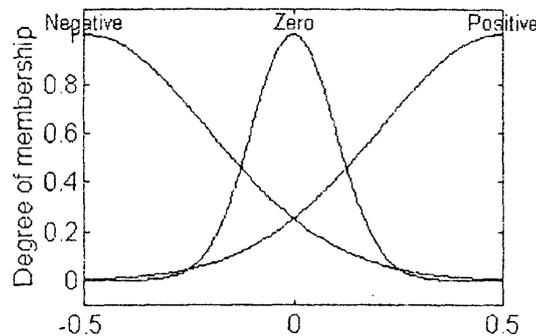


Fig. 4. Membership functions of linguistic values for input e

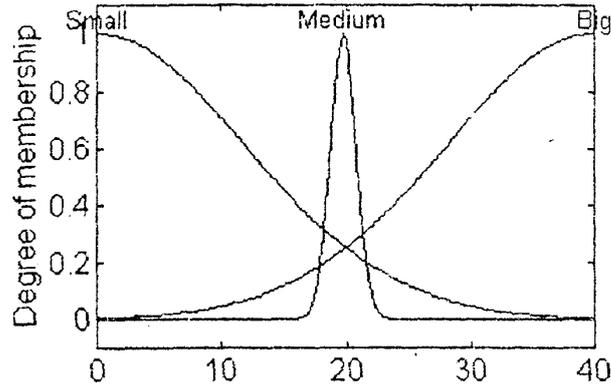


Fig. 5. Membership functions of linguistic values for output u

If ε is the difference between the setpoint (y_d) and the actual output of the process (y), the following three rules were implemented in the fuzzy neural network which represents the controller: If ε is "Negative" then u is "Small", If ε is "Zero" then u is "Medium", If ε is "Positive" then u is "Big". The membership functions of the linguistic values of the input and the output of the controller are showed in figure 3 and 4. The structure of the resulted fuzzy neural network is presented in figure 5, and this fuzzy neural network will replace the controller C in the regular inverse control structure depicted in figure 6.

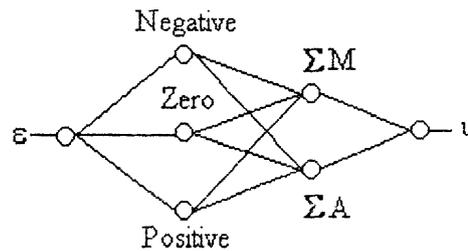


Fig. 6. The topology of FNN controller

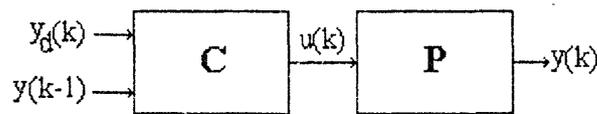


Fig. 7. Inverse neural control structure

The nodes from layer 2 implements the three gaussian membership functions depicted in figure 4. The difference from the structure presented in section 3 is that the activation function in layer 2 is $f(x)=\exp(-x^2)$. That is because our fuzzy neural network has one input and one output, and the section 4 gives the general structure of a fuzzy neural network which implements a multi-premise fuzzy rule set. Also, our network doesn't contain the layer AND and OR (layer 3 and 4 from a regular fuzzy neural network).

The defuzzification is performed by the last two layers of the networks showed in figure 6. The activation function in layer 3 is $f(x)=\log(x)$, and in layer 4 is $f(x)=\exp(x)$. The weights and the biases in layers 2,3,4 are given below:

$$w_2 = \begin{bmatrix} 1 \\ \sigma_1 \\ 1 \\ \sigma_2 \\ 1 \\ \sigma_3 \end{bmatrix} \quad b_2 = \begin{bmatrix} -\frac{m_1}{\sigma_1} \\ -\frac{m_2}{\sigma_2} \\ -\frac{m_3}{\sigma_3} \end{bmatrix}$$

$$w_3 = \begin{bmatrix} M_1 & M_2 & M_3 \\ A_1 & A_2 & A_3 \end{bmatrix} \quad b_3 = \begin{bmatrix} 0 \\ 0 \end{bmatrix}$$

$$w_4 = [1 \quad -1] \quad b_4 = [0]$$

The performances of the FNN controller regarding the setpoint changes are shown in figure 7 and 8. Figure 7 presents the setpoint and the actual output of the process, and figure 8 presents the controller output which become input to the process.

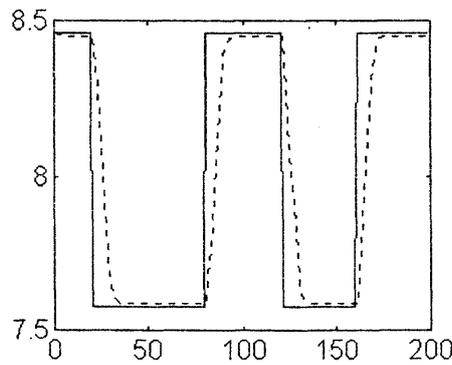


Fig. 7. The process output y (dotted) and setpoint y_d

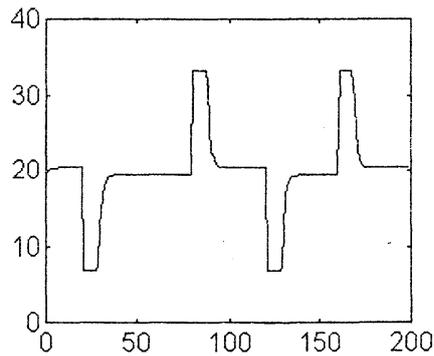


Fig.8. The command u

5. Conclusions

Two different structures of fuzzy neural networks used to develop fuzzy models directly from training data have been presented in the paper. The paper also presented some ideas on using genetic algorithms for training Sugeno fuzzy neural networks, in order to find the best fuzzy partition of the input space and the best model parameters. Our future work will focus mainly on this issue. The fuzzy neural networks found in the literature are not in a familiar form for a

traditional user of neural applications. The section 3 and 4 of the paper proved that, in some particular cases, a fuzzy neural network can be implemented using only neurons in standard form.

References

1. Chen Y.J. and C.C. Teng (1996). *Rule combination in a fuzzy rule network*, *Fuzzy Sets and Systems* vol. 82, pp. 161-166.
2. Buckley J. J. and Y. Hayashi (1995). *Neural nets for fuzzy systems*, *Fuzzy Sets and Systems* vol. 71, pp. 265-276.
3. Hasegawa T., S. Horikawa and Y. Uchikawa (1992). *On fuzzy modeling using fuzzy neural networks with the backpropagation algorithm*, *IEEE Transaction on Neural Networks* 3(5), pp. 801 -806.
4. Hauptmann W. and K. Heesche (1995). *A neural net topology for bidirectional fuzzy-neuro transformation*, *Proceedings of the International Joint Conference of the 4th IEEE International Conference on Fuzzy Systems and the 2nd International Fuzzy Engineering Symposium*, Yokohama, pp. 1511-1518.
5. Hong Tzung-Pei and Cahi-Ying Lee (1996). *Induction of fuzzy rules and membership functions from training examples*, *Fuzzy Sets and Systems* vol. 84, pp. 33-47.
6. Ishigami H, T. Fukuda, T. Shibata and F. Arai (1995) *Structure Optimization of Fuzzy Neural Network by Genetic Algorithm*, *Fuzzy Sets and Systems* 71.
7. Langari Reza and Liang Wang (1996). *Fuzzy models, modular networks, and hybrid learning*. *Fuzzy Sets and Systems* vol. 79, pp. 141 - 150.
8. Lin C.T. and C.S. George Lee (1991). *Neural network-based fuzzy logic control and decision system*, *IEEE Transactions on Computers*, vol. 40, no. 12, pp. 1320-1336.
9. Shann J.J. and H.C. Fu (1995). *A fuzzy neural network for rule acquiring on fuzzy controlsystems*, *Fuzzy Sets and Systems* vol. 71, pp. 345-357.
10. Sugeno M. (1985). *Industrial Applications of Fuzzy Control*, North - Holland, Amsterdam
11. Sugeno M. and T. Yasukawa (1993). *A fuzzy-logical-based approach to qualitative modeling*, *IEEE Transactions on Fuzzy Systems* 1(1), pp. 7-31.
12. Takagi T. and M. Sugeno (1985). *Fuzzy identification of systems and its applications to modelling and control*, *IEEE Transactions Systems Man Cybernet.* 15, pp. 116-132.
13. Zhang J. and J. Morris (1996). *Process modeling and fault diagnosis using fuzzy neural networks*, *Fuzzy Sets and Systems* vol. 79, pp. 127-140.

Risk Management in International Bussiness

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Abstract

Any activity or economic effort is based on a number of unknown and uncertain factors or opportunities simply because its subject is located in the future. All decisions or actions that will lead to a production process or act of foreign trade is inevitably initiated or taken in circumstances of uncertainty and risk. There are sometimes situations where the uncertainty is too high, making it virtually impossible because a decision or goal in itself or the way that it can achieve are not sufficiently defined, or that risks could be totally destructive. In normal economic life, we don't have to choose between risky situations and certain situations, but between different degrees of risk and different outcomes.

Key words: risk, uncertainty, variable, risk cost

Jel cod: D81, F23, F50, G32

Introduction

This work is structured in four major chapters. The first chapter presents general concepts and specific sizing economic risk and level indicators characterizing the size effect at a time. Chapter two describes the economic risk management, presenting an analysis model based on three elements: variability cost of risk and risk treatment. In chapter three specific are analyzed risk factors in international economic relations as processes that have fostered the development of trade and economic development as part of human society. The last chapter outlines some specific risk factors of foreign trade with agricultural products that act in hopes demand for food.

1. Dimension of economic risk

Over the last two decades, risk management in the economic activity as well as its implications on the economic entities brought about an explosive development of technical and methodological approaches of the concept. This aspect occurred over a period of increase of interdependence degree of the economic systems and acceleration of the information flow.

As a result of this process, the diversity of technical and methodological approaches was explained strictly on a disciplinary basis, being founded on a number of criteria varying from the commercial, financial or investment ones up to the psycho-sociological or philosophical ones. This particular approach of risk may induce to the economic receiver the perception of non-systematisation of the accomplished analytic constructions and of dynamics of chaos in this new universe of economic knowledge.

Under the circumstances of maintaining and even increasing the risk and uncertain situations, setting up the *risk dimensions* showed by the size of the effects it generates, becomes compulsory. As a result, the multitude of methods that makes up the instrument of determination of the risk effects size are based on the use of some *level indicators* that characterize the size effect at a certain point. Among the various assessment methods are relevant those that capture and characterize the degree of complexity and size effects, at a certain point and in dynamics.

The size of risk effects can be expressed by the means of *quantitative indicators*, where the emphasizing of some dimensions of risk encountered in technical and economic fields are necessary, and if the risk concerns political and social areas, the *indicators* that are mainly used are the *qualitative* ones. In some cases, the simultaneous employment of both quantitative and qualitative indicators is particularly effective, especially if those forms of risk relating to economic or technical dimensions have consequences on the social level as well. Depending on the decisional situation circumstances, the quantities used to quantify the uncertainty level, can be classified into two categories: indicators that are specific to conditions of uncertainty and indicators specific to risk conditions.

A. Indicators specific to conditions of uncertainty

Among the quantities used to describe and assess the uncertainty level in the economic practice the following indicators are employed:

- the worst result;
- the best result;
- the result(s) with the greatest plausibility.

a) The worst result (a_i^{min}) of a decisional alternative (V_i) corresponds to that particular decisional consequence that may occur when the most pessimistic hypothesis were accomplished on the external environment impact. Sometimes this indicator is used as a decisional constraint that serves to eliminate that variants considered being too risky. Moreover the worst result is used as a decisional criterion employed by the *pessimistic method of decision consolidation*, elaborated by the statistician Abraham Wald on the concepts formulated by the mathematician John von Neumann. This method is applied especially by the managers who show aversion to risk and who believe that the best alternative decision is the one which triggers the best results in the most unfavorable circumstances.

b) The best result (a_i^{max}) of a decisional alternative (V_i) is represented by the decisional consequence that may occur when the most optimistic hypothesis were accomplished on the external environment impact. This indicator is used as a criterion of assessment employed by the *optimistic method of decision consolidation* which is applied especially by managers who show preference towards risk and who believe that the best decision is the one that brings the best results under the most favorable circumstances.

c) The result(s) with the greatest plausibility (a_i^p) of a decisional alternative (V_i) corresponds to that particular consequence (or multitude of consequences) in connection with which the decision-maker thinks it might have all the chances of accomplishment. This indicator can be calculated only when the decision-maker can appreciate, even if not very rigorously, the chances of occurrence of various states of nature. The assessment of the decisional alternatives based on the most credible result, although it cannot provide a greater accuracy to decision consolidation, it can however provide a simplicity and efficiency to this process.

B. Indicators specific to risk conditions

The description of the risk conditions can be accomplished both by employing the indicators specific to situations of uncertainty and sizes that can be determined only based on probability distributions of decisional consequences:

- probability of adverse results occurrence;
- mathematical expectation (expected value) of results;
- average square deviation of the results;
- coefficient of results variation.

a) probability of adverse results occurrence (p_i^-) is an indicator that shows the chances of the decisional alternative implementation (V_i) to have losses as a result. This size can be calculated in two ways, depending on the type of the random variable that characterises the decisional situation.

* when a *discrete type random variable* is used the occurrence probability of some negative results for a V_i variant is provided by the following:

$$p_1^- = \sum_{k=1}^r p_k^* \quad (1.1.)$$

where:

p_k^* are the probabilities corresponding to the states of nature for which the variant V_i will record the negative results.

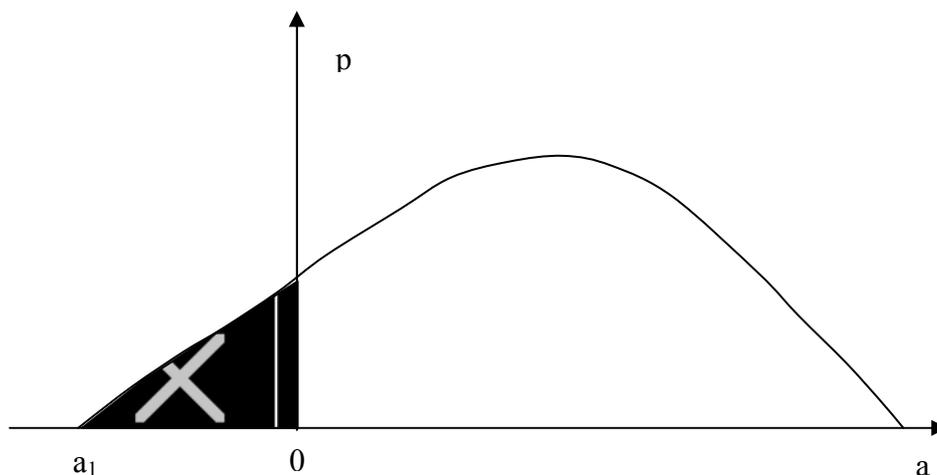


Figure 1. Representation of the probability as a decisional variant that would have losses as a result

- when the decisional situation is characterised by a *continuous type random variable*, having a spreading density $f(x)$, the probability of occurrence of some negative results (represented by the blackened surface in figure 1) can be calculated by using the following formula:

$$p_1^- = \int_{a_1}^0 f(x)dx \quad (1.2.)$$

where:

a_1 is the inferior limit of the possible results interval of variant V_i ($a_1 < 0$).

This indicator is used in assessing decisional alternatives especially by managers who exhibit risk aversion and who dedicate great importance to the possibility of recording losses. Its

relative simple method of calculation gives certain efficiency to decision consolidation but the rigorous evaluation is affected by the fact that only negative results are taken into consideration.

b) mathematical expectation (expected value) of results ($EV_{(ai)}$) is a size that can be considered an average of the potential decisional consequences of a decisional alternative (V_i) balanced by their occurrence probabilities. This indicator can be determined in two ways depending on the random variable type that characterises the decisional situation.

- When a *discrete type random variable* is used the mathematical expectation of the results of a decisional variant (V_i) is given by the following formula:

$$EV(a_i) = \sum_k^r p_k a_{ik} \quad (1.3.)$$

where:

p_k is the accomplishment probability of the nature state SN_k ;

a_{ik} is the result that the decisional alternative (V_i) would have when the nature state SN_k were accomplished.

- When the decisional situation is characterized by *continuous type random variable*, having a spreading density $f(x)$, the mathematical expectation of the results of the V_i decisional variant can be calculated by applying the following formula:

$$EV(a_i) = \int_{-\infty}^{+\infty} x \cdot f(x) dx \quad (1.4.)$$

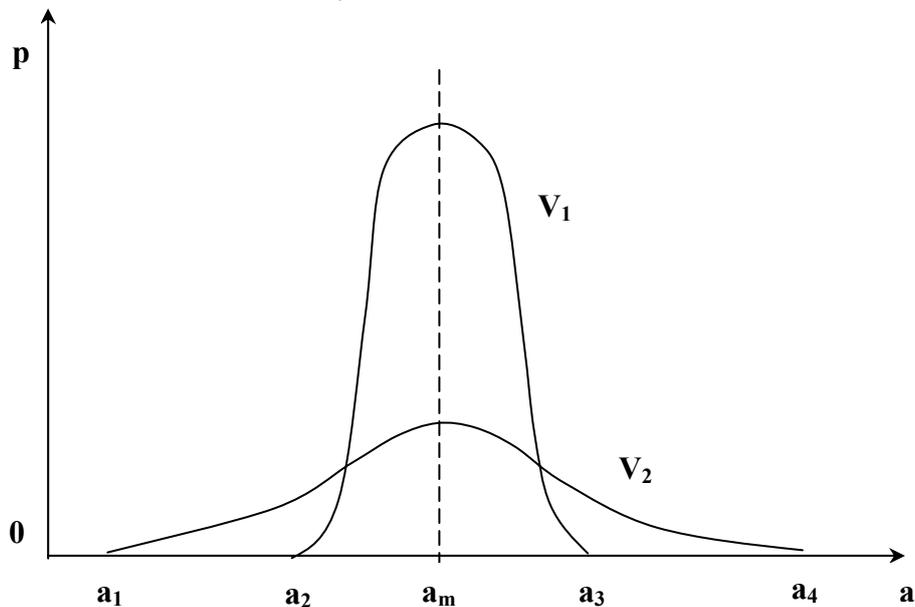


Figure 2. Representation of the probability distribution for the two variants with the same hope mathematical decision

In statistical decision theory, the mathematical expectation of the results is presented as the most important element of decision consolidation under risk. However the rigorous evaluation of decisional alternatives by using this indicator is influenced by the fact that it does not show all aspects of vulnerability reflected by a course of action. For example, in Figure 2 there are represented by probability distributions of two decisional alternatives -V1 and V2 – that have the same mathematical expectations which means that being assessed by this criterion would

have the same value. However it may be noticed that the [a2, a3] interval of the potential consequences of V1variant is much smaller than the [a1, a4] interval where the consequences can take values of variant V2. Moreover the V1 variant compared to V2 variant shows that the latter is more vulnerable to adverse developments with respect to a foreign environment but it can provide improved results in favorable conditions.

For a rigorous decision consolidation under conditions of risk it is necessary to use mathematical expectation of results combined with other indicators of uncertainty, especially with sizes that show the decisional consequences dispersion: the average square deviation, coefficient of variation, etc.

c) the average square deviation of the results (σ_i) is a size that shows the degree in which the consequences of the decisional alternatives (V_i) differ from the mathematical expectation of their results. There are two methods of determining this indicator depending on the type of random variable that characterises the decisional situation:

- When a *discrete type random variable* is used the average square deviation of the decisional variant results (V_i) is given by the following formula:

$$\sigma_i = \sqrt{\sum_{k=1}^r p_k [EV(a_i) - a_{ik}]^2} \quad (1.5.)$$

- When the decisional situation is characterised by a *continuous type random variable*, having spreading density $f(x)$, the average square deviation of the decisional variant results (V_i) can be calculated by using the following formula:

$$\sigma_i = \int_{-\infty}^{+\infty} x^2 f(x) dx \quad (1.6.)$$

As an indicator of the decisional consequences dispersion, the average square deviation is a quantity which reflects an important aspect of uncertainty, being recommended in statistical decision theory to consolidate base decisions under risk. However in evaluating decisional alternatives, there should be taken into consideration that thips particular indicator reveals only the absolute dispersion and not the relative one of the results. The intricate method of calculating this size determines the managers to prefer simpler indicators for elaborating decisions under risk.

d) Coefciant of results variation (CV_i) is an indicator that shows the relative dispersion of the consequences of a decisional alternative (V_i). This size can be calculated by relating the average square deviation to the results mathematical expectation:

$$CV_i = \frac{\sigma_i}{EV(a_i)} \quad (1.7.)$$

As well as in the case of the average square deviation, the relative complexity of the computation method determines the managers to avoid assessing the decisional variants by using this indicator.

2. Economic risk management

Risk management and implicitly restricting the phenomena which disturb the activity of economic entities involve the consolidation of two additional sizes: one that can be quantified through the gravity level and financial consequences associated to risk (which allows economic entities, depending on the probability of risk occurrence to assess the possible damage), and the second size referring to the relationship between costs and risk management. Thus, once certain risks were identified they may be limited or eliminated only if certain protective measures are well founded. However, any measure, (insurance, establishment of special risk funds) involves an additional cost which increases the regular and mandatory costs.

The two components of risk management, the complexity of the phenomena and the cost of risk represent the support for the diagnosis and implementation of some viable solutions in transformation of the size effects.

A simple model of analysis of the risk extent can be accomplished by using the following:

- *variability* – representing the size of damage, namely the gravity and size of consequences that can be determined by damage causing phenomena.
- *risk cost* - assessing the size of probable and possible damage that an economic entity will undertake, financially speaking;
- *risk treatment* - corresponding to the set of techniques that an economic entity will adopt in the view of reducing consequences and risk cost implicitly.

Variability works together with the involved systems and the existing type of relations. The efectele are accomplished on different time horizons, hence their possibility of overlapping and interconditioning. When the risk associated losses are at a cost that cannot be financially supported by the economic entity the variability is at its maximum level. (figure 3).

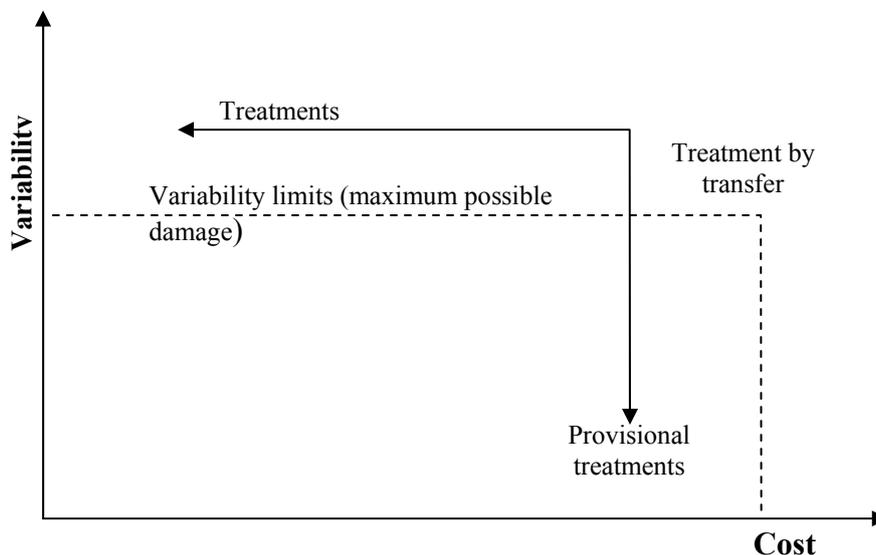


Figure 3. Variability risk

Risk cost encompasses three elements:

- Expenses for investments and working solutions that aim at risk prevention and protection;
- Transfer expenses of risk effects upon third parties;
- Losses that cannot be avoided regardless the means employed by the entrepreneur or decisions he/she takes.

Risk treatment is based on its assessment followed by capacity of the decision-maker to apply certain measures in order to place the company's activity within the limits of bearable cost and variability. The bearable cost term, represents for an economic entity the existence of a maximum limit beyond which management may have economic consequences that can not be supported (Figure 4).

Therefore, the risk cost is the amount that can be risk ascribed. Moreover, if the subject of insurance is represented by risk insurance, the bearable cost involves taking into account and defining the cost levels required to pay the insurance premiums. Risk avoidance and its adverse effects on economic entities activity may be achieved through constructive activities that prevent and that involving certain specific expenses.

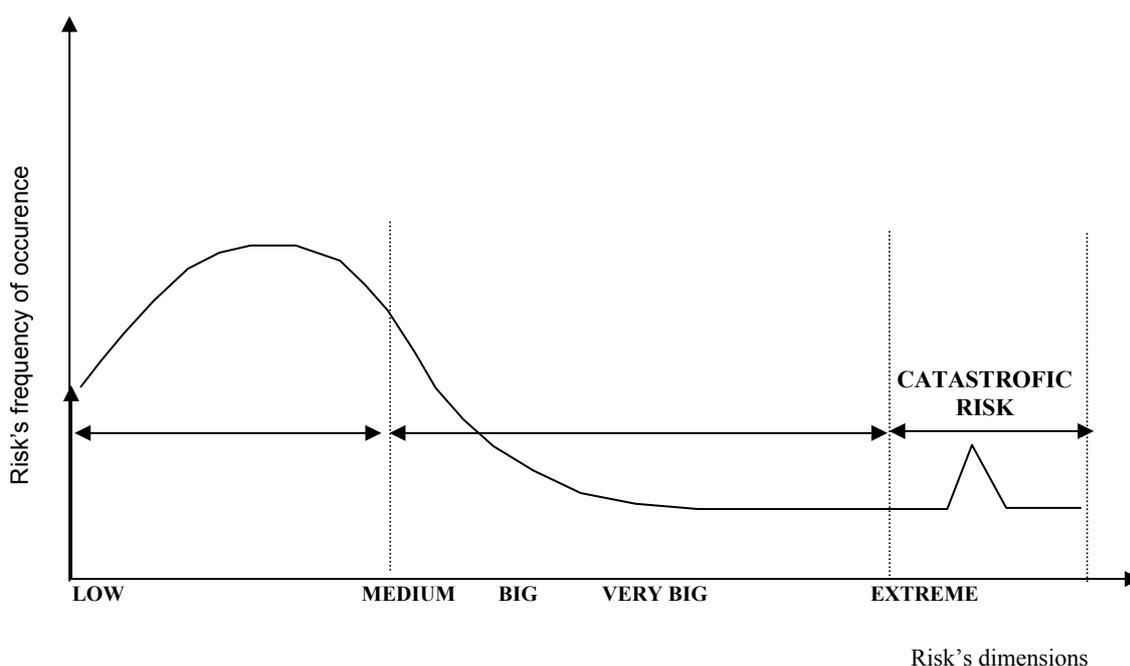


Figure 4. Risk dimension in comparison with frequency of occurrence (variability)

Losses that determine the variability are reflected in economic entities activity divided into three categories three forms:

- direct loss - loss of a part of the company assets, loss of interest areas;
- consecutive loss – lack of earnings as a result of some accidental stops, but repeated, occurring in a relatively short period of time;
- indirect loss - loss of reputation, of customers, loss of market.

Based on the two dimensions of bearable cost, it can be mentioned that variability does not have a specific value when the risk is covered by a voluntary or compulsory insurance. The two dimensions of risk, namely variability and cost, outlines the risk management policy characteristics and specify the area where the economic entity is placed. Being aware of the risk's area of occurrence and action, and purely speculative, economic entities may decide to take some specific precautions and transfer.

Preventive activities are related to the activities referring to minimizing cost of risk under the circumstances of phenomena accomplishing of recurrence. They aim at reducing variability in the size of the consequences due to prevention activities of occurrence of such risks. Precautions measures will be effective only if the internal and external variability is known.

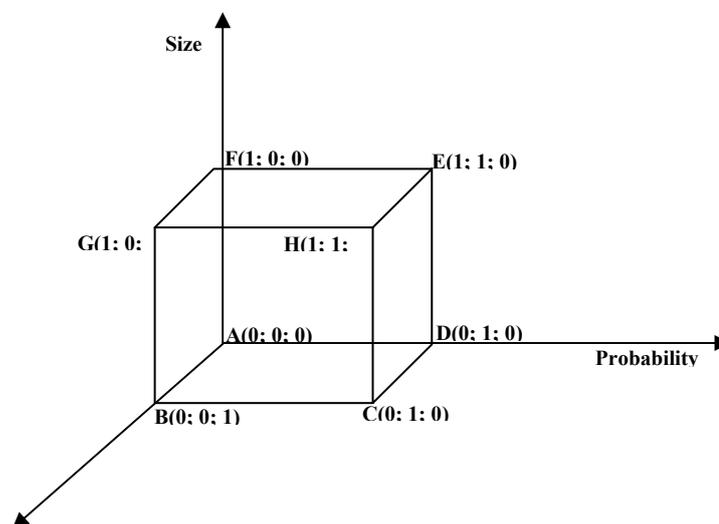
Therefore, the means of intervention in risk prevention are diverse and their application in the view of reducing costs is accomplished gradually. The means of control through prevention and protection, as a dynamic form of action against risk, are intended to reduce the possibilities of risk occurrence due to preventive measures that ensure risk reduction and limit the loss volume that would occur even under conditions of risk.

Means of control through risk transfer are applicable in cases where risk has a higher level of tolerance allowed by the economic entity and can not be controlled by specific means of prevention or protection. In any event, the economic entity acts to transfer all or part of the third party risk based on contractual relations. The transfer operation accomplishes the risk variability transformation in cost by a transfer agent. To financial hedge risks, the conversion agent or risk takeover is, in most cases, the financial market and the takeover of pure risks is done by insurance companies.

According to some authors' opinion, in order to quantify risk economic entities must identify those decisions that would ensure the company penalty at a lower level than the risk effects. Risk estimation and its effects can be accomplished only if the decision-makers are aware of the probability and extent of effects, timing and dynamics displayed. The criteria for classification and assessment of the effects are grouped according to three dimensions:

- size (complexity, number of variables);
- importance (the time factor);
- probability (degree of uncertainty determined in a probabilistic way).

Figure 5 shows the possibility of occurrence of some particular series. Thus, in the G point the probability of an event occurrence is low, given that the size and significance of the effects is great. In section E future events may occur whose effects are of limited significance, but are of considerable size and with a high probability of occurrence.



To ensure a real assessment of the size of risk, especially in terms of comparability, it is necessary to convert on the equity bases the qualitative aspects in quantitative aspects. In this respect we use different methods of aggregation: by using typical ladder „+.0.-” - for positive and negative influences.

The probability of effects accomplishment is provided by the system complexity that can develop the risk. It can be interpreted as "objective" when the observations are real and are based on statistical data obtained through observations in a period of time, or "subjective" if

the effects come from the impossibility of complete knowledge of the phenomenon.

Out of the information presented so far it can be noticed that the risk issue is more complex than it appears at first sight thus without a multi criterion and multidisciplinary approach we cannot achieve a rigorous classification of the risk's different facets displayed in the economic activity.

3. Risk factors specific to international economic relations

The international economic exchanges can be considered as the vital function of the macro-organism called global economy. The link between the entities that form the global economy and from which each national economy receives substances it needs (that can not produce by itself) is accomplished by the international trade.

The international trade occurred when some of the current national economic systems did not exist, others were in their early stages and has evolved with them, becoming more complex with increasing number of states, development and diversification of the economy. The states of the world unbalanced resource endowment is the determining factor the existence of international economic exchanges. The great differences between the participants in these exchanges, from climate and geographic location, social and psychological elements to the legislation and technology, generates the complexity of international trade.

Like any organization, the international trade may be as well affected by certain dysfunctions that may influence it either entirely or only constitutive parts or basic elements (economic entities, companies). The source of the most important failures that influence the economic entities, and the international trade implicitly are *the risk that became reality*.

Risks arise virtually in every phase of world trade, being the main enemy. The negative influence of risk may be seen both as losses caused when they occur and as a psychological factor that hinder trade. The factors that generate risks in international economic relations are controllable factors, like unskilled human resources or even ill will and uncontrollable factors as wars, revolutions or natural disasters, etc.

Risks have evolved with the economic exchanges and have diversified on the extent of development under the economic aspect of human society, currently being an economic category of its own. *Among the processes that have supported this trend we mention the following:* increase of volatility of economic variables, development of financial innovation, external debt crisis of developing countries, development of alternative exposure techniques that approach insurance, the widespread use mathematical models to control risk .

4.1. Volatility increase of some economic variables

Beginning with the 70s of last century the approach of some risk categories witnessed significant changes as a result of the volatility increase of economic variables. The types of risks affected by this process included: currency risk, risks associated with price variation of raw materials, interest rate risk, the risk of ongoing actions, etc. The main events of the last century which influenced the volatility increase of the economic variables can be summarized by:

a) the US dollar conversion into gold was suspended on 15th August 1971. This aspect marked the collapse of the international monetary system from the *Bretton Woods in 1944*. As a result of this event, in many states having a market economy was instituted the system of floating exchange rates that led to the accelerated increase of the exchange rate volatility. Under these circumstances, the results of some international transactions were risky to a great

extent which led to granting a greater importance this type of risk when taking economic decisions. This brought about the development of a considerable number of techniques and control instruments of exchange rate risk.

b) Political developments in Asia and Africa, in particular the amplification process of decolonization, led however to **the loss of control that some firms in developed countries had on raw materials** exports bringing about the increase of their price volatility. A particular trend was registered on the world oil market where, on December 22, 1973, the Oil Exporting Countries decided to increase the oil barrel price, which remained stable for decades, from 3 to 12 U.S. \$. This decision, whose effects became known as the "first oil shock", brought about considerable difficulties for many businesses, from the entire world economy. In the following years, both the price of oil and the price of other raw materials often experienced abrupt fluctuations, which contributed to the granting of a special role in economic decision consolidation to the analysis of potential effects of raw materials price fluctuations.

c) In the years that followed the Second World War, in most countries having market economies, the keynesian monetary policies were applied, policies that had among their characteristics the maintaining, sometimes even forced, of the interest rates stability. The late 70's were marked however by the application of the neoliberal concepts in economic policies in many countries which had as a consequence the significant increase of the interest rates volatility. In the U.S.A., for instance, in 1979 the margin of federal funds rate fluctuation (the interbank market interest rate) was increased from 1.25 to 5%, decision that as caused significant fluctuations in the interest rates. This development brought about great difficulties for traders leading to the increased importance attributed to interest rate risk in the analysis of some credit and investment operations.

d) After the great crash of the New York Stock Exchange in October 1929 a long period of time followed when *no shocks were recorded on the strong capital markets*. On October 19, 1987 (day also known as the "Black Monday") but, on the same New York Stock Exchange, the Dow Jones fell by 22.6% (nearly two times more than on the "black Tuesday" of October 29, 1929 when the rates values decreased on average 12.8%) causing losses of nearly 500 billion dollars the in whole world economy. This new high crash triggered a chain reaction in the following days in other Western stock exchanges, where significant falls of share rates took place, this aspect revealing strong links between capital markets worldwide. These events contributed to the importance increase of the role of volatility analysis to base investment decisions in securities in the coming years.

Increased volatility of these variables was placed in an interdependence relationship with the weigh increase of some speculative operations on financial markets. By giving up to maintaining the stability of some rates, speculation flourished that frequently caused significant and unpredictable fluctuations of rates. Under these circumstances risk management importance associated to high volatility variables increased. Last century 70's were marked by the emergence of a large number of **financial innovations** (futures contracts and on options on some rates, NOW and SUPERNOW bank accounts, variable-interest bonds, etc..) that facilitated the financial operations. Some of them, especially the futures contracts and those on options, were preferred due to the speed of facilitating transactions in time and to the possibility of being used in monitoring price risks. Using these tools, which can be purchased in a very short time (within hours or even minutes), provided high flexibility to managing those risks. Moreover, financial innovations were applied widely in speculative operations which require a complex dynamic approach to price risk.

4.3. Foreign debt crisis of the developing countries

At the beginning of the 80's, last century, as a result of the significant rise in interest rates for loans denominated in currencies Western countries, **the debt crisis was triggered in**

developing countries. Most of the states had already experienced major difficulties arising from the increasing oil prices, and thus they ended up in the situation of being unable to reimburse the received loans. On August 11, 1982 the Mexican government announced the suspension of foreign debt payments, and it was shortly followed by other developing countries. The failure of paying back the loans created major problems to the creditor banks, some of them being on the brink of bankruptcy. This aspect increased the importance of risk management partnership within the credit operations.

4.4. Development of risk-treatment techniques alternative to insurance

Currently **insurance** is considered the most important method of treating risk exposure. To many managers, risk management boils down to mere signing an insurance contract. Some of this process drawbacks and especially a certain stiffness of security institutions to adapt to a changing business environment have made more companies to move to other methods of risk treatment in recent years. Increasingly more large companies have been trying to make a proper image of the risks they face. Treating them as parts of a single portfolio, they expect to give up buying insurance policies to cover every potential loss. They hope to cover the risks by using as few or no insurance policy at all.

The result of taking risks into consideration in a business to cover other risks, were caused by the fact that insurance against certain risks (such as earthquakes) have become less necessary. This is terrible news for insurers of major categories of risks, which are about to lose more business. This has already happened in the traditional insurance field "*properties and damage*" (P & C). Many large companies approach risks of P & C type internally, through the so-called "self-insurance", instead of buying insurance policies. Most insurers are not innovative. Therefore they keep on losing their customers.

The problems of adjusting insurance institutions to new business developments considerable effects of the terrorist attacks of September 11, 2001 were added. Their magnitude made governors intervention necessary in the S.U.A. to rectify the insurance industry. Moreover, after the terrorist attacks of September 11, 2001, the major insurance companies have either dropped to provide further protection against terrorist actions or they have requested large premiums for this, prohibitive for most businesses. The current decline in the insurance sector could determine many economic entities to move to other risk treatment techniques in the future.

4.5. Widespread use of mathematical models to control risk.

The high complexity of transactions undertaken by some financial institutions and banks has made many of them to use **mathematical models of risk management**. Over the last decades several models have been developed (VAR model, model Delta, Black & Schools model, Garman & Kohlagen model, Cox model, Ross & Rubinstein etc.) which, by accomplishing an operational analysis of risk, enables a rapid response when conditions of the exposed operations change unexpectedly.

Generally used together with some sophisticated decision support systems (information systems, expert systems, etc..) the mathematical models of risk management have demonstrated their efficiency in terms of relative normality. However, in times of economic crisis, due to the unpredictable changes from the financial markets, the application of mathematical models in risk management has not had the expected results. Such situations have arisen in particular on the financial markets during 1997 and 1998 when many financial institutions engaged in investment recorded significant losses.

Currently companies try to work out these deficiencies. More power is now being granted to risk management departments. Moreover, several large investment banks will rely less on models and more on the skills of the professionals to assess markets in the future. They will have to be able to answer the question "*what would happen if our assumptions were wrong?*".

The financial crisis of 1997 and 1998 showed that the mathematical models of risk management, no matter how sophisticated they were, should not be considered infallible. This aspect derives from the inability to capture in a single model of all factors of influence on the processes studied. In certain circumstances, as happened in the period 1997-1998, just the neglected aspects in the mathematical model could have a considerable influence on the exposed operations. However, despite this limit, mathematical modeling remains an essential process in managing risks associated with financial transactions that requires a special efficiency.

5. Specific risk factors of foreign trade with agricultural products that operate in the area of demand for agro alimentary products

Gradual liberalization of agricultural markets under the impact of the Uruguay Agreement on Agriculture (1994), the increase of agricultural competitiveness and rigorous quality control and health of agricultural products require taking into consideration of all risk factors that may affect the progress of agricultural and food trade between two or more national economic systems.

The first step towards identifying the risk factors that occur in the global trade of agricultural products is to define its main dimensions. We distinguish five dimensions, namely:

- demand for agricultural products;
- supply of foodstuffs;
- analysis of markets where the agricultural and food products are quoted and traded;
- conduct of the transaction itself;
- systemic restrictions.

a) *The demographic increase* is the first risk factor that influences the demand. World's population has experienced an explosive growth over the past 130 years, from several hundred million in 1870 to over 5.5 billion people today. Demographic forecasts show a total of 8.2 billion people in 2030 (FAOSTAT Source), or reach of a threshold of 11.5 billion people in the period 2030-2040 (Source: UN). The accelerated growth of population creates a constant pressure on agricultural and food products consumption. Therefore, in terms of agricultural production sale a high level of demand will be recorded in the near future.

b) *Increase of urbanization level* over the last 30 years was another factor that has influenced consumption and therefore food products trade. According to World Bank reports, the world's urban population increased from 34% in 1960 to 46% in 1998, representing a total of 3.4 billion people currently working in urban areas. Forecasts show that in 2020, the urban population will be around 4 billion people in developing countries if the increase pace of 3% is maintained for the these countries in recent years. Developed countries have only 20% of urban population of the world, but their growth rate will be below 1% per year.

Urbanization involves an analysis of food demand in the two types of areas, urban and rural, because studies have shown that the demand differs in these two categories. The consumption in rural areas is mainly oriented on cereals and root (vegetable whose root is edible), while the urban consumption is oriented on fruit, vegetables and meat products.

In the following two decades urbanization will have a significant impact by the changes involved in the structure of food consumption, on agricultural markets, world trade and food consumption.

c) Consumers' lifestyle is a risk factor that influences on a great extent the demand for agricultural products. The lifestyle of consumers is different from country to another and has formed after interaction with the traditions, customs, cuisine features accumulated over the centuries, following developments in various social and historical conditions. In some countries and economic areas, the current consumption of potatoes, cereals, rice leads to a constant demand for these categories of products. The specific culture of each nation determined the existence of certain holidays that have a special importance for each nation separately, which involves the organization of some traditional meals. Thus, at certain times of the year, the consumption of certain categories of agricultural products increases significantly. The behavior of the food consumer is characterized by certain nuances and particularities from one state to another and from one region to another.

d) Consumers' preferences are also different depending on the age and determine a specific consumption of food. In the U.S. young people prefer meat products with higher calories intake, while the older population is interested in fruit, vegetables and juices. The existence of certain diseases in a significant number of people, and also of a pattern of beauty caused a specific diet (diet) to induce certain features to the demand for agricultural products. Moreover, the consumption in public locations like "fast food" and in restaurants has become a commonplace in contemporary times.

e) Women's change of status in the society over the past 50 years has brought about some considerable changes on consumption. The transition from the housewife to the status of employee involved the demand adaptation to these new conditions that is weigh increase of products in various stages of processing and in final stage (ready prepared), over the last 50 years.

f) The existence of substitutes for a particular commodity and its degree of substitution influences directly the food consumption. If butter can be replaced by substitutes (like margarine), for bread we can not find a substitute. Thus, depending on the degree of substitution of a product, the agricultural products trade can move in one direction or another. Elasticity of demand can classify a product according to the percentage of consumers that are expected to give up buying it for another product if the price increases.

g) Transport technologies represent another factor that influence directly the global trade in agricultural goods. Perishability is a characteristic of agricultural products, which directly affects the supply of agricultural and food products that are on the market at a given time. Maintaining the quality of vegetable products in the circuit of processing (the time of harvest and up to industrial or biological product), but also the storage conditions and its marketing. Cereals have a greater resistance to various operational processes (handling, transport) and can be kept for a long period with relatively low losses. Vegetables and fruits can be kept less time than cereals and the process requirements are higher, resulting in additional costs. If the products of animal nature, the qualitative depreciations arise mainly due to microbiological changes that are recorded during the storage and can lead to loss of high added value. In this context, reducing delivery time, by maintaining the product quality, by reducing transport costs, advanced transport technologies are regarded as a contributing factor of global trade in agricultural products. They have a direct influence on trade flows by the weigh increase of

non-bulk goods at the expense of bulk goods that are transported and sold on world markets (including by raising the degree of marketing for perishable products).

The twentieth century was the time of the emergence and development integrating economic processes, as well as for globalizing of the markets at the end the same period. Crystallization and consolidation of new economic groups have had an immediate impact on trade flows that interconnect them and hence on agricultural products trade. The beginning of the 21st century will accelerate the consolidation of economic groups by forming new alliances on the regional and subregional levels. The main feature of this century will be the transition from a bipolar world to a multipolar world, due to acceleration of the technological transfer and financial markets globalization.

5. Conclusions

As a rule, risk and uncertainty are analyzed compared with certainty. Better safety may be associated with certainty and forecast with risk or uncertainty. The risk derives from uncertainty. From a *formal point of view*, the state of certainty is considered to designate the cases where expectations regarding the future flows are unique or do not vary significantly. The risk term is used to refer to future situations in which expectations are not unique, but it helps to assess the possible solutions for each variant. If the risk can be associated with danger, uncertainty may display a negative component, either a positive component generated by unpredictable favorable states. In this case, the negative component is associated with risk.

Any activity or economic effort is based on a number of unknown and uncertain factors or possibilities, simply because its subject is located in the future. Once we have accepted the size of real time, we may try to turn any future event into a possible one, but we can not control with certainty. An area of uncertainty will always persist because of the fundamental impossibility of predicting all the elements that make up the environment when in real-time the evolution and dynamics are accepted as real life. The imperfect market systems and therefore uncertain and risky, represent an important pillar for a properly functioning economy.

References

1. Choraŝas Dimitris - "Managing Risk in the New Economy", New York Institute of Finance, Prentice Hall, 2001
2. Coŝea Mircea - „Evaluarea riscurilor: Metode ŝi tehnici de analiză la nivel micro ŝi macroeconomic”, Editura Lux Libris, Braŝov, 1997
3. Gheraŝim Alexandru - „Dimensiunile riscului”, Tribuna Economică nr. 45, 1995
4. Hâncu Daniela - *Models for founding decisions*”, Chapter 2, *Decision methods viewed in the light of traditional decision theory*, Editura ASE, Bucureŝti, 2002
5. Nistor Costel - *Gestiunea riscului în relaŝiile economice internaŝionale*, Editura Didactică ŝi Pedagogică, Bucureŝti, 2005
6. Raŝiu Suciuc Camelia - *Modelarea ŝi simularea proceselor economice*, Editura Didactică ŝi Pedagogică, Bucureŝti, 1997
7. www.oecd.org
8. www.duke.edu
9. www.faostat.com

A Model for an Intelligent Making Decision System in Aquaculture

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Abstract

The paper purpose an intelligent software system agents-based to making decision in aquaculture and the approach of fish diagnosis with informatics methods, techniques and solutions. A major purpose is to develop new methods and techniques for quick fish diagnosis, treatment and prophylaxis at infectious and parasite-based known disorders, that may occur at fishes raised in high density in intensive raising systems. But, the goal of this paper is to presents a model of an intelligent agents-based diagnosis method will be developed for a support decision system.

Keywords: intelligent system, support decision system, diagnosis, multi-agent system, fish diseases.

1. Introduction

Fish diseases generally develop as a result of nutritional deficiencies or because of the waters' quality. As a result, infections of different types occur (caused by viruses, bacteria, fungus, parasites). If an efficient treatment, based on a correct diagnosis is not found, the infected fishes will dye very soon. Both diagnosis and treatment sholud be established by a veterinary physician or by an ichtiopatology expert, but in practice it is almost impossible to consult a human expert in time, when an emergency arrives, because fish farms are located in the countryside, far away from veterinary centres or research insitutions. Aquaculture is an agricultural branch with the mission to satisfy the increasing consumer's request for fish and other aquatic organisms. FAO estimations for 2030 foresee that aquaculture will assure 50 % of the necessary aquatic organisms for the global consume. Algae, moluscs, crustaceus and fish can be raised in different habitats: ponds, floating viviers, tubes, aquariums etc. These raising systems can be extensive, intensive or super-intensive; through appropriate technologies may be obtained productions varying from a few hundreds kilos per ha to over a hundred thousands kilos per ha. The higher the density is, the higher the intensivity will be, but also the risk of diseases for the biologic material increases. In such situations, the specialist/ farmer/ manager should quickly and efficiently intervene in order to avoid huge losses. The problem of fish disorders has become very serious not only from the economical point of view but also because some parasites and disorders can be transmitted from fishes to humans [12, 13].

The first step of the development of a support decision system is the knowledge acquisition. Multiple approaches to **knowledge acquisition** exist, generated by the need to build knowledge based informatic systems. The difficulties encountered during the knowledge acquisition process led to numerous automatization tentatives. Academic approaches try to support the system's builders all through the acquisition process. Among software academic systems which help the knowledge acquisition activity, we mention: ROGET, realised by Bennet in 1983, ETS -Boose 1985, KEATS- Motta 1991. There is a general and methodic approach to the acquisition process that describes the organisation and planning of the process,

while the practical implementation follows the particular characteristics of each concrete application. The general approach is called CANVAS and it is a research result of the STARS program (Software Technology for Adaptable, Reliable Systems) sponsored by DARPA (U.S. Defense Advanced Research Projects Agency) and published by Lockheed in 1996. The most important forms of knowledge extraction are:

- ✚ Interaction between an investigator and an informer. Most often, as a result of this interaction, both the investigator and the informer gain new knowledge, given the common effort to express in terms, concepts and relations the practical knowledge of the informer.
- ✚ Investigator's analysis of the activity results from a community workspace (for instance, reports, articles, handbooks, etc., called *artifacts*).

Observation is still another form of knowledge acquisition, being used to check results obtained through other methods. According to literature, knowledge acquisition should come from domain's experts, (ichtiopatologists in our case), through specialist investigators and it should be understandable by the target community. Any action with only an individual result is not considered knowledge acquisition [1]. There are many ways to perform knowledge acquisition, inclusively in human medicine [8]. We shall mention only two of them: knowledge acquisition sessions and knowledge acquisition campaigns. A knowledge acquisition session is an event or a set of events in which an investigator consults a knowledge source, extracts a knowledge quantity and codes a part of it into an acquisition result. A knowledge acquisition campaign consists of a project-level planning that integrates the acquisition process in a wider context, like the development of diagnosis models in ichtiopatology. A campaign may include multiple subjects which shall be explored in different frameworks. A knowledge acquisition campaign shall be subsumed to the discovery of that specific knowledge which is necessary to model fish diseases for diagnosis, and to create an ontology for aquaculture.

2. The decision and the knowledge based systems

A very important factor to prepare a good support for a decision is to evaluate the state of the context, to diagnose the aquatic system. Diagnosis is an important challenge of the real world. It represents the identification of a disease, based on a set of symptoms (in the medical case). Starting from a set of diagnosis criteria, a disorder is identified and an adequate treatment is recommended. An important problem that often arises in practice is wrong diagnosis, with a frequency ranging between 8% and 40%. The errors' causes can occur from three main directions: (according to www.wrongdiagnosis.com): patient's errors (which is not the case in ichtiopatology), laboratory tests' errors and the physician's errors. Diagnosis can be basically treated as a classification process, which builds a set of discriminant functions for each class, and ranks diagnostic hypotheses by means of these functions. We subsequently review some major directions in this field, and place fish diagnosis inside the general context, suggesting new possible approaches to follow. An informatic system for diagnosis should be able to solve various problems, starting from the diagnosis techniques and following with domain –specific problems. Two major approaches exist: a classical software application and artificial intelligence systems, among which the most numerous are knowledge based systems. Expert systems are an illustrative example of knowledge based systems (expert systems with or without neural networks, *case-based* expert systems, rule-based expert systems, systems with fuzzy logic etc.) Any software package should start from the purpose to facilitate diagnosis.

Some important problems with fish diagnosis are:

- ✚ Disorders do not develop all symptoms described in literature. Each disorder has a certain evolution, and usually, the acute phase and the chronic phase of the same disorder

significantly differ. Therefore, the system should be able to diagnose correctly even in the presence of partial information.

- ✚ Inputs received from human users raise the need for a standard and unitary terminology. International organizations have tried to accomplish this aim for veterinary terms [2], which were unanimously accepted in SNOMED. Nevertheless, cultural differences still determine terminology for the same notion.
- ✚ Very often, problems become evident only when a second agent is implicated (virus + bacteria, fungus + bacteria, etc.). Therefore, the observed symptoms can belong to different diseases from the system's base.

Bayesian and causal networks can completely describe a diagnosis process, but usually shortcuts through the model are created, to achieve computational efficiency. The inference is statistically focused, but unfortunately probabilistic inference remains NP-difficult in the general case (with the notable exception of noisy-OR architectures).

One classic example of a medical diagnosis tool using causal nets is CASNET. If the medical field is very well-understood and allows a clear and detailed description of the physiological mechanisms that lie behind the symptoms, one has no reason to restrict himself to a shallow disease-symptoms association (like in PIP or INTERNIST, for instance). Besides using NP-difficult probabilistic inference, a major drawback of CASNET comes from the way contradictions are handled. Adding and subtracting quantities to compute the score for each node in the net can often lead to ambiguous, difficult to interpret or even completely erroneous results. (For instance, when we get score 0 for a node, by repeated additions/ subtractions, a contradiction is reported to the user, because the system cannot handle it). The main conclusion here is that probabilistic reasoning is not suitable to handle contradictions, and therefore a categorical approach is needed for them. CASNET is also not able to represent those frequent situations in medical diagnosis when hypothesis is supported only by the conjugated presence of "several" symptoms (vague criteria). A remarkable improvement of CASNET is realized by the hybrid CHECK system, and also by the DiaMed system [14].

Symbolic approaches to medical diagnosis. The most used symbolic structures are decision trees and expert systems. They are built around a knowledge base and inference mechanism and use heuristics that resume a human expert's knowledge (usually shallow knowledge).

MYCIN is an expert system, built around the model of belief factors of Shortliffe, and used to diagnose hematological infections. The main purpose of this new model was to overcome the problems of bayesianism for medicine (i.e. a limited number of accessible tests; results obtained sequentially, on a step by step basis; too many conditional probabilities to be known a priori). Therefore, Shortliffe defines a new measure which combines beliefs and disbeliefs (conditioned by the presence of certain evidences) in a hypothesis in a single number (the belief factor). The belief factors are used to rank diagnostic hypotheses. One of the greatest drawbacks of MYCIN's evidence combination is that unexpected and incorrect interactions often occur between the rules from the knowledge-base, if this is not carefully constructed. It has been shown that the theory of belief factors is but an approximation of probabilistic reasoning and the apparent success of MYCIN is due to the simplicity of the domain's theory (short inferential paths and simple hypotheses), but theoretically do exist problems with its model. Still, rules can be of great help when integrated in a hybrid system. For instance, **Fish-vet** [20] is a fish diagnosis hybrid system which uses rules only to cut down the problem space. The same idea is used in CHECK, and also in DiaMed: an efficient technique narrows the field for a rigorous but inefficient approach.

3. Combinative hybridization in medical diagnosis

Torasso and Console have described a causal diagnosis theory and implemented it inside the CHECK system. CHECK is a combinative hybridization between shallow and deep reasoning. The reason for shallow reasoning inside the first level of the system is to focus the search and overcome the difficulties of medical model-based diagnosis (NP-completeness). Search space pruning in model-based diagnosis can also be achieved numerically, through probabilistic/possibilistic measures. In CHECK, formal logic (for the deep causal model) is assisted by a symbolic intelligent technique, the whole architecture being an improved alternative to CASNET. Knowledge, represented by means of frames with specific slots, is distributed over 3 levels: data description level (1), heuristic level (2) (shallow knowledge –based inference), deep causal knowledge level (3), used for generating explanations). The system was successfully used in diagnosing hepatic disorders (human medicine).

Each diagnosis hypothesis is assigned a plausibility degree, by matching evidences against prototypical definitions of disorders, in a given context. The matching mechanism is controlled by special activation rules that select possible disorders into an active list. Validation rules are then used to confirm/ exclude the generated instantiations of frames, and diagnosis is performed through breadth-first search. The deep-knowledge causal level is used to confirm/ exclude hypotheses generated at the heuristic level, to generate alternative hypotheses or to analyze unexpected data (it can be queried). Basically, a causal network with specialized nodes is transformed into a set of logical formula, upon which qualitative reasoning can be performed (non-monotonic-based logic). Extended resolution principle is used to determine the source of an inconsistency (that is, if a manifestation caused by a state is missing, indirect abduction tries to find an explanation for this inconsistent observation).

Problems with fish diagnosis has, in particular, supplementary difficulties. Firstly, there are not enough cases to study, and one has to deal with a huge problem space because all the diseases have to be considered at the same time. Moreover, there still exist differences in terminology (although a start for unifying veterinary terms was made in SNOMED) [2]. Secondly, input data (composed of symptoms) is often affected by human errors, diseases exhibit only a part of the symptoms described in literature, and these symptoms evolve with time, as the disease progresses. To make things even more confusing for a human expert, multiple disorders can be present at the same individual. The most recent and numerous tacklings of computer-assisted fish diagnosis come from chinese researchers [21], [4], [7], [20], *Fish-Expert* [4]. Advanced researches in fish diagnosis can also be found in [17] and we also notice the Fish-Vet system [22].

4. Multi-agent systems in diagnosis

After 2000, software agents developed very quickly and a new branchy of Artificial Intelligence emerged - DAI (Distributed Artificial Intelligence). A traditional diagnosis tool can be viewed as a single diagnosis agent, with a whole view of the system under observation. This can lead to several inconveniences. Firstly, if the system is physically very large and distributed in space, it just might not be enough time for the informatic system to perform diagnosis in a centralized manner and to comunicate all the observations. Secondly, if the system has a dynamic structure, it might change too quickly to have an accurate global model. Multiagent systems for model-based diagnosis often fail when dealing with large and dynamic systems for which one can hardly maintain a global model. Nevertheless, one can use different incomplete models of the system in order to establish a diagnostic (possible defects). These models can be also physically distributed. The solution is given by a multiagent system with diagnosis agents which can collaborate to establish a global diagnosis. When different agents

for each incomplete model of the system are used, finding a global diagnosis reduces to a negotiation-collaboration problem among these agents. This raises the question if a set of diagnosis agents, (each restricted to a sub-model) can perform global diagnosis, with the same efficiency as compared to a single agent that uses the overall model [16]. Worldwide interest has been shown lately [6] to solving complex problems through experts' collaboration. Different types of agents, with various behaviours, can co-exist in such a system, working together to meet the same purpose. A multiagent system for medical diagnosis is presented in [6], with two types of agents: diagnosis agents and treatment agents. Each agent is an independent expert-system, and data is collected through an interface-agent. A similar approach is taken in our system and presented in this paper, regarding that expert systems in aquaculture-ichtiopatology became agents like the ones described above.

5. The model of the diagnosis agent in the AcvaSD multi agent system

AquaSDS (Aquaculture Support Decision System) is an original hybrid-combinative system with two levels. Combinative hybridization of the type chosen here was favored over other approaches not only for the reasons resumed above, but also because it was a good option when compared to, for instance, neuro-fuzzy or neuro-symbolic hybrids, with their curse of dimensionality and difficulties related to modeling interactive, dynamic problems (like medical diagnosis is). In AquaSDS, uncertainty is modeled logically, by nonmonotonic reasoning. The problem of complex interactions is approached in a generative manner: composite hypotheses are built based upon *admissible* solutions to a dynamic constraint satisfaction problem (instead of an explicit codification of all possible composite hypotheses and their effects). Admissibility is a theoretic-argumentative view of consistency, appropriate for a diagnosis problem. This generative approach needs a causal model, in order to better understand possible interactions among different elements of the medical model.

Therefore, composite hypotheses (i.e. multiple disorders at the same patient) are defined as covering admissible sets. Admissibility is defined through individual attack relationships, and allows us to dynamically compose hypotheses, dependently on a given context of manifest symptoms. Like in CASNET, CHECK or Abel, AquaSDS is built around causal knowledge representation. Complete causal models are not necessary, but only the nodes relevant for the decision process. Although the architecture of AquaSDS resembles CHECK, implementation differs. The first level implements hypotheses' selection with an efficient associative method (it uses fuzzy decision functions to rank disorders [12]) The main advantage of these decision functions, compared to the law of evidence combination in CHECK resides in the fact they can accurately express a great variety of vague criteria (for instance, *the majority, at least x out of n, a significant part of etc.*)

The second level uses a deep causal model, restricted to the context of hypotheses selected at the first level, in order to discriminate and refine the final diagnostic, and to solve the conflicts generated – if any. A DCSP algorithm controls which constraints are active at a given moment, having the role to focus on interesting sub-parts of the model, like triggering rules do in CHECK, -and this is an advantage over CASNET. Moreover, this phase considers a complete and precise model (to the maximum possible extent), which represents exceptions in a natural and efficient way, and the reasoning scheme suits the nonmonotonicity of diagnosis. To this purpose, the second level uses the logical and symbolic methods of direct argumentation systems and CSP algorithms in order to refine and explain diagnostic results. The main advantage of this nonmonotonical approach to hypotheses' refinement (over CHECK's approach) resides in its efficiency, in opposition to the use of indirect abduction to determine the source of inconsistencies (used by CHECK).

Knowledge representation in AquaSDS. The knowledge model of AquaSDS contains causal associations between classes and their characteristics. Its components are described following. The *diagnostic classes* (i.e. the diseases) are modeled by a special type of *causal nets*, with different kinds of nodes and arcs, which describe the deep causal model. There exist three types of nodes:

- root-nodes corresponding to classes (diagnostic hypotheses); they are primary deep causes of observed manifestations;
- nodes related to deep manifestations (inaccessible or accessible only through expensive/ time-consuming/ invasive tests);
- nodes related to shallow manifestations (easy to access or direct observations).

The nodes of the net (either deep or shallow) can be of two kinds: **necessary** or **supplemental**. If a necessary node is infirmed by tests, the diagnostic hypothesis which contains it is eliminated. Arcs linking the nodes can also be of various types:

- **Necessary implications:** the cause always determines the effect;
- **Possible implications:** the cause *may* determine the occurrence of the consequence, but it is not compulsory; (this uncertainty comes from the model's incompleteness: there exist certain elements/ conditions that influence the validity of the implication but which were not explicitly modeled);
- **Attacks** (either bi- or unidirectional): these relations connect elements that cannot be simultaneously assumed "in" (i.e. *true*) in the case of one and the same system (i.e. patient, in the medical field).

Each diagnostic class is defined by such a causal net that contains all possible elements related to the class, and these elements are organized in progressive shallow (i.e. accessible to direct observation) levels. Intermediary nodes between the root and the leaves are usually inaccessible or difficult to access (only through expensive, invasive, time-consuming tests).

Definition 1. An *argument* associated to a class is an instantiation of the causal net that defines the class. An instantiation of a causal net is a subset of its nodes that contains at least an observed manifestation (the rest of the nodes being assumed true).

Definition 2. A *multiple diagnosis* (i.e. a non-empty set of possible diseases for a given patient) is an admissible hypotheses⁹⁸ set that covers all observations and is minimal with this property.

Definition 3. A *solution* to a diagnostic problem is a complete and consistent (admissible) assignment of truth values to all the active variables (i.e. activated through the selection of some particular hypotheses), which covers all confirmed manifestations. A solution is *minimal* if it has a minimum number of nodes, while still respecting the previous conditions. This definition corresponds to the definition of multiple diagnosis above.

Fuzzy decision –based selection of hypotheses in AquaSDS

The phase of selection of relevant hypotheses from a large context should use efficient techniques (rather than precise and transparent ones), in order to quickly reduce the search space. The majority of these efficient methods model human expertise on basis of input-output pairs, the statistical correlation being the key concept behind them. The selection of hypotheses in AquaSDS uses an original model, based upon fuzzy decision functions [14]. Each symptom relevant to a specific disorder is modeled as a fuzzy criterion and all criteria which are relevant to a given disorder are aggregated by fuzzy (compensatory) operators, forming a fuzzy decision function to which the disease is assimilated. The degree of match between a given set of observations (for a patient under consideration) and a fuzzy decision function represents the score of the associated disease, and scores induce a ranking among diagnostic hypotheses. The ranking is effectively used for selection through comparison with a significance threshold (experimentally settled). Fish-Vet [22] so uses the idea of fuzzy logic, if not the technique itself: it defines membership functions for signs, and this allows to obtain the same diagnostic

⁹⁸ A hypothesis is any active disease, which can be, in particular, associated to the argument that sustains it.

even when sampling at different stages of the disease (a symptom may evolve from light to severe).

6. Conclusions and future work

The problem of complex interactions occurs when multiple disorders are present in one and the same patient, and their symptoms unexpectedly interact. Even CASNET, with all its causal representation, has serious problems with interacting or overlapping symptoms, and therefore resumes its utility at single-disorders cases, because of the difficulties with the probabilistic treatment of uncertainty and inference. The probabilistic approach to uncertainty is to blame for the inappropriate tackling of contradictions. When two rules are in conflict, this is treated – likewise concordance-, by adjusting the trust in some related hypotheses. But in real world reasoning, human experts have a much deeper and complex reaction at the detection of a contradiction: they reconsider previously accepted data, and/or add new possible hypotheses to the active set (i.e. those currently taken into consideration). The conclusion is that a probabilistic model is inherently inadequate to deal with contradictions, and a categorical approach is needed. And yet, the medical field is far too complex to completely give up probabilities. As structural and probabilistic measures complement each other, they should both be used in diagnosis. Moreover, general strategies are needed to initially pre-process extended medical contexts. Probabilistic / associative efficient types of reasoning would be useful exactly during this phase of pre-processing, in order to focus search. The AquaSDS system combines probabilistic/ categorical reasoning, taking advantage of the qualities of both of them, and leading to a combinative hybridization.

The DCSP-based approach from AquaSDS represents an efficient translation of the dynamic re-modeling of the working context, which is directed by the evidences resulted from tests. This re-modeling focuses reasoning on limited sections of the medical domain. The activity constraints add or delete variables to/from the problem according to the context of selected hypotheses, which is dynamically tuned through testing and through the application of domain-dependent rules. These activity constraints are implicitly defined by the fuzzy decision functions that perform the selection and by the arguments (i.e. active instances of causal nets). Multiple diagnosis is originally defined in terms of arguments (using the admissible semantics), and arguments are adapted to match the medical field, by structuring information and grouping disorders according to possible interactions. Because arguments were especially created to model human reasoning confronted with uncertainty and incremental evidence gathering, they are appropriate for iterative belief revision which is a main characteristic of medical diagnostic reasoning, and they can handle the interactivity of sequential testing which interleaves with hypotheses' generation.

The nonmonotonic mechanism of belief generation and cancellation is reflected in the addition and deletion of constraints within DCSP. The main advantage of this method over CHECK, for instance, resides in its tractability, as compared to the computational approaches of indirect abduction. The original approach of AquaSDS uses argumentative non-formal logic and DCSP algorithms, can be very useful during the phase of discriminating among alternative diagnoses. Further research in nonmonotonic reasoning should focus on computational aspects, because it is only so that nonmonotonicity can have an impact on Artificial Intelligence and an utility for real-world problems. The system has to be further improved. A great part of the decisions associated to testing are still delegated to the user (which maybe is not a drawback after all). Also, the medical model needs to be completed by a team of human experts, in order to test the system on a significant amount of real data. It would also be worth to study the impact intelligent techniques can have on propositional inference in general. Besides adjustments to AquaSDS, there is still a lot that can be done in general, and we intend to do it within our project in fish diagnosis. Firstly, we intend to explore possible hybrid architectures for difficult, complex diagnosis problems (with huge search space, incomplete/ erroneous input data, concomitant multiple disorders, and which undergo various types of changes with time) and secondly, to exploit in different ways the advantages of dynamic constraint satisfaction algorithms for time-varying problems. Also, the development of an ontology-based knowledge representation for fish diagnosis is necessary, starting from the available information in

SNOMED [2]. The perfection of a database of cases, in a field where no legal constraints hold (unlike in the case of human diagnosis) could lead to innovative systems, which can later be adapted for human diagnosis.

References:

1. S. Achour, M. Dojat, C. Rieux, P. Bierling, E. Lepage - A UMLS- based Knowledge
2. Acquisition Tool for Rule-Based Clinical Decision Support System Development, *Journal of the American Informatics Assoc.* Vol.8, Nr.4, July/August 2001, pp. 351-361.
3. College of American Pathologists, SNOMED International Version 3.5, 1998, <http://www.snomed.org>.
4. Y. Daeen, J.S. Edwards, M.X. Xu - Web-Based Expert Systems: Benefits and challenges – *Information and management*, vol. 42, Sept. 2005, p. 799-811.
5. Daoling Li, Wei Zhu, Yanging Duan, Zetian Fu, - Toward developing a Tele-
6. Diagnosis Systems on Fish Disease – Artificial Intell. In *Theory and Practice*, Springer Boston, vol. 217/2006, pp. 445-454.
7. Health Level 7 Organisation, 1999. 3300 Washtenaw Avenue, Suite 227, Ann Arbor, MI 48104, <http://www.hl7.org>
8. S. Khaled, M. Elbadry, A. Rafea, -A multi-Agent Approach for diagnosis Expert Systems via the Internet- *Expert Systems with Applications*, Vol.27, Issue 1, July 2004, pp. 1-10.
9. Li Nan, Fu Zetian, Wang Ruimei, Zhang Xiaoshuan, - Developing a web-based Early Warning System for Fish Disease based on Water Quality Management, *IEEE Conference on Industrial Electronics and Applications*, May 2006, pag. 1-6.
10. K. Maral, A. Ximenes, S. Matwin, G. Travassos, A. R. Rocha - A Generic Architecture for Knowledge Acquisition Tools in Cardiology, - http://ai.ijs.si/Branax/idamap-2000_AcceptedPapers/Oliveira.pdf.
11. S.D.J. McArthur, E. M. Davidson - Multi-Agent Systems for Diagnosis and Condition monitoring Applications, *Power Engineering Meetin*, 2004, IEEE Vol.1, pp.50-54.
12. Mazilescu V., Caprita D., Ududec C., An Experiential Learning System for a Resources Planning Problem, *11th WSEAS International Conference on Sustainability in Science Engineering (SSE 09)*, Date: MAY 27-29, 2009 Timisoara, ROMANIA, Source: SSE '09: Proceedings of the 11th Wseas International Conference on Sustainability in Science Engineering, pp. 126-131.
13. Mazilescu V. et. al., A Multi-agent System for Retrieving and Using of Financial-Accounting Information, *World Multiconference on Applied Economics, Business and Development (AEBD '09)*, Date: JUL 01, 2009 Tenerife SPAIN Source: AEBD '09: Proceedings of the World Multiconference on Applied Economics, Business and Development, pp. 259-264.
14. S. Mitra - Neuro-Fuzzy Rule Generation: Survey in Soft Computing Framework, *IEEE Transactions on Neuronal Networks*, 2000, vol. 11-3.
15. G. Munteanu, D. Bogatu - *Tratat de ihtiopatologie*, Ed. Excelsior Art, Timișoara, 2003, ISBN 973-592-085-9, 815 pagini.
16. S. Munteanu , C. Novac - A Hybrid Model for Diagnosing Multiple Disorders, *International Journal of Hybrid Intelligent Systems*, Vol 2. No.1 IOS Press, :35-55;
17. M. S. Reka - *Building Web Service Ontologies*, Dutch Graduate School for Information and Knowledge Systems, 2006.
18. N. Ross, A. Teije, C. Witteveen, B. Witteveen, -Multi-Agent Diagnosis: An Analysis - <http://www.merit.unu.edu/publications/rmpdf/2001/>
19. M. Rossi - *Advances in fish disease diagnosis and treatment.*-
20. <http://www.eurosciconpodcasts.com/atechments/2460368/Fishdisease.pdf>
21. N. Shah, K-M. Chao, N. Godwin, A. James - Exception Diagnosis in Open Multiagent
22. Systems, *IEEE/WIC/ACM, International Conference on Intelligent Agent Technology*, Sept. 2005, pp.483-486.
23. G. Wen F. Zetian, L. Daoliang, Y. Longyong, J. X. Zhang, Z. Xiaoshuan – *AgriInfo: Agriculture Information System Based on a Call Centre*, *New Zealand Journal of Agricultural Research*, 2007, vol. 50. pp. 797-806.
24. Z. Xiaoshuan, F. Zetian, W. Ruimei - Development of the ES-FDD: An expert System for Fish Disease Diagnosis, vol. 1, Nov. 2004, pp. 482-487, *IEEE Techno-Ocean*.
25. H. Yauan, Y. Chen, Q. Chen -Development of Expert System for Fish Disease
26. Diagnosis and Treatment, *Proceedings of the 2006 International Conference on Intelligent Systems and Knowledge Engineering Shanghai, China*, 2006.
27. Zeldis, S. Prescott - Fish Disease Diagnosis program- problems and some solutions, *Aquacultural Engineering* 23, 2000, pp.3-11.

Definite Features of the Hotel Industry: Present and Future

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Abstract

Our paper emphasizes the main trends regarding the management and marketing strategies implemented in hotel industries. We reveal the latest technologies used in the booking systems and their benefits for the hospitality industry, taking into account the globalization effects and the strong innovation capacity for the main international hotels chains. These technologies allow personalized marketing campaigns for the hotels and facilitate the application of CRM principles. The multidimensional analysis of the sales applied to the information about customers stored in the software's database using OLAP technique provides a real support for the hotels' marketing managers' decision making process. We illustrate the possibilities to create a personalized CRM strategy for a hotel, to determine customers' profitability and to determine the best tourism offer positioning.

Keywords: hotel booking systems, optimization, innovation, trends, hotel marketing

JEL Code: O32, M16

1. General aspects regarding the hotel industry

The hotel industry derives from the hospitality culture. As a result of the increase of the tourists and merchants' number along the centuries, the hotel industry has known a real development adjusting its forms and services to the customers' preferences. The modern hotels try to preserve their traditions of hospitality and security.

Nowadays, the purpose of the hotel's security has changed and it is adjusted to the present requirements. Vigilance has increased especially after the War in the Persian Gulf (1991), being transferred to all the governmental and business activities after the Twin Towers had been destroyed which included the Marriott Hotel from World Trade Center (2001). A part of the hotel industry has responded to these events and consequently, it has adopted different decisions. Thus, some of the hotels have refused to accept or keep the customers' luggage at the reception. Packages delivery was submitted to an X ray inspection. The customers' cars were examined before being parked in the garage. The luggage had to be carried directly from the customers' rooms to their cars.

We must underline that the hotel industry was forced to reexamine its entire security even before 1990, as a result of some extremely commented events such as the rape of a famous Hollywood American actress in a hotel room, in 1971, exactly when the industry promoted voyages for single women.

These events have determined more and better security measures. For start, the installation of electronic door bolts was extended, eye holes were put at the doors on the hall, a better protection against fire was introduced, and the lightning was improved. There have been brought improvements in the security equipment of all types. Television with close circuit with video cameras was introduced in order to give the opportunity of a person to supervise a large area of halls, parking areas and public places. Special alarms were introduced in the rooms for persons with handicap. Phone and radio communication is more efficient. The cards control the access to the hotel's facilities such as swimming pools and garages. For example, in Hong Kong the hotel's security prepares for tornados, cyclones, floods, etc.

The hotels have been small for centuries, having a reduced number of rooms. But the industrial revolution has brought many changes in the construction materials in what concerns property (the corporations have replaced the family property), in transport. The creative marketing developed by means of political and economic liberties – these ones representing the final elements in the creation of the modern tourism.

2. The modern hotel industry

2.1. Patterns of a new product

In order to face competition, the hotel keepers invent new products to satisfy the customers' extremely diverse requests. The changes that took place, brought new products on the market, but in the same time, they gave a new image to the older properties. Division is the latest adjustment of an industry which responds to the new conditions with dynamic innovations.

The division of industry produced confusion both for the executive managers in the industry and the hotel's customers because more possibilities of accommodation and new brand names were created. Setting a lot of similar or not hotels under the same name doesn't automatically create a brand. The customer's satisfaction is what defines the brand. The guest may recognize the logo of the hotel but he has a negative feeling towards the brand. The development of the brand value, due to its value recognition, is based on four criteria: the immediate identification (the name Marriott), a large distribution (Holiday Sun Hotels), quality (Hampton Inns) and the services' level (Four Seasons). Most of the times, the division adds a new image to the older properties whose logos have no value any more even if they have the brand acknowledgement. In the same time, other hotel categories such as the economic ones, all suite hotels and a variety of novelties: casinos, spa, conference rooms appear on the market.

2.2 Marketing for the individual and international guest

The guests' presence in a hotel tells a lot both about the guest and the hotel. Analyzing the guest under different circumstances, the hotel keeper can build and make a variety of market divisions. Generally, the research concentrates on the demographic profile, age, income, residence, studies, sex, social status, performances and wealth.

There is a difference in preferences in what concerns the tourist who is in vacation and business men. Thus, business men who must be in a certain place, at a certain hour, give less importance to the price than the tourist who is attracted to the small price and prefers walking, alpinism, rowing and archeological diggings.

Once with globalization, more attention is needed for the international tourist's profile. As they spend more time and money to get to the destination, they will be accommodated for a longer time than the internal tourists. That's why the hotels must offer them besides board and

lodging, a series of facilities such as swimming pools, Jacuzzi, special deodorizers, tooth brush, hair drier in the bathroom, cafeteria, shelves for laptop, air purifying, warm towels, sound generators, etc.

For business men, the facilities can be double phone lines, faxes in the hotel room, electronic check- in and check –out, electronic keys, mail messages with private voices in the room, phone access without taxes.

Rewarding programs are offered to those who frequent the hotel and include: room cut, travel partners cut for the airlines, for the car rent companies or the local tourist companies, free lodging for exotic destinations.

3. Booking systems in hotel industry

The quick progress has changed the way in which booking is done nowadays, but a full understanding of the complicated booking technologies imposes an analysis of the beginning period. Even before Holidex had appeared (Central Booking System), the aeronautic industry developed its own efficient booking system at low cost. The airlines were the developers and investors in the new systems while the hotel industry was more conservative.

In the beginning, the first booking systems of the airlines were introduced in the travel agencies' offices. This was the first connection in the present network of the world distribution system. In 1970, the first booking terminals of the airlines were introduced in the travel agencies' offices. A new innovation, switch technology made that all the companies speak the same language and it works as a clearing office. All the booking transcriptions are processed by switch. In this situation, the travel agent must access only a terminal to send the booking request and the confirmations at thousands of airlines, hotels, car rent, etc. Now the travel agent has access to the same booking data of the hotel as the office worker inside which gives credibility to the travel agents in comparison with the past.

Another advantage of this switch is to allow the travel agent to learn only a set of procedures and introduce only a set of codes. This technology works as a translator and communicator of the real-time.

This electronic system allows a code system to the user and translates that information in every chain of the CRS language. Now, the travel agents and the clerks who book at the airlines, the central booking agents from the hotel and the booking clerks interfere from the hotel accessing the same information with the same speed. Under these conditions, all the bookings are done in real time and bring up to date the room inventory when the booking is confirmed.

The benefits brought by the ASP applications (Application Service Providers) must also be mentioned. Thus, the hotel chains mustn't make big investments in hardware and software and use specialized engineers in software to maintain the system and establish applications because each hotel uses the same software. The new software is implemented to the ASP set and becomes available for all the users immediately.

The most important benefit associated to the ASP applications is the single- image inventory which allows all users to use the same database. The price and availability inventory is researched by the phone centers for the central bookings and the distribution systems based on Internet, thus, insuring fewer errors in bookings and an improvement in the services for the customer. The question is 'Why all these changes?' The reasons are of course various. Some specify the high costs of the airlines before and after certain fusions like a main catalyst to

reduce allowances. It is known that when the operation costs are high and the competitive pressure keeps the ticket cost low, allowances have to be eliminated in order to save 10%.

Others suggest that the fusions of the airlines have created an anti- consumer airline cartel with an extremely reduced competition. This means less options of the consumer regarding the airline travels and consequently, fewer reasons to go to the travel agents. There are also opinions according to which the attack of World Trade Centre led to the reduction of the airline traffic immediately after the 11th of September 2001.

No matter what the reason, the airline industry was successful guiding the consumers from the bookings by means of the travel agents to the Internet. The attractive and accessible airline web sites helped simplifying this process. The reductions and the Internet have played an important role in the consumers' motivation to surf the airline websites. Starting with 2002, most of the airlines cut or eliminated the allowances on the travel Internet sites.

3.1. Other tendencies in the electronic bookings

It is said that an adult is exposed in one day to more information than a person who lived 100 years ago in a whole life and this tendency will continue. The storing of the information and the recovery capacity of the PC is anticipated to increase to a rate of 60% per year in the next five years. Considering these progresses, the central booking system has opportunities of increase for the most efficient way to do its own business.

The voice recognition

In the last period of time, a great progress was made in the domain of the voice automatic recognition. There are systems that can recognize thousands of words spoken by a hotel keeper for different consumers. Dragon Systems' Naturally Speaking and IBM's Via Voice are two applications of the PC. Each of them can recognize thousands of words (more than 50.000) with 99% precision (after a few minutes of training and using the acoustic optimizer).

In the present, thousands of voice recognition systems work in different industries. AT & T uses the voice recognition for the phone calls processing in the phone book. The doctors' offices use the voice recognition to transcribe the detailed medical reports. The business corporations use the voice recognition to dictate letters. As unique as the booking might seem there are more things in common than differences. Every booking contains the city, the date, the room's price, the type and other basic data. There are functions that a computer system may operate logically. Actually, the simplest software applications of voice recognition use the 'order' system that recognizes more hundreds of words in a programmed list of orders.

The computer may easily recognize the day of the week the customer travels (seven possible words), the departure date (31 possible words), the type of the insurance credit card (6 -10 possible words), the number of the credit card (10 possible words).

This program concerning bookings of voice recognition may raise questions for the customer to answer to. With each answer, the program recognizes the answer, it allows the customer to make changes when it is necessary and generates a series of questions based on the answer given previously. There are situations when the computer can't recognize the customer's voice either because of a strong accent or as a result of deterioration, when it can be used an error – fast system – the customer can push the button twice on the phone's keyboard to contact a personal assistance operator. When the booking office workers of an airline company are very busy, the system researches the key elements of the customer's flight information (the airport location, the destination airport, the travel day, the flight period of time, etc).

Such computer systems can control availability, they can specify the taxes, suggest alternative data and thank the customer the same as the office worker from bookings. This system might be less personal than when you talk with the respective office worker and less expensive. An advantage of this system is the ability of the hotel to give information to the customer about the hotel's past. The information in the data base is used only in the hotel chains.

The standard information requested for bookings becomes a marketing instrument but also administratively correct because the hotel knows the customer's name, address, the date of his last visit, the tax payment, the type of room requested and the payment way. If some marketing information such as the type of the reduction package bought, the special tax or the promotion that was used is added to these data and if the booking was made in the middle of the week or in the weekend, the manager will dispose of a huge amount of extremely useful information. From the data base that contains the customer's history to the voice recognition, automation changes the booking system and the way in which the hotel keepers lead this process.

3.2. Artificial intelligence systems

The management systems for profit* have in view the immediate response to the conditions which change. Seven days a week, 24 hours a day, the system compares the present performance with the predictions and adjusts the rates appropriately. In order to carry out these changes, the evolved systems of the computer use either a series of standard logical functions or operations of state-of-art artificial intelligence. Artificial intelligence or the expert systems use stored data that were developed during a period of time to create rules that should govern the profit management decisions. The present expert systems are indeed artificial intelligence. They think what it is requested, they formulate decisions and offer the user the opportunity to talk with the computer.

The expert system contains a list of features from which the ones that refer to the following aspects are the most significant:

- quantitative facts and quality data;
- a data analysis when a decision is made;
- explanations offered to the user regarding the way to get to a conclusion;
- permanent communication between management and employees in both directions;
- the application of some rules that can be programmed;
- the voluntary omission of some basic rules when the additional decision criteria are justified;
- the maintenance of a data base of historical facts that include:
 1. Requests for similar periods in the last years;
 2. Rooms lost by the internal bookings and chains in the last years;
 3. The request changes;
- 4. The rate and request for the transit rooms in comparison with the corporate rooms in the last years;
- 5. The request for group room blocks in the last years.

* The profit management system represents the act of controlling taxes and restricting the occupation degree in order to maximize the gross income per rooms. The practice of this type of management is not new and has in view the automation of this approach in a complex management system of a hotel.

4. Opportunities for CRM systems which can be customized for the hotel services industry

The hotel services industry is highly competitive and the right knowledge about customer demands and expectations is essential to differentiate from competitors and gain sustainable competitive advantage. Implementing traditional marketing strategies is often no longer enough to achieve this goal. CRM has increasingly become more important, as this concept suggests more focus on retaining the customer and creating a win-win situation with a long-term perspective. In traditional marketing there is more focus on the customers' acquisition. We considered that a good balance between customers' acquisition and retention directed to the right segments is essential for future success of the hotels CRM strategies. In this context, we consider that CRM data warehouses provide great opportunities for marketing managers to realize multidimensional analysis, by taking into account OLAP functions (On-Line Analytical Processing), which is a capability of a data warehouse to manipulate a great amount of data from multiple perspectives; it focuses on providing a set of data attributes from a data-warehouse organized around certain dimensions, such as time, locations and products. For example, a marketing manager access a data-warehouse which contains information referring to company's sales, displayed by geographical regions, types of products and distribution channels. Using an OLAP session, he can extract the sales from each region and for each type of product. Requesting a new OLAP session, he can obtain the sales volume from each distribution channel, in correlation with the other two dimensions: region and product type; in this way, he can choose the most efficient strategy to sell the company's products. The CRM software that we projected and developed on a SQL Server platform is designed to marketing managers' decisions in hotel services industry and has as a purpose the customers' tourist services packages management on a certain period of time. These data represent the basis for generating some cubes that will allow the carrying out of some multidimensional analyses on the sales using the OLAP technology (On Line Analytical Processing). One of the multidimensional analyses that can be performed by means of the information transferred in SQL Server database consists of the sales allocation on personalized hotel services packages, according to different segmentation criteria. In this way, the marketing manager of a hotel can identify exactly the offer positioning when he develops customer value management strategies. The data transfer from the operational database integrated in the CRM software to SQL Server offers the possibility to view the tables diagram, accessing Enterprise Manager (figure 1)

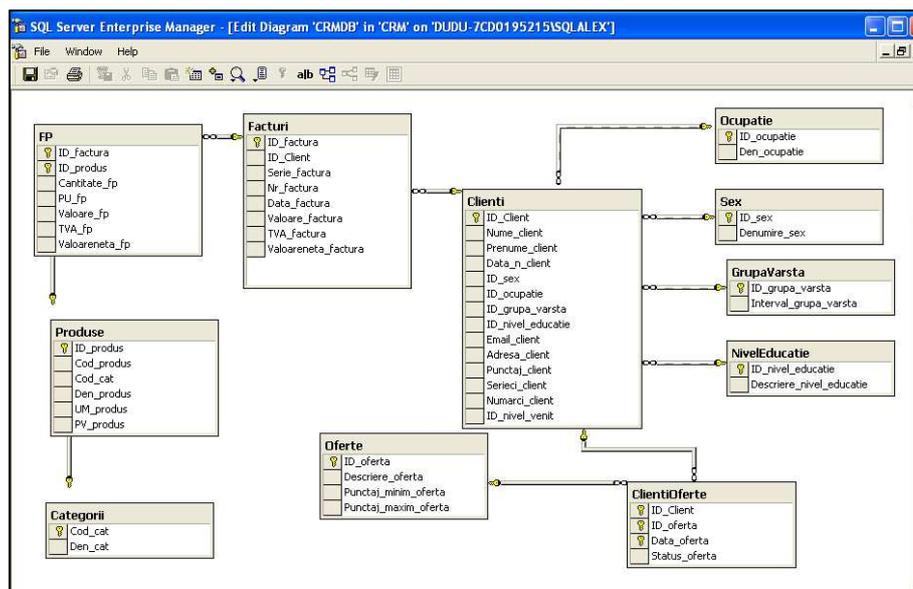


Figure no.1 – The visualization of network diagrams between CRM application designed for hotel industry

The multidimensional analysis can be realized using a Pivot Table from Microsoft EXCEL, in which we import an external data source - the operational database from CRM software in which we uploaded information about the four hotel services packages and about customers that bought them.

The OLAP cube, created by a star structure of tables, represents the simplest data warehouse model, in which the number of aggregations is determined by the hierarchy possibilities of entry data. This OLAP cube allows the sales analysis according to hotel services packages categories and specified segmentation criteria, after the definition of the SQL queries. Using a cube means to extract data from it which will become information after adding some context to it and in the final stage of its evolution will be transformed into actionable knowledge. The cube we defined can be implemented by using its browse option which will generate a common form which will be populated with data, drop downlists and drilling features.

In order to analyse the hotel services packages sales depending on the revenue level and customers' sex (male, female), the introduction of the SQL query in Microsoft Query Analyzer will generate an OLAP cube, the SQL script being emphasized in figure no. 2

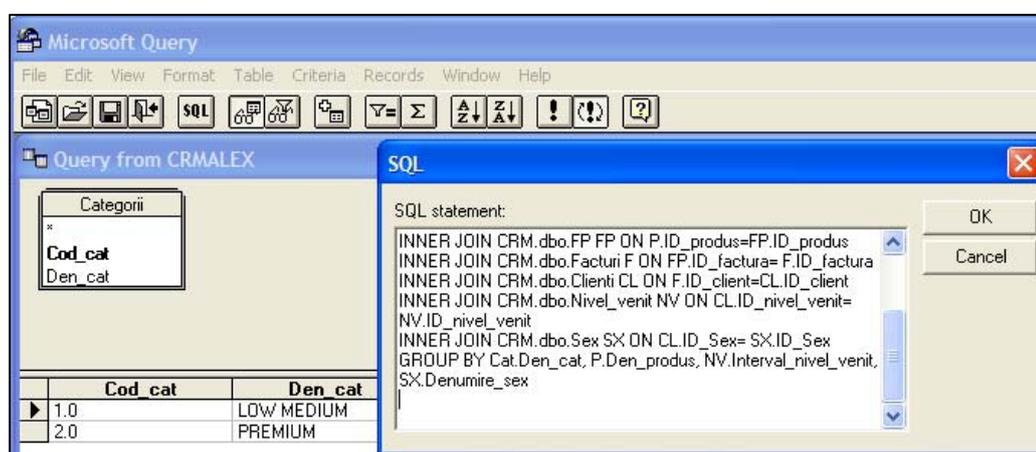


Figure no. 2 – SQL script configuration in view to generate the cube which facilitates hotel services packages sales in function of specified segmentation criteria

The **analysis dimensions** are the hotel services packages categories, revenue level and customers' sex (male, female), while the **analysis measure** is the sum of all invoices' values inserted in the database, which corresponds to each values combination of the dimensions. The marketing databases offer numerous opportunities to manage efficiently the information about customers from a hotel and to create links between its components, providing answers to some questions like: what is the average expense of each customer to acquire the hotel services packages?, what is the acquisition frequency?, what type of hotel services packages the customers prefer?, which promotion techniques have a strong impact upon the customers targets? etc.

The OLAP systems allow to the analysts and marketing managers from a hotel to improve the sales performances, by means of a fast interactive access to a great number of data reports efficiently managed.

Conclusions

1. We observe that sophisticated automation changes the way in which bookings are requested and accepted. The introduction of the availability technology of the last room has started a revolution in the booking management in the hotels.

2. Electronic technology has allowed an increased access of the industry to the member hotels. The travel agents, the airlines, the on-line services can access electronically a booking system in a hotel. If we consider the profit management, the rooms' price changes according to the request and the accommodation period of time.

3. One of the benefits associated to the present electronic system's speed and accuracy is that it increased the data storing capacity. The information about the customer, brought in the normal circuit of booking for the room, can be stored in the customer's data base, managed and used for marketing, for recognition purposes and customer's services. The hotel's use of the data about customers has increased once with the storing in the computer and the processing possibilities. Knowing these data, not only the hotel has the benefits of the customer's increased loyalty, his repeated satisfaction and return, but the data base about the customer is available for the marketing activities.

4. The families who are in vacation, the tourist groups and the old persons know the exact date and the travel location a year before. These customers book the tickets in time to have reductions or to benefit of special packages and the profit management works in their advantage.

5. The corporations' customers don't frequently benefit of the same advantages because they book their accommodation in the last moment. In this case, the profit management works against them taxing additionally for the last minute bookings when the hotel has a high occupational degree.

We propose also direct online distribution includes Internet distribution channels, business models, e-Marketing programs, and Internet brand and exposure building techniques that all share the same collective goal - to draw in the Internet user to end up transacting on the hotel website. It is all about benefiting from the Internet as the greatest direct-to-consumer distribution channel and positioning your hotel at all possible "touch points" of interaction with the potential online customer.

References

1. Bourniquel J. P., Jammes S., Maingret S. – „Les métiers de la restauration et hôtellerie: Technologies des services”, Editions Dunod, Paris, 2006
2. Evans C. – „Hospitality Industry Marketing”, Harvard Business Press, 1997
3. Faulkner M. – “Customer Management Excellence”, Jon Wiley & Sons, 2002
4. Lupu N. – “Hotelul – Economie si Management”, Editia a V-a, Ed. All Beck, Bucuresti, 2005
5. Morrison A. – “Hospitality and Travel Marketing”, John Willey and sons, New York, 2001
6. Nistoreanu P. – „Managementul in turism si servicii”, Ed. ASE, București, 2005
7. Olaru A. – „Managementul afacerilor”, Ed. Academica, Galați, 2003
8. Peelen E., Jallat F., Stevens E., Volle P.– „Gestion de la relation client”, Pearson Education, Paris, 2006
9. Powers, T. – „Introduction to Management in the Hospitality Industry” , John Wiley & Sons, Inc., London, 1995
10. Vallen G.K., Vallen J. – “Check In – Check Out – Managing Hotel Operations”, New York, 2005

Risk Analysis of a Business Entity for Environment Protection

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Abstract

The discriminate analysis was resorted to, by means of which the financial characteristics of some companies that went bankrupt and some profitable companies. Socio-economic phenomena are influenced by numerous factors essential and accidental those are related to each other by many ties, intensities and meanings. The score function is a linear function of several variables, which are weighted by certain medium coefficients, established by the smallest squares method, based on the observations made on the companies analysed and grouped into two types. In my work, I achieved an analysis of the bankruptcy risk and I tried to adjust Altman and Conan & Holder score functions to the existing realities in Romania. Analysis of profitability of an enterprise can not only analyze the correlation with risk analysis. Risk is defined as the probability of producing an event, under pressure, from various factors, which may represent potential harm to which they expose an enterprise. Exposure to risk of loss consists of the additional expenditure that supports enterprise, which shows that the risk is linked to company profitability. Shareholders and investors assume a risk by investing in an asset only in exchange for remuneration proportionate to the risk assumed. The risk of bankruptcy involves the introduction of a function that can be estimated probability that a firm's losses and, be unable to honor its contracts with customers, pay suppliers and banks to repay loans. This risk is opposed to the likelihood of profit and growth is a matter of company profitability, in terms of risk assumed.

Key words: balance sheet, financial decision, Analysis of profitability, the score function

JEL Classification: M41, C52, C41

1. Introduction

Degradation in the situation of a company, it is no longer due to debt-law stipulate in this case reorganization or liquidation of the company. It can detect firms in difficulty according to the following criteria:

- Over debt – no debt maturing the company can face;
- Insolvency-asset company is not sufficient to pay debts.

The risk of bankruptcy may be considered in light of the essential decision regarding making process by: rates method, scoring method. This result expresses the volatility of economic and operating conditions can be examined from two viewpoints:

- the company as social- economic organization - intention lively social growth assets (property of the shareholders) and the corresponding payment of production factors (risk of bankruptcy);
- financial investors from abroad ,interested in achieving the best investment, in terms of a financial market with various sectors and profitability and different degrees of risk (portfolio risk).

2. Case study-SONYX S.A. GALATI. The company's profile

Founded in 1994 and with the field research, design and production of equipment and installations for environmental protection, the company succeeded in a relatively short time to develop flexible technology, high efficiency and energy yield infested waters for the purification of hydrocarbons. Based on experience over 20 years in the area of team research and collaboration with a talented team of engineers and automatism system and the University "Dunarea de Jos" Galati and research institutes, the company managed to achieve range of products of high performance, adaptable to a multitude of uses, either equipment or incorporated in complex installations, together with other complementary equipment manufacturers.

The quality management system implemented according to ISO 9001 to ensure full identification of user needs and adapt to the highest degree offered a solution to meet these requirements with a high level of quality. The activity of the company is making equipment and installations for the separation-filtration for separation of hydrocarbons in polluted waters.

3. The bankruptcy risk analysis

3.1. CONAN AND HODLER MODEL

Conan and Hodler model is a model that determines the likelihood of a company to come out of bankruptcy. This model was developed based on a sample of 200 French industrial companies [1]. The model is based on the following score function:

$$Z = -0.16R1 - 0.22R2 + 0.87R3 + 0.10R4 - 0.24R5, \text{ where:}$$

R1= Assets (excluding inventory) / Total assets;

R2= Permanent equity / Total liabilities;

R3= Financial expenses / CA;

R4= Personal Expenses / VA;

R5= EBE / Total liabilities; Z= score.

Function Interpretation of Z score:

- Z=0,210 is equivalent to a probability of failure of 100%;
- Z=-0,068 means a probability of failure of 50%;
- Z=-0,164 means a probability of failure of 10%;

Table no. 1 CONAN AND HOLDER MODEL

NO.	INDICATORS	2005	2006	2007	2008	COEF.
1	Assets	1260	989	1280	1328	
2	Permanent equity	3602	3329	3591	1683	
3	CA	8682	7214	7388	7688	
4	Financial expenses	2001	242	233	642	
5	Personal Expenses	3045	748	937	1758	
6	Total liabilities	9637	947	1324	2929	
7	VA	7542	1272	1362	1191	

NO.	INDICATORS	2005	2006	2007	2008	COEF.
8	EBE	7358	420	322	-866	
9	Total assets	2819	3914	4215	4001	
10	R1	0.046551	0.060194	0.053405	0.101061	-0.16
11	R2	0.23732	0.348932	0.274745	0.333424	-0.22
12	R3	0.230477	0.239552	0.098899	0.249528	0.87
13	R4	0.403739	0.484223	0.806949	5.838726	0.1
14	R5	0.763516	0.508165	0.355234	0.389821	-0.24
15	Z	-0.00201	0.048477	0.012492	0.61788	

For 2005 the probability of bankruptcy is greater than 50%. In 2006 and 2007 the probability of bankruptcy increase over 2005 but less than 100%. In 2008 the probability of a crash is 100%, so bankruptcy is imminent.

3.2. Altman Model 3 with 5 variables

Due to the recession in recent years in Western Europe bankruptcies recorded an unprecedented rate. Thus in 1991, in the UK have been 4200 of bankruptcies, with 24% more in 1990. Camellia Minetos's view, studies predicted damage and cessation of activities, have focused mainly on the examination of companies that have given bankruptcy, seeking to distinguish the characteristics of both financial and non-financial assets, which led to this result.

Professor Altman has used information obtained from studying a broad sample of companies, both among those who were bankrupt, and those who survived. He found that analysis based on several variables, by using five indicators, allowed providing 75% of bankruptcies two years before production. Prestigious economic analysts have tried to develop the capacity of the original prediction model. Taffler in Western Europe, Kah and Killough have created "z" models analysis with a greater capacity to forecast.

Altman's "Z" model has the following form:

$$Z = 3,3 * \text{Profit before tax} / \text{total assets} + 1 * \text{sales} / \text{total assets} + 0,6 * \text{exchange capitalization} / \text{book value of loans} + 1,4 * \text{Reinvested earnings} / \text{total assets} + 1,2 * \text{assets} / \text{total assets}$$

Qualitative interpretation of the result, Z function, proposed by Altman, was:[2]

- If $z < 1,8$, company is almost bankrupt;
- If $z = 1,8;3$, company is in a difficult situation and must be carefully work them;
- If $z > 3$, company is profitable and therefore, banker can be trusted in society.

Table no. 2 Altman Model 3 with 5 variables

		2005	2006	2007	2008	COEF.
R1	Profit before tax / total assets	0.251627	0.564577	0.40986	0.158263	3.3
R2	CA/Total assets	0.312089	0.438058	0.751177	0.783621	1
R3	Exchange capitalization / book value of loans	0.141743	0.070872	-1.41743	-0.9922	0.6
R4	Reinvested earnings / total assets	0.21568	0.11	0	0	1.4
R5	Assets / Total assets	0.283871	0.409126	0.328151	0.434484	1.2
Z		1.870099	2.988637	1.647035	1.231949	

For 2005 and 2006 the company is in a difficult situation and should be followed carefully and in its 2007 and 2008 the company is close to bankruptcy.

3.3. Method credit men

This method involves assigning a global rate, taking into account: [3]

- Quality staff and its management (40% weighting);
- Economic prospects (20% weighting);
- Financial performance (40%).

Financial performance is assessed using synthetic N rates:

$$N = a_1R_1 + a_2R_2 + a_3R_3 + a_4R_4 + a_5R_5$$

The enterprise has a perfectly consistent with the reference rate will be:

$$N = a_1 + a_2 + a_3 + a_4 + a_5$$

Table no. 3 METHOD CREDIT MEN

R_i	FORMULA	A_i (%)
R ₁	Current assets / Short Term Debt	25
R ₂	Equity /Liabilities and long-term	25
R ₃	Equity / Fixed net values	25
R ₄	Annual Sales / Inventories	25
R ₅	Sales / Customer	25

All rates are set so that their growth always means an improvement and reducing their damage. Therefore:

- N > 100 is a "better" than the model situation;
- N < 100 is "worse" than the model situation.

Table no. 4 Calculation methodology

R_i	FORMULA	2006	2007	2008	A_i (%)
R ₁	Current assets / Short Term Debt	0,871	0,573	0,689	25
R ₂	Equity /Liabilities and long-term	0,9923	0,954	0,616	25
R ₃	Equity / Fixed net values	0,9238	0,7572	0,2370	25
R ₄	Annual Sales / Inventories	0.2547	0.7961	0.83065	25
R ₅	Sales/Customer	1.5330	4.3753	2.75475	25
	N	114.37	186.39	128.185	

It is noted that N > 100 in all three years analyzed, so the company is "better" than the model.

3.4. Collengues model

The model was developed based on a sample of SMEs as follows: [4]

- 35 bankrupt companies;
- 35 healthy businesses.

The author proposes two functions simultaneously:

$$Z_1 = 4,9830 * R_1 + 60,066 * R_2 - 11,8348 * R_3$$

$$Z_2=4,6159*R_1-22*R_4-1,9623*R_5, \text{ where:}$$

- R1= Personnel expenses / value added;**
R2= Financial expenses / turnover;
R3= Working capital / total balance sheet;
R4= Operating result / turnover;
R5= Working capital / stock.

The author proposes a simple classification rule: [5]

- $Z_1 > 5,455$ produces a bankrupt;
- $Z_2 < 5,455$ that society is healthy;
- $Z_2 > 3,0744$ means that the company is bankrupt;
- $Z_2 < 3,0744$ means that the company is healthy.

Table no. 5 Collengues Model

R_i	FORMULA	2006	2007	2008
R ₁	Personnel expenses /VA	0.508526	0.83083	0.89461
R ₂	Financial expenses /CA	0.239527	0.098894	0.24951
R ₃	FR/ Total balance sheet	0.021933	0.102857	-0.20299
R ₄	Operating result /CA	0.241505	0.004957	-0.01547
R ₅	FR/Stock	0.062856	0.374339	-0.60884

$$Z1_{2006}= 16.66184117; Z1_{2007}= 8.86290087; Z1 = 2008 = 21.84725534; \mathbf{Z1 > 5,455};$$

$$Z2_{2006}= -3.089147165; Z2_{2007}= 2.99140878; Z2 = 2008 = 5.664497031;$$

$$\mathbf{Z2_{2006}, Z2_{2007} < 3, 0744; Z2 = 2008 > 3, 0744.}$$

Looking only to Z1 we find that for three years Z1 is higher than 5455 so the method is, bankrupt. Calculating Z2 and see that $\mathbf{Z2_{2006}, Z2_{2007} < 3, 0744}$ and $\mathbf{Z2 = 2008 > 3, 0744}$. This means that the company is healthy in 2006 and 2007 and bankrupt in 2008. Cumulating Z1 and Z2 shows that the firm is bankrupt in the analyzed three years.

3.5. Test "R"[6]

Table no. 6 Presenting risk factors

	RISCK FACTORS	DRAFT	2008
1	Oversized business volume over the existing possibilities (uncontrolled expansion)	15	-
2	Inadequate capital structure	15	15
3	Inadequate capitalization (small profits reinvested)	15	15
4	Investment projects in execution, too large or too many	15	15
	Total possible risks	60	45
	The threshold of danger	15	Danger

Table no. 7 Presenting risk symptoms

	SIMPTOME DE RISC	DRAFT	2008
1	Financial signals (making late payments, growth stocks, etc.).	5	5
2	"Creative" accounting (presentation of data analysis unasserted by records, "the arrangement of flags", etc...)	5	-
3	Non financial signals (Poor quality declines, failure to contract terms)	3	3
4	Other signals (resignation of the staff especially the staff of management, legal action, on the negative rumors)	2	2
	Total possible symptoms	15	10

3.6. "I" Function

Economist Paul Ivanciu, on studies conducted on over 50 different companies of various sizes and sectors in the country, propose a new scoring function, called "function I" responding to the best requirements and significance of the national economy.

$$I=0,333*R_1+5,555*R_2+0,0333*R_3+0,71429R_4+1,333*R_5+4*R_6-1,66032$$

Table no. 8. Presentation of "I" Function model

NO.	VALUE	CHARACTERISTICS	PROBABILITY OF BANKRUPTCY (%)
1	I<0	Imminent bankruptcy	81-100
2	0<I<1,5	High risk of bankruptcy	64-81
3	1,5<I<3,0	Area of uncertainty	46-64
4	3,0<I<4,5	Medium risk of bankruptcy	29-46
5	4,5<I<6,0	Low risk of bankruptcy	12-29
6	I>6,0	Very low risk of bankruptcy	0-12

Table no. 9. Calculation methodology

NO.	INDICATORS	SYMBOL	FORMULA	COEFFICIENT
1	Total income unbreakable	Tiu	-	-
2	Total active corrected	Tac	-	-
3	CAF	CAF	-	-
4	Total claims	Tc	-	-
5	Total debts	Td	-	-
6	Availability	Av.	-	-
7	Short Term Debts	Std	-	-
8	Working capital	Wc	-	-
9	R₁	-	Tiu/Tac	0,333
10	R₂	-	Caf/Tiu	5,555
11	R₃	-	Tiu/Tc	0,0333
12	R₄	-	CAF/Td	0,71429
13	R₅	-	(Cr+Av)/Std	1,333

Table no. 10 Model result on analyzed company

NO.	INDICATOR	SYMBOL	FORMULA	2006	2007	2008	COEFF.
1	Total income unbreakable	Tiu	-	6692080	6473698	6347402	-
2	Total active corrected	Tac	-	36050470	36531628	40540030	-
3	CAF	CAF	-	175.506	133.422	- 1.708.752	-
4	Total Claims	Tc	-	98	292	303	-
5	Total Debs	Td	-	947	1324	2929	-
6	Availability	Av.	-	63	73	96	-
7	Short Term Debts	Std	-	505	624	2317	-
8	Working capital	Wc	-	96.448	181.784	- 1.578.694	-
9	R₁	-	Tiu/Tac	0.088881 7	0.218745	0.276949	0,333
10	R₂	-	Caf/Tiu	0.235982 9	-0.27475	-1.059868	5,555
11	R₃	-	Tiu/Tc	1.533011 2	4.375299	2.7547511	0,0333
12	R₄	-	CAF/Td	0.043022 8	-0.10238	-0.338919	0,71429
13	R₅	-	(D+Av)/Std	1.167909 1	0.187120 4	1.020213	1,333
14	R₆	-	Wc/Ats	0.021932 8	0.102857 3	- 0.2029925	4

I₂₀₀₆ = +1.406497;

I₂₀₀₇ = -2.380285;

I₂₀₀₈ = -7.058042.

For 2006 function shows that the company has a high risk of bankruptcy. For 2007 and 2008 function shows that the company is in a state of imminent bankruptcy.

Conclusions

The risk of bankruptcy has been and is in attention of managers and owners out of funds. Managers are interested for the smooth running of the production cycle and investors are interested in recovery of loans and related interest. Many financial organizations and researchers have been concerned with developing methods for prediction of the risk of bankruptcy. The technique used is discriminatory statistical analysis of financial characteristics (calculated using the rates) with operating companies and the normal difficulties of economic and financial management. Most risk analysis of bankruptcy, are based on a score depending on which is roughly determined whether a company will go bankrupt or have bad economic results in immediately period following the analysis (no more than two years). [8]

The diagnosing methodology, on one hand, should allow liberation of the main elements for elaboration of the survey and, besides that, for thorough research in case of abnormalities and, on the other hand, should neglect the accidental elements which do not have an utility to the studied field. This double necessity drives the analyst's efforts in eliminating the difficulties of diagnosing method, which should avoid two possible limits, that is: performing a *very analytical and expensive survey* when compared to the information it provides or elaborating a *too global survey*, which can cause some omissions, among which some important issues for the final consideration and for the action plans which are to be set can be lost. Therefore, only a rigorous activity diagnosis method can convince the study beneficiary as to the competence and

value of the specialist expert called and of the fact that the result of analysis does not include a multitude of useless, unessential information. In this paper the author aims at making a short presentation of the techniques that can be used and of the stages required to putting into practice of the enterprise diagnosis.

As a result of their specific functions weighted score based on Western methods which have not given satisfaction for Romanian companies. Such companies analyzed by two different methods, leading to contradictory results: one method provides an imminent risk and another method a maximum profitability. Financial equilibrium is an imperative on going for any trader in the sense that the maintenance of solvency is a restriction that must be currently undertaking. Any payment obligations of the disorder generate damage and require urgent correction.

References

1. [1] Hondler M., Loeg J., Portier G., *Le score de l'entreprise*, Nouvelles Editions Fiduciaires, 1989, p. 136
2. [2] Altman E.I., *Financial Ratios, Discriminated Analysis and Prediction of Corporate Bankruptcy*, *Journal of Finance*, Sept. 1968 or Stancu Ion, *Financial management of the economic operator*, "Economical" Publishing House, Bucharest, 1993,p.96
3. [3] Niculescu M., *Methods of risk analysis*, *Review Finance - Credit – Accounting*, no.5-6, 1992, p.13-15.
4. [4] Mereuță C., *Diagnostic analysis of companies in transitional economies*, "Technical" Publishing House, Bucharest, 1993, p.106.
5. [5] Georgescu N., *Considerations on the company's financial analysis, based on rates*, *IIROVAL Bulletin*, 3/1999, p.10-15.
6. [6] Niculescu M., *Economic -Financial Analysis*, C. Brancoveanu Faculty, Bucharest, 1993, p.121.
7. [7] Onica M, *Business analysis*, "Europlus" Publishing House, Galatzi, 2009, p.116.

Assessment of Firms' Financial Performances in Contemporary Economy: a Value-based Approach

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Abstract

In the market economy, managers and capital investors have the same objective, shareholder value creation. Shareholder value is created if the company manages to maximise its own economic value. In this paper, we examine the value components (free cash flow, cost of capital and capital structure) and we illustrate, theoretically and practically, two useful methods for valuing a business: Discounted Cash Flow and Economic Value Added, emphasizing pros and cons for each one. We conclude that strategic decisions have to be grounded not only on conventional accounting measurements, but also on using value-based methods.

Key words: value creation, free cash flow, cost of capital, invested capital, free cash flow discounting, economic value added

JEL Code: G31, D92

1. Introduction

The corporate objective in modern finance is based on the “**shareholder value creation**” paradigm. A company creates shareholder value if it is able to maximise the firm's value. Value creation is defined as differential of present value of future cash flows and present cash out flows. *Value creation is a function of timing (time value of money) and degree of uncertainty of future cash flows (risk).* Conventional accounting measurements are insufficient indicators of time value of money and risk involved or risk taken to obtain the earnings. The “popular” measurements, as sales, net income, growth, and investor returns, can give managers misleading results based on which they will have to take decisions on future corporate strategy. The concept of “value creation” was developed closely related to Value Based Management (VBM), as an innovation in financial theory and practice, which represents a convergence between finance, strategy and even organization behaviour. Following VBM methods facilitate measurement of value created: *Free Cash Flow* method proposed by McKinsey, *Economic Value Added (EVA)* / *Market Value Added (MVA)* method proposed by Stern and Stewart, and *Cash Flow Return on Investment (CFROI)* / *Cash Value Added (CVA)* method proposed by Holt Value Associates and BCG. Obviously, there are arguments in favour and against each of these methods of measuring value. Our opinion is that none of them provides the “absolute truth”, but, considering time value of money, opportunity costs and risks involved, these methods provide answers that are closest to the truth.

In the following sections of this paper, we examine the value components, which are **the free cash flow, the cost of capital and the capital structure**, and we illustrate two useful methods for valuing a business: **Discounted Cash Flow** and **Economic Value Added**.

2. Components of value creation

More than ever, managers are under increasing pressure to demonstrate on a regular basis that they are creating shareholder value. Accomplishing this objective requires knowledge and ability to use the components of value creation (the free cash flow, the cost of capital and the capital structure) as business management tools to create value for shareholders.

A. The free cash flow

Free cash flow represents the cash that a company is able to generate after laying out the money required to maintain or expand its asset base, measuring the company's profitability after all its expenses and reinvestments. It's one of the many benchmarks used to compare and analyze financial health. Free cash flow is important because it allows a company to pursue opportunities that enhance shareholder value. Some authors believe that FCF better illustrates the ability to generate cash (thus, profits), as earnings can be often "clouded" by different accounting adjustments (Williamson, 2003). Other authors present empirical research that free cash flows, together with return on capital and growth, and are the three key value drivers (Koller, Goedhart and Wessels, 2005). Free Cash Flow is generated by operations after tax, without taking into account the company's debt level, that is, without subtracting its interest expenses. According to Fernández (2006), it assumes a "hypothetical all equity capital structure", i.e. no payments of interest and principal to debt holders.

Exhibit 1. Classic approach for computing FCF

Earnings Before Interest and Taxes (EBIT)
– <u>Tax on EBIT</u>
= Earnings Before Interest After Taxes (EBIAT)
+ Depreciation Expense
– Capital Expenditures (CAPEX)
– <u>Change in Working Capital (ChgWC)</u>
= FCF

A positive value indicates that the enterprise has cash left after expenses. On the other hand, a negative value indicates that the enterprise has not generated enough revenue to cover its costs of goods sold and investment expenses.

In order to illustrate the connection between accounting theory and value creation theories we assume the case of (hypothetical) Company ABC, a small-sized and non-publicly traded enterprise, whose Balance Sheet and Income Statement are presented in Table 1 and Table 2.

Table 1. Balance Sheet of ABC Co. as of December 31 2008 (Euros)

Assets		Liabilities and Shareholders' Equity	
Fixed assets	7,000	Long-term debts	3,000
		Other long-term liabilities	1,000
Inventories	2,000	Accounts payable	3,000
Accounts receivable	4,500	Other current liabilities	1,000
Cash	500	Shareholders' equity	6,000
Total	14,000	Total	14,000

Table 2. Income Statement of ABC Co. for the year ended December 31 2008 (Euros)

Net sales (Turnover)	12,000
Cost of goods sold and other operational expenses	10,172
Depreciation expense	400
Operating income (EBIT)	1,428
Interest expense (7% of financial debts)	280
Pre-tax Income (Profit before taxes)	1,148
Income tax (30% on Pre-tax Income)	344
Net Income (Net Profit)	804

Further assumptions are necessary: the income tax is 30%, the interest rate is 7% and the long-term debts are maintained during the entire financial year. An overview based on conventional financial analysis illustrates a balanced financial structure, as the long-term liabilities (€4,000) are lower than owners' equity (€6,000). The working capital is positive, computed by subtracting the value of fixed assets (€7,000) from the invested capital (€10,000). The financial analysis of the Income Statement reveals that ABC Co. profitability is 6.7%, based on the net profit margin (Net Income over Net sales).

As it can be seen, in terms of traditional accounting and conventional financial analysis, ABC is a successful company. Nevertheless, the results are quite different in terms of value creation. Based on the information disclosed by the Balance Sheet and Income Statement of Company ABC, here is the FCF calculation:

Exhibit 2. FCF calculation

<i>(Euros)</i>	
EBIT	1,428
- <u>Tax on EBIT (30%)</u>	<u>- 428</u>
= EBIAT	= 1,000
+ Depreciation Expense	+ 400
- <u>(CAPEX + ChgWC)</u>	<u>- 500</u>
= FCF	= 900

B. The cost of capital

The cost of capital is considered an important driver to value creation because it allows calculation of the enterprise value, identifying the investments that created value and sources of value created in the past. We consider that computing the cost of capital should result from a management decision. "Know thyself!" Socrates said more than two millenniums ago. Nowadays the value creation theory expresses the same type of requirement. Investors require the managers to comply with this "golden" rule of the financial management: "Know the cost of capital!" Actually, the cost of capital is the connection between enterprise's external environment belonging to its investors, and internal environment belonging to managers and employees. In financial management, the cost of capital is used for the following purposes:

- regarding performance valuation: measures the past and future economic profits;
- regarding investment selection: allows forecasting the performance of a new investment, being an internal reference for managers in deciding their strategy;
- regarding enterprise valuation: it serves as discounting rate for future economic profits, allowing the calculation of market value of capital; it is an external reference for investors.

The cost of capital is computed as a weighted average of the various capital components, items on the right-hand side of the balance sheet such as debt, equity, preferred stock, common stock, and retained earnings (Shim and Siegel, 2008).

The cost of assets

Academics and practitioners have done many attempts to quantify risk in order to understand better the investors' expectations. This risk implies a critical cost that figures into key financial decisions. The cost of assets, also known as "the expected (rate of) return on assets" (ROA), is equal with the economic efficiency of a risk-free investment increased with a certain risk premium, which depends on the systematic and specific risk, associated with the enterprise as a whole. Investors have an intuitive knowledge about what it should be a "fair" return of their investments. The capital cost is not set on managerial and psychological bases, resulting from an economic request of investors that is imposed to managers. The cost of assets is a simplified cost, as it does not consider the enterprise financial structure.

A well-known statistical model to explain the expected or average return on an investment (asset or portfolio) is Capital Asset Pricing Model (CAPM), used to assess the cost of capital for a company, based on the rate of return on its assets.

The equation is the following:

$$R_a = R_f + \beta_a (R_m - R_f),$$

where: R_a is the expected rate of return for an asset investment, which is necessary for a fair remuneration of the assumed risk investing in that asset; R_f is the risk-free rate (economic efficiency of a free-risk investment, i.e. government bond yield); β_a is the sensitivity to market risk for the capital asset, associated with the systematic risk; R_m is the historical return of the particular capital asset market; and $(R_m - R_f)$ is the Market Risk Premium (MRP) over risk-free assets, which takes into consideration the enterprise's specific risk related to its sector and its characteristics within the sector.

The general idea behind CAPM is that investors need to be compensated in two ways: time value of money and risk. The time value of money is represented by the risk-free rate (R_f) in the formula and compensates the investors for placing money in any investment over a period of time. The other half of the formula represents risk and calculates the amount of compensation the investor needs for taking on additional risk. This is calculated by taking a risk measure (beta) which compares the returns of the asset to the market over a period of time and compares it to the market premium ($R_m - R_f$). The CAPM is the basis for calculating the required return on an investment and is frequently used to calculate the discount rate for a net present value calculation.

In order to exemplify the application of CAPM in computing the cost of assets, we make the following assumptions: the risk-free rate (R_f) is 6%, the Market Risk Premium (MRP) is 5% and the assets beta (β_a) is 1.1. Based on the previous equation, the cost of assets is:

$$R_a = 6\% + 1.1 \times 5\% = 11.5\%$$

The cost of debt

The cost of debt is computed by taking the rate on a risk-free bond whose duration matches the term structure of the corporate debt, then adding a default premium. This default premium will rise as the amount of debt increases (since the risk rises as the amount of debt rises). Since in most cases debt expenses are deductible, the cost of debt is computed as an after-tax cost, in order to make it comparable with the cost of equity (dividends are after-tax as well). Thus, for profitable firms, debt is discounted by the tax rate. Cost of debt is computed by the formula:

$$R_d = \text{pre-tax } R_d \times (1 - T),$$

where R_d is the cost of debt and T is the tax rate.

The cost of debt should be considered an opportunity cost and not a historic cost. It is useless to calculate a weighted average of instalments paid by the enterprise for each of its loans. Instead, we should better answer the question: if the enterprise should totally recompose its indebtedness today, on what cost should do it?

Considering the example of Company ABC, the pre-tax cost of debt is 7%; comparing to the assumed risk-free rate of 6%, we conclude that the enterprise borrows more expensive (with 1%) which is a sign of a high level of risk. The after-tax cost of debt is:

$$R_d = 7\% \times (1 - 30\%) = 4.9\%$$

The cost of equity

The cost of equity is the minimum rate of return that firm must offer to its shareholders in order to compensate them for waiting their returns, and for bearing some risk. The cost of equity for a particular company is the rate of return on investment required by the company's ordinary shareholders. The returns consist of both dividend and capital gains, e.g. increases in the share price. They are expected future returns, not historical returns, and so the returns on equity can be expressed as the anticipated dividends on the shares every year in perpetuity. The cost of equity is then the cost of capital that will equate the current market price of the share with the discounted value of all future dividends in perpetuity.

The cost of equity reflects the opportunity cost of investment for individual shareholders. It will vary from company to company, because of the differences in the business risk and financial or gearing risk of different companies. Using the CAPM, the cost of equity is:

$$R_e = R_f + \beta_e \times (R_m - R_f),$$

where R_e is the cost of equity, β_e is systematic risk attaching to the returns on ordinary shares, and $(R_m - R_f)$ is the market risk premium.

Adding to the previous assumptions the equity beta as of 1.5, the cost of equity for ABC is:

$$R_e = 6\% + 1.5 \times 5\% = 13.5\%$$

The result indicate a very high cost of equity comparing to the cost of debt (4.9%), which confirms that equity funding is more expensive than debt funding.

The net income is not always a sufficient criterion to estimate the enterprise profitability. It is not enough for an enterprise to be profitable, but it should be profitable enough to attract new investors and finance its development. For example, with a capital of 50,000 monetary units, the enterprise gets a profit of 1.00 monetary unit and it does not attract any investor. Without an economic efficiency of equity of at least 10%, no enterprise should be considered economically profitable nowadays. In particular, unfortunately, most Romanian enterprises do not reach this minimum profitability level (despite a high level of profit).

The capital asset risk is unequally distributed between the shareholders and lenders. Lenders have priority to shareholders both in terms of paying the capital remuneration (the enterprise cannot pay the dividends prior paying its interest) as well as in terms of debt principal repayment (the enterprise cannot return the equity to owners prior paying its debts). This consideration is reflected by the fact that the cost of equity is higher than the cost of assets with a risk premium due to the enterprise financial structure. The risk premium is the expected rate of return for the higher risk shareholders takes giving priority to lenders. The higher the premium is, the higher the enterprise indebtedness is. This expresses the financial leverage: even if the new investment is fully funded by debts, the cost of equity is not equal with the cost

of debt. By increasing the debt, the enterprise increases the cost of equity and the financial risk premium is increased. The cost of equity will be higher at the same time with indebtedness and it can reach very high levels. In case of an enterprise with no indebtedness, shareholders completely accept the operational risk. In this particular case, the cost of equity equals the cost of assets. Capital investors aim a return on their capital investments higher than the profitability of investment opportunities provided by the financial market. Thus, they get an increase of their wealth, which is higher than the one possible to obtain from investing on the financial market.

The manager, acting in the interest of capital investors in order to increase the enterprise's economic value, is imposed to lower the cost of equity. Using this low cost as a capitalization factor of cash flows generated by the enterprise will increase its value. The only possible way of lowering the cost of capital is to increase the share of the investors that require a lower return on their capital. This practically means an increasing indebtedness, as loans are generally obtained with a lower cost than equity. It is to be investigated if changing the financial structure drives or not to the maximisation of enterprise's economic value.

The Weighted Average Cost of Capital

As we demonstrated before, both financing alternatives (through equity or debts) require additional costs, like as dividends and interest. The average of these costs, weighted according to the financial structure of the company, is the weighted average cost of capital, calculated following the basic equation:

$$WACC = \frac{E}{K} \times R_e + \frac{D}{K} \times R_d \times (1 - T),$$

Where: E is the market value of the enterprise's equity; D is market value of the enterprise's liabilities; K equals $E + D$, i.e. the total amount of invested capital; E/K is the percentage of equity financing; and D/K is the percentage of debt financing.

In case of Company ABC, WACC is computed by multiplying the cost of each financing component by its proportional weight and then summing, resulting in a WACC of $\approx 10\%$.

We do not reject the argument between pleaders of using the book values and pleaders of using the market values. However, in academic research papers, the balance inclines to the market value, but, in practice, most often the non-traded companies should rely on the book values. Few counter-arguments for using book value are summarised by Damodaran (2002): book value is indeed not so volatile, but this is a weakness rather than strength, since the true value of firm changes over time; the assumption that using book value is a more conservative approach to estimate debt ratio, leading to lower market value debt ratios, is not based on facts; claiming that lenders do not lend on the basis of market value is, again, not based on facts.

The use of the WACC method to determine value can be appropriate when the objective is to value the entire capital structure of the enterprise. Therefore, a WACC can be developed for several capital structure scenarios, as a way to try out different approaches to enterprise financing (Hitchner, 2006). On the other hand, it is obvious that other issues should be taken into account, such as solvency. If an enterprise maintains a reasonable indebtedness rate and manages to stay away from bankruptcy, it will be able to decrease the cost of capital even with higher debt levels.

C. The capital structure

The financial policy is different among enterprises and even within the same enterprise from one time to another, depending on the management decision. There are enterprises that do not distribute dividends not even in the years with attractive benefits. In addition, there are enterprises that almost have no debts. Shareholders judge the managers' decisions only in terms of financial performance, taking into consideration that the profitable results come from assets and not from liabilities. Therefore, one of the primary management decisions within an enterprise concerns the investments. In case of a holding, the financial structure of a subsidiary can be affected by non-economic considerations, such as local regulations regarding capital transfer and taxation. Under these circumstances, applying a financial policy possibly common to the entire group is not a good decision, so that each subsidiary may have a different financial structure. An operational vision consists in measuring the invested capital based on the assets of balance sheet.

$$\text{Invested capital} = \text{Fixed Assets} + \text{Change in Working Capital (ChgWC)}$$

Additionally, we note that fixed assets are taken into consideration, no matter the financing arrangements. Invested capital equals the sum of shareholders' equity, all interest-bearing debt and long-term liabilities.

In case of ABC enterprise, fixed assets are €7,000 and ChgWC is calculated subtracting the current liabilities from the current assets:

$$\text{ChgWC} = \text{Current assets} - \text{Current liabilities} = €7,000 - €4,000 = €3,000$$

Therefore, we conclude that invested capital in the Company ABC is €10,000.

3. Discounting Cash Flow-based method

The valuation of an enterprise often requires *discounting future cash flows* to the present. Generally, the mechanics of Discounting Cash Flow method assumes that all future cash flows are estimated and discounted to give their present values. The discount rate used is generally the appropriate Weighted Average Cost of Capital (WACC) related to the risk of the cash flows. Correia et al. (2007) note that the discount rate reflects the *time value of money* - investors would rather have cash immediately than having to wait and therefore they must be compensated by paying for the delay, and a risk premium as an adjustment of risk caused by an extra-return demand of the investors. Despite the complexity of the calculations involved, the purpose of Discounting Cash Flow (DCF) analysis is just to estimate the money received from an investment and to adjust for the time value of money.

The interest for the value creation concept has led to a fierce competition between financial consultants and, thus, to an increasing number of valuation models. Most of them are based explicitly or implicitly on the Free Cash Flow (FCF) concept. This basic concept of Discounted FCF has served a long time only for the selection of investments portfolio. The major innovation was to reconsider the DCF as a valuation method of an enterprise, seen as a portfolio of projects. The managerial revolution made this concept a financial tool, being increasingly used in business valuation practice both by managers in the decision process, and investors in assessing the managers' performances. So that, for more than half of century, financiers sustain that the market value of an enterprise is given by the net present value of Free Cash Flows. The most spread and common is the McKinsey model of Discounting FCF, and based on this model, many long and medium term analysis models have arisen, allowing the simulation of key variables impact on enterprise value. As this value results from the future

discounted free cash flows, different strategic hypotheses are investigated in order to compute the value of free cash flow possible to obtain according to each scenario. The strategy that leads the enterprise to the highest market value will be chosen.

In practice, discounting of free cash flow to firm is carried out distinguishing two periods: forecast period and maturity period. In the forecast period, cash flows can be estimated with an acceptable credibility; the maturity period starts after that.

Taking into consideration that an enterprise potentially has an infinite life, its value is the present value (PV) of cash flows forever:

$$PV = \sum_{t=1}^{\infty} \frac{FCF_t}{(1 + WACC)^t}$$

Since we cannot estimate free cash flows forever, we estimate free cash flows for a "growth period" and then estimate the terminal value, to capture the value at the end of the period:

$$PV = \sum_{t=1}^n \frac{FCF_t}{(1 + WACC)^t} + \frac{\text{Terminal Value}^n}{(1 + WACC)^n}$$

Many valuations techniques add a terminal value (TV) to the valuation forecast. This represents the total present value of the company after the forecast period. Although there is several ways of estimating terminal value, according to Damodaran (2002) each of them has its limits:

- *Liquidation value*: can be used when assets are separable and marketable;
- *Multiple approaches*: the easiest approach but it makes the valuation a relative valuation;
- *Stable Growth Model*: technically, is the soundest method, but requires judgments about when the firm will grow at a stable rate that can be sustained forever, and the excess returns (if any) that it will earn during the period.

Considering that Company ABC is a stable one, we shall use the Stable Growth Model. Thus, the terminal value (TV) is computed based on the conventional equation of financial mathematics:

$$TV = FCF_{t+1} / WACC - g,$$

where $t + 1$ refers to the first year beyond the forecast period, considering a no-growth perpetuity, and g is the growth rate of FCF.

In case of Company ABC, DCF calculation is based on the WACC of 10% (calculated in Section 2). The growth rate (g) of FCF is equal to zero. The forecast period corresponds to years 0 to 3 and year 4 corresponds to the first year of the maturity period wherein the enterprise generates a steady EBIAT of €1.200. Accordingly, terminal value is:

$$TV = FCF / WACC = €1,200 / 0.10 = €12,000$$

Present value (PV) of Company ABC is computed applying the above formula of the discounting cash flows, considering the terminal value as of €12,000. The present value is \approx €11,254, as it can be seen in Table 3.

Table 3. Computing the Present Value of Company ABC

(Euros)

	Year 0	Year 1 Forecast	Year 2 Forecast	Year 3 Forecast	Year 4 Forecast
WACC		10%	10%	10%	
Discount factor		0.9091	0.8264	0.7513	
EBIAT	1,000	1,050	1,100	1,150	1,200
Depreciation – CAPEX – ChgWC	100	150	200	250	0
FCF	900	900	900	900	1,200
Discounted FCF		818.19	743.76	676.17	
Present Value	11,253.9				

The FCF Discounting model is a controversial one. Some authors think that it is conceptually valid but using it is quite difficult, requiring powerful calculation tools as well as personnel specialized in strategic decisions valuation. Conceptually speaking, the difference between the effective and the forecasted free cash flows is not clear if is good or bad. A positive difference may be the result of decreasing investments, with harmful consequences on the medium term leading to value erosion. A negative difference may result from additional investments thanks to undertaking successful projects that should meet a higher demand than the predicted one, which has benefits on the medium term leading to value creation. This deficiency is given by the fact that FCF is a diachronic tool as it mixes up elements related to different periods: income and operational expenses included in EBIT are related to invested capital during previous periods and invested capital in the current period will generate income and operational expenses in the subsequent periods.

Another weakness of the model, emphasized by Cook (2008) is that it ignores a few critical factors, such as the impact of peers, intangible value creation and expense optimization. At this stage, we are reaching *the paradigm of value creation*: is it important to know the value of enterprise or is it more important how value is created? We shall answer this question using the concept of Market Value Added. According to this concept, enterprise value is important but the excess of this value over the investment made by investors is far more important. The market value of the company is independent of book value of investor-supplied capital, and the gap between the two values is the Market Value Added (MVA), calculated as follows:

$$MVA = V - K,$$

where V is the market value of the enterprise, including the value of equity and debt, and K is the invested capital.

Related to MVA concept is Tobin's Q ratio, which is a statistic that might serve as a proxy for the firm's value from an investor's perspective (Wolfe and Aidar Sauaia, 2003). By definition, it is the ratio between the market value of the firm's assets and the replacement value of those assets. According to Kakani (2001) Tobin's Q is "the best measure of shareholder value creation by a firm", motivated by the fact that it includes the intangible assets such as brand value. In terms of firm valuation, Q is computed by dividing the market value of an enterprise by the book value of the equity:

$$Q = V / K$$

If the market value reflects solely the recorded assets of a company, Tobin's Q would be 1.00. If Tobin's Q is higher than 1.00 (value added), then the market value is higher than the value of

the company's recorded assets. This suggests that the market value reflects some unmeasured or unrecorded assets of the company. High Tobin's Q values encourage increasing investments in the company because it is "worth" more than the paid price. If Tobin's Q is less than 1.00 (value erosion), the market value is less than the recorded value of the assets of the company. This suggests that the market may be undervaluing the company.

Market value added is a simple external observation that informs managers if the enterprise is increasing or decreasing its worth. In case of publicly traded companies is difficult to assess MVA, this being measurable only for publicly traded holding companies. Additionally, in case of a positive MVA, the complex issue concerning distribution of dividends should be taken into consideration (e.g. if conventional remuneration is 10% for investors and dividend distribution rate is 3% per year, MVA should be of least 7% during the entire period). We conclude that MVA is an external concept for the enterprise, which does not illustrate when and how it created or destroyed its value. Considering that the objective that managers should aim for is the maximization of value added according to the management proxy, we express the opinion that MVA cannot be used as an independently management tool in an operational manner and it has to be co-related with other methods based on internal economic value creation in order to implement the value-based management.

In order to compute MVA of Company ABC the invested capital (K) is the sum of shareholders' equity, €6,000, and long-term liabilities, €4,000.

Market value of enterprise (V)	€11,254
- Invested capital (K)	(€10,000)
Market Value Added (MVA)	€1,254

Tobin's Q is 1.13, which indicates that ABC Co. is a good investment opportunity, with high growth potential and well performing management with the assets under its command. This finding confirms the one provided by the conventional financial analyses.

4. Economic Value Added (EVA™) method

EVA is a measure of a company's financial performance based on the residual wealth calculated by subtracting the cost of capital from its operating profit (adjusted for taxes on a cash basis). This concept was developed in the late '80s by Stern and Stewart. Also referred to as "economic profit", EVA determines the value created above the required return for the shareholders. In essence, it directly measures a firm's ability to create or destroy value for its shareholders. In a sense, EVA is nothing more than the traditional, commonsense idea of "profit" (also known as residual income): A company creates value when a certain investment project covers all operating costs and the cost of capital. It makes a clear separation from accounting adjustments that have enabled some companies to report profits while in fact being in the final approach to become insolvent.

When EVA is linked to managers' remuneration, it provides a strong incentive for managers to select and implement value-creating investments. It is calculated as Net Operating Profit after Taxes (NOPAT) less the cost of capital, referring to the amount of money rather than the proportional cost of capital. NOPAT measures the profits the company has generated from its ongoing operations, being similar to EBIT (Earnings before Interest and Tax, a common starting point in analysts' valuation models) less taxes. EVA can be interpreted as a company's NOPAT less the capital charges.

Exhibit 3. Calculation of EVA

Net Sales
<u>– Operating Expenses</u>
= Operating profit (Earnings before Interest and Tax - EBIT)
<u>– Taxes</u>
= Net operating profit after tax (NOPAT)
<u>– Capital charges (Invested capital × cost of capital)</u>
= EVA

Based on the *refined earnings approach*, EVA is calculated by the following equation:

$$\text{EVA} = \text{NOPAT} - (\text{Invested Capital} \times \text{WACC})$$

The underlying assumption is that the corporation is charged by its investors for the use of capital through a notional line of credit that bears interest at a rate of WACC. This capital charge is the minimum return necessary to compensate all the firm's capital providers for the risk of the investment. If managers do not consider this type of cost, they tend to chose investment projects, which destroy wealth. This is the case if the rate of return on capital is lower than the cost of capital.

If we relate NOPAT to invested capital, the Return on Invested Capital (ROIC) is calculated like as:

$$\text{ROIC} = \text{NOPAT}/K$$

The return on invested capital (also known as "Return on Capital" – ROC) gives a sense of how well a company is using its money to generate returns. Comparing the company's return on capital (ROIC) with its cost of capital (WACC) reveals whether invested capital was effectively used.

EVA can be calculated also based on the *residual income approach*:

$$\text{EVA} = (\text{ROIC} - \text{WACC}) \times \text{Invested Capital},$$

where $(\text{ROIC} - \text{WACC})$ equals the truest measure of a business' profitability. This metric measures the net cash flow returns to shareholders adjusted for the risk associated with the business model employed to achieve those returns. ROIC can be divided as follows:

$$\text{ROIC} = (\text{NOPAT}/\text{Net sales}) \times (\text{Net sales}/K)$$

The first ratio is an operational margin (the NOPAT margin) that shows how many monetary units generate increasing net sales with a unit, thus how profitable a company's sales are from an operating perspective, meaning the operational profitability. The second ratio is the invested capital turnover ratio and it shows the balance sheet profitability. In the following equation ROIC is decomposed by the two multiplied ratios:

$$\text{ROIC} = \text{Operational profitability} \times \text{Balance sheet profitability}$$

In case of the Company ABC, calculation of EVA reveals the following results:

Exhibit 4. EVA calculation for ABC Co.

	(Euros)
Net Sales	12,000
<u>– Operating Expenses</u>	<u>– 10,572</u>
= EBIT	= 1,428
<u>– Taxes (30%)</u>	<u>– 428</u>
= NOPAT	= 1,000
<u>– Invested capital × cost of capital</u>	<u>– 10,000 × 10%</u>
= EVA	= 0

In case of using the decomposed ROIC, firstly we have to compute the two profitability indices:

$$\begin{aligned} \text{Operational profitability} &= \text{€}1,000/\text{€}12,000 = 8.33 \\ \text{Balance sheet profitability} &= \text{€}12,000/\text{€}10,000 = 1.2 \\ \text{ROIC} &= 8.33 \times 1.2 = 10\% \end{aligned}$$

When we calculate EVA, the difference between the return on invested capital and WACC, times the invested capital, provides the same result: there is no EVA! This means that ABC did not create economic value for itself and for its shareholders. We recall that the accounting profit is €804; instead, the economic profit does not exist. We conclude that the instruments provided by the conventional financial analysis are not effective; in order to assess the real performances, they have to be accompanied by an assessment of economic value added.

Related to EVA, the **Economic Profit** may be used as a valuation methodology. Many businesses have as a major objective maximising shareholders' wealth. While this is a noble objective, and very few would disagree with it, how this objective should be accomplished is much less certain. Firstly, how are returns to shareholders measured?

For many years, managers and shareholders have believed that growth in annual earnings per share and increases in return on equity were the best measures for maximizing shareholders' wealth. However, more recently there has been a growing awareness that the conventional accounting measures are not reliably linked to increasing the value of the company's shares. This occurs because earnings do not reflect changes in risk and inflation, nor they take into consideration the cost of additional capital invested in the company's economic growth. In addition, there are other reasons why earnings fail to measure changes in the economic value of the business, like as: alternative accounting methods may be employed, dividend policy is not considered, the time value of money is ignored.

Generally, the shareholders' returns are driven by dividends and by increases in the value of the shares' market prices. The value of company's shares will only increase if management can earn a higher rate of return on new investments than the returns that investors expect to earn by investing in alternative, equally risky, companies.

The shareholder value creation is based on using Economic Profit (EP) as a valuation methodology. This is computed by subtracting the cost of invested capital (COC) from EVA.

$$\begin{aligned} \text{COC} &= \text{WACC} \times \text{K} \\ \text{EP} &= \text{EVA} - \text{COC} \\ \text{or EP} &= \text{EVA} - \text{WACC} \times \text{K} \end{aligned}$$

In case of Company ABC, the cost of invested capital is €1,000. Since EVA equals 0, the economic profit is negative, (€1,000) respectively.

A positive EP would indicate an increasing of shareholder value (value creation). A negative EP, however, indicates that the capital is being eroded, that is, the operational activity is not profitable enough to support the cost of capital, or the organization has too much capital for its operations. This information is vital for any for-profit organization, yet it is remarkably that few companies take into consideration the EP concept. Still, its accuracy is not fully demonstrated because an important issue occurs regarding the concept: the net accounting profit is tax-free and the capital cost is calculated on the total amount of invested capital and not only on financial liabilities.

At the beginning of '90s, a series of French enterprises have adopted EVA as a remuneration policy and an employees' incentive plan. After some years, two new non-financial performance measures were added to EVA, customer value added (CVA) and people value added (PVA). After some years only, this method of performance valuation was abandoned in the favour of traditional accounting measurements. The main reason is based on the high complexity that made that, without a sound knowledge of EVA's calculation and utility, employees do not perceive this valuation system in their daily activity. Moreover, the application field of EVA is not multipurpose, fact admitted by Stern and Stewart. It cannot be used in banks, financial service companies and developing enterprises, in which forecasted flows of income are based on multiple circumstances. Valuation of IT companies is not based on the optimization of financial structure but rather on their speed of response or their ability to entail technological innovations. Fragility of forecasts and volatility of the cost of capital led to the standardization of the enterprises' internal performances, taking into consideration the volatile financial markets indicators as standards. Other limits concern the transfer of the residual risk from shareholders to employees and the danger of a deviation of strategic decisions to the "short term" area. Corporate investors and especially the pension funds require a high and steady profitability of invested capital. Capability to move capitals to alternative investments is a strong restriction for managers, resulting in moving the "power balance" between shareholders and employees in favour of shareholders. Profitability restrictions entailed to managers, drive them to cut the costs and, first of all, wages in case of cyclic fluctuations. Therefore, mitigation of shareholders incurred risk concerning the return on their investment is carried out by its transfer to the weak ones, especially employees.

Finally, management based only on the maximization of value added focuses on the short term decisions, endangering the long-term strategy.

5. Conclusion

Growing concern for shareholder wealth makes urgent the re-examination of the classical accounting model. One of the most important steps to make the financial function a source of value is to depart from the traditional accounting model. This requires a different way of thinking about measuring performance. In financial management, the emphasis is on increasing value and not necessarily earnings. Value is determined by the future expected cash flows that will be generated over the life of the business. This is the equivalent of economic performance, (such as cash flows) as opposed to accounting performance (such as net income). The problem with the traditional accounting model is that all of the emphasis is on earnings, especially in term of quantity. On the contrary, what counts in valuations is the quality of the earnings.

Along with the significant development of value creation models, an evolution of international accounting normalization is noticed. It seems to be in the same way. The survey of

international financial reporting standards and evolution of normalization practices confirms the assumption of the financialization of the accounting model.

However, clarification of the accounting model objectives should be re-considered, in order to integrate explicitly the need to disclose useful information to shareholders, using different valuation methods. Still, these methods has to be improved, in order to include the measurement of non-financial items of business, like as intangibles, human resource capital, information technology, new ideas from research projects, innovative marketing, key strategic partners, that are important to value creation. We conclude that developing better analytical tools using Accounting and Finance can improve the decision making process.

References

1. Brealey, R. A., Myers, S. C., 1996, "Principles of Corporate Finance", 5th Edition, McGraw-Hill
2. Cook, V. J., Jr., 2008, "Air Express Carriers and the Missing Factors Model", <http://seekingalpha.com/article/81461-air-express-carriers-and-the-missing-factors-model>
3. Correia, C., Flynn, D., Uliana, E., Wormald, M., 2007, "Financial Management", 6th Edition, Juta & Co. Ltd., <http://books.google.com/>
4. Damodaran, A., 2002, "Investment Valuation: tools and techniques for determining the value of any asset", 2nd Edition, John Wiley and Sons, Wiley finance series, <http://books.google.com/>
5. Dragotă, V., 2005, "Practical approaches in firm's finance", Irecson Publishing House, Bucharest
6. Fernández, P., 2006, "Cash Flow is cash and is a fact: Net income is just an opinion", <http://www.iese.edu/research/pdfs/DI-0629-E.pdf>
7. Hitchner, J. R., 2006, "Financial valuation: applications and models", 2nd Edition, John Wiley & Sons, Wiley finance series, <http://books.google.com/>
8. Kakani, R. K., 2001, "Ownership Distribution and Shareholder Value Creation in Indian Stock Markets: A Note", Working Paper Series no 2001-09, <http://ssrn.com/abstract=914107>
9. Koller, T., Goedhart, M., Wessels, D., 2005, "Valuation: Measuring and Managing the Value of Companies", 4th Edition, John Wiley & Sons, http://www.mckinsey.com/ideas/books/valuation/Valuation_Ch_4.pdf
10. Medesan, I., 2006, "Firm's finance", Tribuna Economică Journal, no. 16
11. Nişulescu, I., 2006, "Optimization of financing decision", Tribuna Economică Journal, no. 10
12. Porojan, D., Bişa, C., 2007 "Business Plan", Irecson Publishing House, Bucharest
13. Shim, J. K., Siegel, J. G., 2008, "Financial Management", 3rd Edition, Barron's Business Library, Barron's Educational Series, <http://books.google.com/>
14. Tudose, M. B., 2006, "Management of equity", Economica Publishing House, Bucharest
15. Vintilă, G., 2006, "Financial management of an enterprise", Didactica si Pedagogica Publishing House, Bucharest
16. Williamson, D., 2003, "Free cash flow", http://findarticles.com/p/articles/mi_qa3889/is_200304/ai_n9175187/
17. Wolfe, J., Aidar Sauaia, A. C., 2003, "The Tobin q as a company performance indicator", Developments in Business Simulation and Experiential Learning, Volume 30, <http://sbaweb.wayne.edu/~absel/bkl/vol30/30at.pdf>
18. Breaking the Accounting Habit, <http://www.openlearningworld.com/olw/courses/books/>
19. <http://en.wikipedia.org/wiki/>

Winning Organisational Culture

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Abstract

The results (good or bad), the success or failure of an individual, of an organization, are an expression of the level of Culture held because: any results and the result of the conduct, behavior, are a function of people's heads, their mentality, their culture and culture of the context in which they operate. Culture is the Software and the rest is hardware or, if you prefer, culture it is the soul and the rest is the body, no system could function well without appropriate software.

Keywords: value; mentality; behaviors; competition; system; innovation; ambiguity; objectives; roles; responsibilities; organization; globalization, innovation, value; transparency; meritocracy; prudence; results.

1. Introduction

For Corporate culture means what that determines individual behavior, namely a set of identities, values, evidence, and expertise possessed, both generally and individually. The Culture of an Organization is expressed in how you will work, how decisions are made, are people managed, you are confronted with competition, you try to generate value. The Culture of an Organization it is the result of three factors: the nature of its activities, the mentality, the personality, the culture of its leaders, especially those who have played a crucial historical continuity with a significant presence, the adopted system of government.

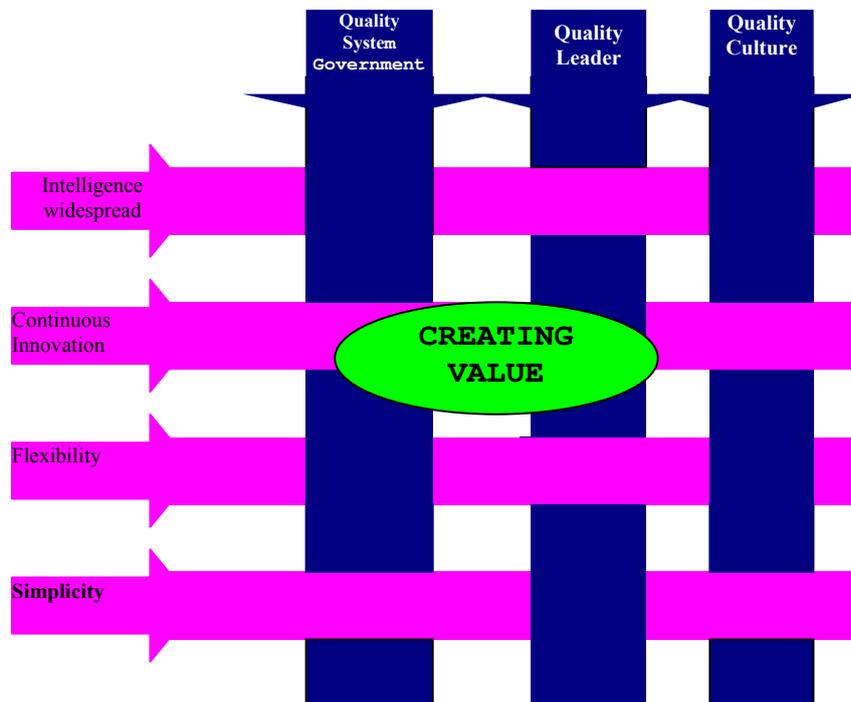


Figure n. 1 – Creating value process

2. Winning culture and its possible content

At all levels, from individual to entire territories it is necessary to define those aspects of culture considered the winner facing the challenges of this era. These are issues that should arise a series of behaviors to achieve their best goals in the best possible way.

Culture is not something abstract, just philosophical. Nothing is the most important practically, to define the distinctive features of culture you want. Once defined, to be handled with extreme efficiency and effectiveness.

Individuals, organizations, territories are really specific, as they have their specific goals and their strategies. There is therefore, recipes for the aspects of a winning culture.

We should provide some idea of the cultural aspects that, in this era that we live, appear of particular significance and, therefore, of interest to the business world:

a) The Result / merit (to the effort / elderly). Into practice, we must never confuse efforts with results. Efforts may be laudable but the results are not going anywhere.

b) The solution / proposal (versus problem / protest). Are here with the solution or there are also part of the problem? It is appropriate, indeed essential, to explain the problems, as is legitimate in many circumstances, to do protest, if do not have problems and protests you should never differentiated by the suggestion of solutions and proposals.

c) From client / function usage (versus service or product the middle). It is important to know the function of use of the customer, that is why it requires a service or a product. The exclusive focus on service / product is equivalent to focus on "medium", forgetting the "end", the purpose. The purpose of the customer does not acquire products and services, but providing the optimum function of use. There is no specific guidance to the customer without attachment to its function of use.

d) From Proactive / timing (versus reactive). During acceleration era, or the gradual reduction in the time available, the player who has the ability to manage the timing right. Being early is, sometimes, equally problematic than being late. Not always the "big" beats the "small" always on "fast" beats the "slow".

e) To competition (versus orientation to themselves). Is not enough to confront their own goals, their budget, or their performance last year.

f) The open system (versus closed system). Protectionism and anarchy have always created backwardness and decay

g) Of the international perspective (versus provincial). With globalization, the opportunities are everywhere, but also there are threats. Even when working locally, you must do so with the knowledge of what happen relevant in the world.

h) Flexibility / change / innovation (versus exclusive defense of the past or just improving). Today more than ever, flexibility means intelligence and intelligence means flexibility. The only objective limits of flexibility are the values we have chosen as a reference. Improving protect which it means that already exists, innovate it to make it obsolete. With the acceleration, everything and subject to its cycle of life, without innovation and doomed to decline. Innovation is a culture, not a directive or a manual.

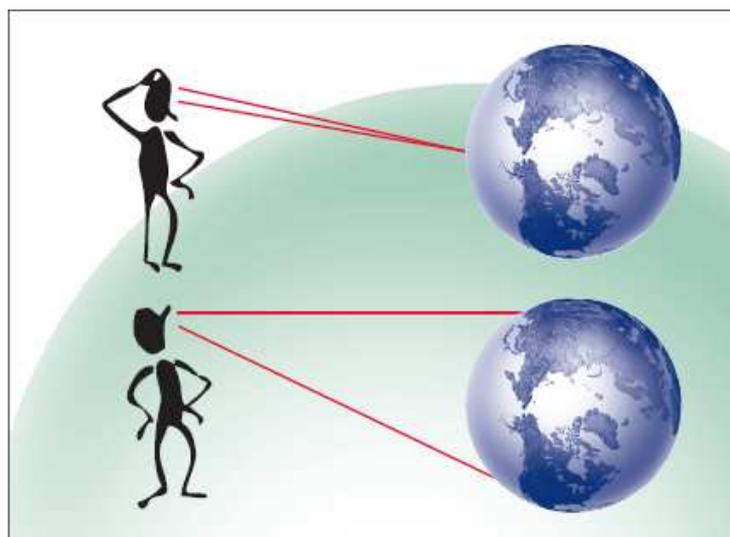


Figure n. 2 - International perspective (versus provincial)

i) Of the long-term goals / vision and strategic management (versus only management / operational management, live for the day). It is an overriding reason in an the age of discontinuity (the possibility that the future will replicate the past).

j) Resolving (versus running). If you need to prepare a room for a meeting is not enough to prepare only your pens. Who needs to drive a vehicle should know well to do it in advance, in order to study the best route and possible solutions to any problems may appear.

k) The Auto responsibility/ update learning (versus guaranty / arrogance). There is no field of activity, exposed to the dynamism, in which a generation of knowledge and skills longer than five years and this period is declining. Those who have responsibility for other people, namely the ruling class, have a dual responsibility: to be aware and make aware. Nobody but not some other secure their future. Explodes the individual auto-responsibility. At stake is no longer "lifetime employment" but "employability" for life, where the difference lies in the ability to systematically remove their knowledge and skills that appear to date and useful in practice.

l) From Integration / cohesion / teamwork (versus individualism). In the game of football you need a team to win the game. It is sufficient that one of the players to give an own goal for the game to be lost.. The purpose of teamwork can usefully be summarized as follows: to achieve the common goal in most effective and efficient way. There can be a team if its members do not know the organization's objectives and strategies.

m) From ant/ institution (versus people). The facts and results count far more than statements and rumors. It communicates to the organization not to individuals.

n) From work as a profession (versus employment / punishment). Work must not exist without professional dignity. If the work is conceived as a profession, the systematic updating and the relevant sales fall in people's heads concerned. Work is an important expression of self-fulfillment.

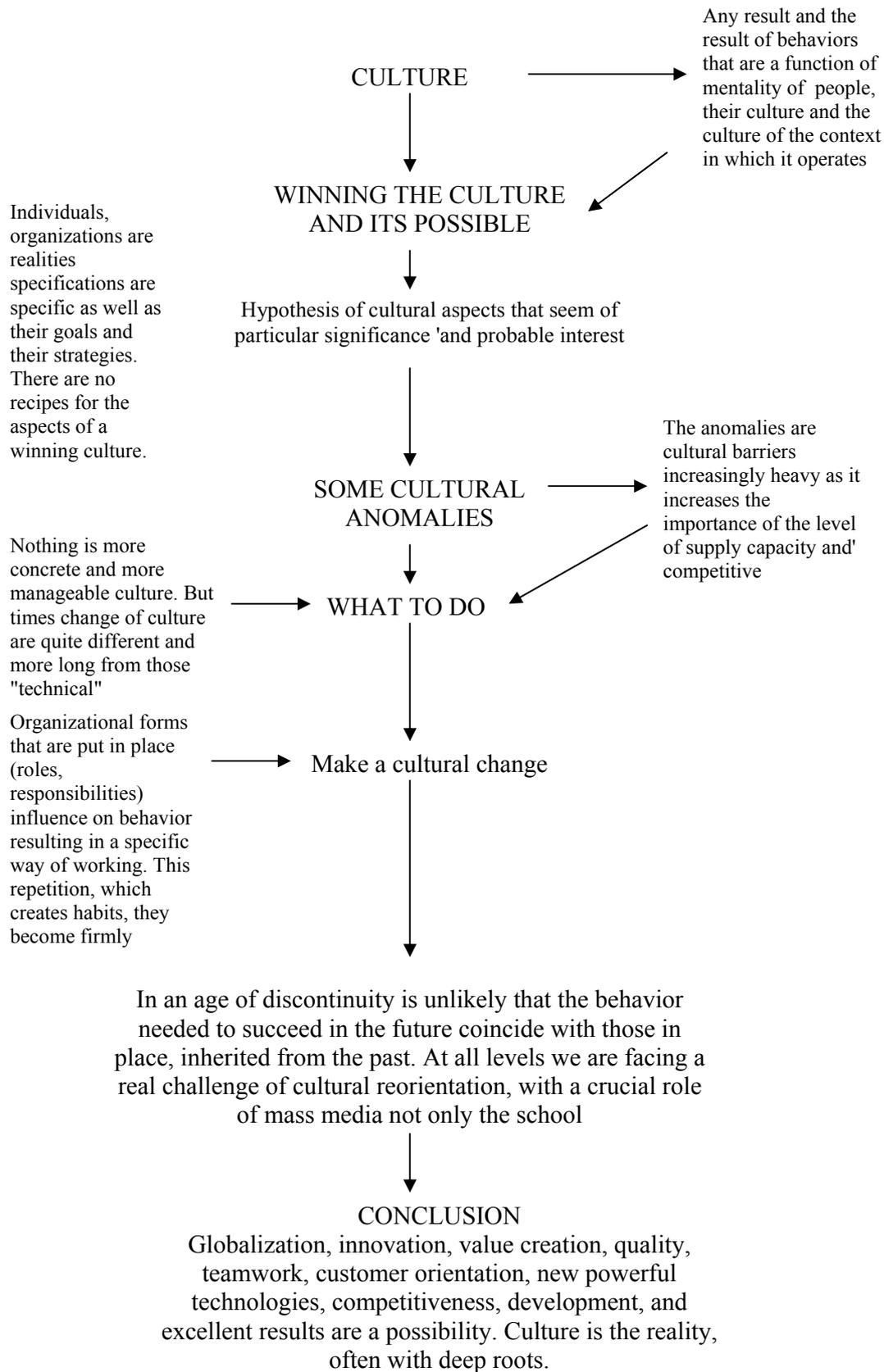


Figure n. 3 - Logical thread

3. Actual cultural anomalies

Cultural anomalies, compared to the needs of this age are very numerous. Below, some exceptions examples:

a) Ambiguity respect to economic success. On the one hand, all or almost all private property are enjoying the good life, yet there is a widespread mentality that the rich are guilty, even if they had accumulated his property in full compliance with the rules and demonstrating social awareness. There is a tendency to oppose solidarity and economic success, leaving unanswered the question: whether the employer had not happened and, anyway, if not accumulated sufficient wealth, where you find the resources for solidarity?

b) Culture of belonging rather than of competence.

c) Poor concrete sense of the country. All the other things that go beyond the self-interest and of his family and often seen as something to be suspicious or to exploit.

d) Poor ethical rigor. Widespread privileges, clientele, complicity, opportunities and, sometimes, corruption.

e) Imbalance between rights and duties. Even in the public debate are much more frequent references to the rights, or any additional rights, much less duties.

f) Emphasis on luck rather than on the merits. In this age of self empowerment, great emphasis is given daily, even from public television, the lottery, horoscope etc.

g) Culture of distrust instead of trust and good faith, particularly in the relationship between state and citizen. This is being declared, for example, tax is not believed. Even those who pay taxes regularly and in full is requested to comply with the conditions of amnesty applicants "because otherwise ...". Alongside continuing unacceptable levels of evasion, sometimes finding relatively easy. Any company would fail quickly if operated on the basis of mistrust.

h) Culture and chatter and intentions, rather than facts and results. There are also many witness almost daily media.

i) Contempt for some trades. It is used habitually threaten to send their children to do the factory worker, if not ensure adequate performance of the study. As if to make the worker was a punishment. Then we wonder that we do not find workers.

j) Rebound of responsibility rather than statements of responsibility. Are common, even by major institutions, habit, denouncing what others should do or have done instead to account for their actions, of what and not been done and why, what we are committed to do, how and when, limiting references to others as instrumental responsibilities.

k) Management culture rather than strategic. Resulting in an age of globalization optical reductive and discontinuity.

4. Improvement levers

Nothing is more real and more manageable than culture. It is important to be aware that the time and methods of cultural change are very different and longer than the "technical" ones and that a culture does not evolve spontaneously

To record a change in culture you should act in the following directions:

- Identify and articulate the cultural priority desired;
- Mapping the existing situation, a feature for feature;
- Set goals and actions for improvement for each feature a priority;
- Achieving the best measures
- Monitor systematically the evolution of the situation, characteristic feature, in a manner suitable for the detection and measurement

Organizational forms that are put in place (roles, responsibilities) affect behavior, resulting in a specific way of working.

This, I repeat, it creates habits which consolidated, became Culture. The cultural changes in practice are obtained following the following actions: replace people in certain positions; adopting appropriate systems of government, how much to be preferred, whenever possible.

For example, to promote the culture of results rather act:

- Ensuring that all know the organization's overall goals and objectives of its responsibility;
- Defining the roles and responsibilities in line, guaranteeing also the link with the overall goals (rather than with the criterion of silos);
- Connecting a significant portion of compensation to the achievement of goals, not just those individuals and those of direct and short term.

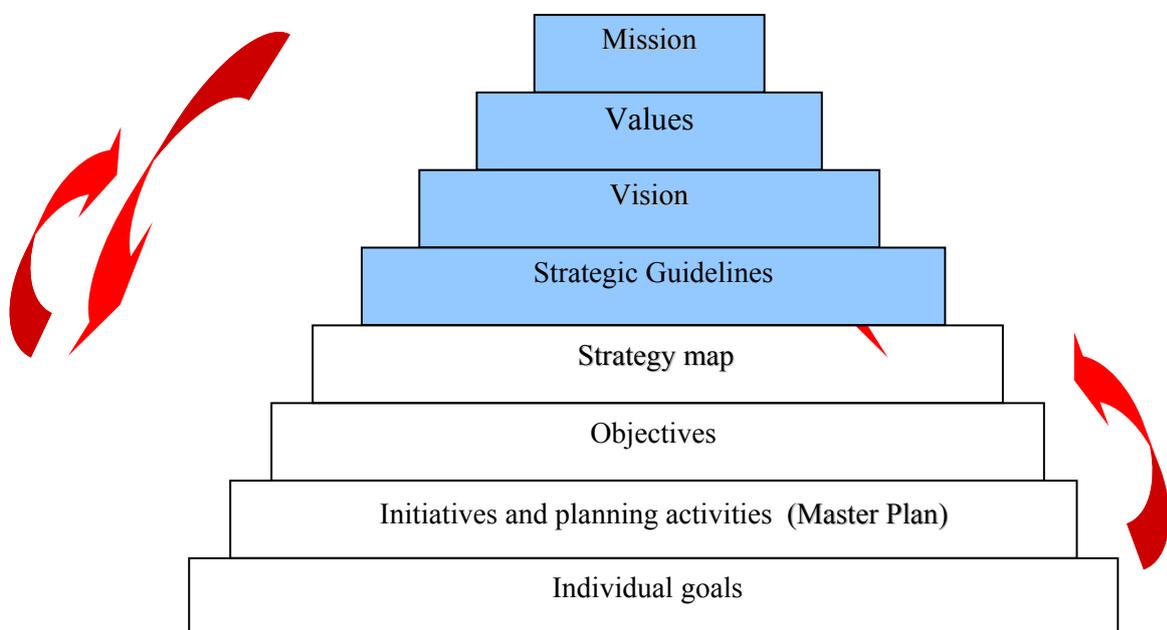


Figure n. 4 - Strategy Map

The link between culture and the values of an organization are very strong. Identify what is important for an organization in terms of values, determine the strategic guidelines of the

organization with a direct impact on the objectives of each individual member of the organization.

5. Principles and cultural values

Consistent organizational culture in order to survive in the current context of strong economic and financial crisis and indispensable to any organization-wide financial and banking will be promoted to a series of principles that guide the conduct of business to make it a success: principles and corporate values, individual values (energy).

The main principles and corporate values that must be promoted with vigor and energy are:

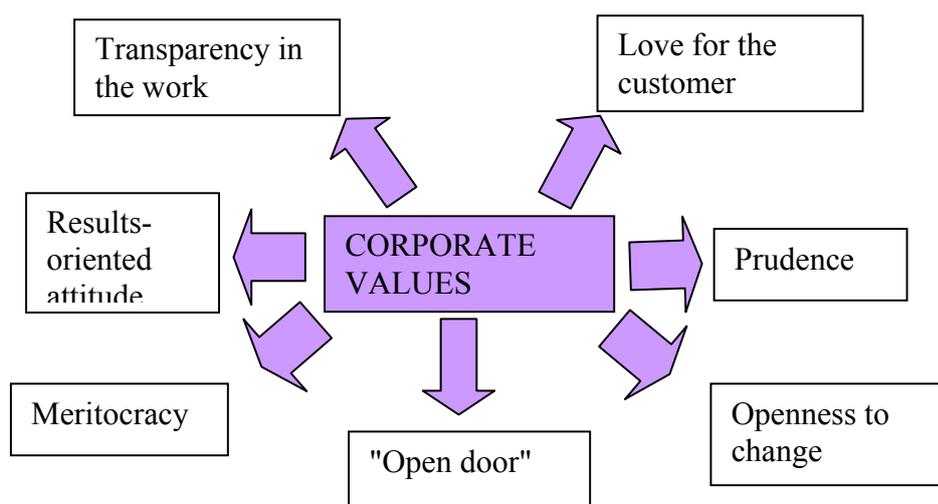


Figure n. 5 – Corporate Values

a) "Love" for the customer. The customer is the precondition for the existence of a company. Each activity should be oriented towards satisfying the needs and demands of the customer with care, attention and decision, in a word with "love". "Love" must be understood as love for others, sympathy, affection, pleasure of making a product and service, to do something with love, do it well.

b) Transparency in the work. Proper functioning of a company and related to knowledge of the real trend of the variables that govern it. A good human resources management, technical and financial transparency should be based on the results, well the economy is, on any mistakes made, the levels of service.

c) Prudence. Customer trust depends on the reputation, which is a consequence of the results obtained with a more consistent and conduct of particular prudence in risk management and investment.

d) Openness to change. The only thing permanent is change said Heraclitus 2000 years ago. Every successful company must correct its course when the business market, customers, times require it, anticipating the market and drawing from it a competitive advantage. Openness to change and innovation are a prerequisite for long-term maintenance and success.

e) "Open door". This principle means that everyone has the opportunity / duty to express their ideas, illustrating them in any hierarchical level and bring its contribution to the growth of the company besides their own.

f) Meritocracy. Responsibilities, recognition should be awarded to those who deserve it, to whom are capable. Evaluation of results should be made on the basis of objective, measurable and documented.

g) Results-oriented attitude. Commitment and results are not synonymous, our destiny is determined by results rather than just commitment. While these technologies is often a prerequisite for the result, which must always be recognized, the results are always rewarded. The aim of all must therefore always be to continue the results more objective and quantifiable

6. Conclusion

Globalization, innovation, value creation, quality, teamwork, customer orientation, new powerful technologies, competitiveness, development, and excellent results are a possibility. Culture is the reality, often with deep roots. In this era of an increasing level of complexity and an equally growing need for expertise and professionalism is not difficult to infer that win and will win more and more organizations and territories with the best popular culture at the level of critical mass.

References:

1. Burnus E – *Mangamentul schimbarii organizationale*, Editura Economica 2000;
2. Franco D'Egidio - *Il global service management (GSM). Un approccio globale vincente nella nuova era dei servizi*, Editura Francoangeli, Milano 2000;
3. Franco D'Egidio - *Il valore del brand per essere il n° 1. L'eccellenza nel servizio*, Editura Francoangeli, Milano 2007;
4. Hofstede Geerth – *Managementul structurilor multicultural*, Editura Economica, Bucuresti 1996;
5. Ionescu Gh – *Dimensiunile culturale ale managementului*, Editura Economica, Bucuresti 1996;
6. Marian NASTASE- *Cultura organizationala si manageriala*, Lito ASEA, Bucuresti 2006;
7. Mereuta C – *Culturi organizationale*, FIMAN;
8. Schein D. – *Organisation, Culture and leadership*, Jessez Bass, 1995;
9. Valerio de Molli – *I riferimenti fondamentali della gestione strategica*, Editura IPSOA, Milano 2009;

The Underground Economy Influence on Fiscal Policy Decisions

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Abstract

It is widely accepted in economic theory and practice, the idea that the reliability scale macroeconomic indicators of a country is affected by size of underground economy. A macroeconomic analysis conducted on the basis of uncorrected indicators with "the part" proper of underground economy can not be true, and forecasts based these tests are unreliable. Although the terminology approaches are extremely diversified economy, it was treated frequently, with feedback from management failures government act on the administration of estates actually the economic environment, exacerbated by the many unconventional relationships in the same economic environment.

Keywords: underground economy, macroeconomic analysis, fiscal policy, tax income

1. Underground economy – realities and perspectives

The aggressive extension of the level of underground economy, with a more and more organized developmental character, tends to place the phenomenon as a direct threat to the proper operation of State democratic institutions and, due to the generalized internationalization trend of the phenomenon, quantification and control of underground economy constitutes a problem considered by national governments and international bodies as well.

The acknowledgement of the negative impact of the informal phenomenon of a State's economic policy has been emphasized ever since 1977 when the economist Peter M. Gutmann stated that "*the economic activity statistically unregistered does not constitute a negligible quantity*"⁹⁹. Also, he appreciated the extremely quick developmental rhythm of the phenomenon, rhythm that exceeds several times the one of official economy.

Internationally speaking, the obvious growth and refinement trends of the methods used by the „practicants” of underground activities impose the need to know and to evaluate this phenomenon, to establish the possible reaction ways of the public power, according to the cost and consequences forecast on the short term and, especially, on the long term, of the adopted measures.

The “novelty” character of the underground economy study is also an objective cause of the fact that, until now, no agreement has been reached between the specialists who have made research in the field and who use more than 20 terms when referring to this phenomenon: underground, unregistered, hidden, unofficial, dissimulated, dual, informal, etc. economy.

⁹⁹ Peter M. Gutmann, The Subterranean Economy – Financial Analyst Journal, S.U.A., 1977

The difficulty in defining the phenomenon of underground economy can be due, especially, to the multitude of activities included within its scope, but also to the particularities proper to this type of economy in time and space. According to specialists, the most comprehensive definition of the notion of underground economy is the one given by Pierre Pestieau in the paper *L'Economie souterraine*: “underground economy represents the range of economic activities performed at the limit of penal, social or fiscal law or which (massively) elude the inventory of national accounts”¹⁰⁰.

Underground economy is defined by D. Pyle in the book *Tax Evasion and the Black Economy* as “those perfectly legitimate activities concretized in transactions between individuals and which are then hidden from, especially fiscal, authorities” while a Romanian dictionary of economy published in 1995 defined underground economy as “all economic activities undeclared to the institutions charged with the establishment of taxes and social subscriptions, which elude statistical records and national accounting.”

The various analyses which have been carried out till now, related to underground economy, lay the stress either on the social, the economic or the moral aspect, or underline the illegal – or on edge of legality – aspects. Due to this fact, the various studies in the field do not provide comparable data or they even give contradictory information.

It is obvious that a unique, exhaustive definition (based on simplistic, undifferentiated criteria) of underground economy, given such a complexity of the phenomenon, is not easy to give, practically being impossible to render the entire specificity of its manifestations¹⁰¹.

Irrespectively of the given definition and of the attempts to determine as comprehensively as possible its content or scope, underground economy is one of the complex socio-economic phenomena of outmost importance the countries nowadays are faced with and whose unwanted consequences should be restricted as much as possible, while eradication is practically impossible.

2. Components of the underground economy phenomenon on an international level

As the concept of underground economy includes various activities, it is necessary to systematize them for a better analysis of the phenomenon structure and of its influences on the results expected from economic policy and, especially, from tax policy measures. The proportion of the constituent elements, their way of manifestation, the impact on official economy, vary from country to country, according to the economic and organizational system, the social and historical particularities. Thus, for instance, in industrialized, economically developed countries (leaving aside illicit activities), the proportion of undeclared licit activities (elusion of direct and indirect taxes, of social taxes, etc.) makes up the most important part of underground economy, while in developing countries, where auto consumption is very high, the unofficial licit production is more pregnant, often exceeding the official economy¹⁰².

The most extensive systematization of the phenomenon components can be considered the following:

- tax evasion – the central vector of underground economy
- illegal labor – double implications on the State budget
- money laundering – terminus point of economical and financial criminality
- corruption – the political and bureaucratic shield of underground economy

¹⁰⁰ Pierre Pestieau, *L'Economie souterraine*, Paris, Hachette, 1989

¹⁰¹ Nicolae Craiu, *Economia subterană între da și nu*, Editura Economică, București, 2004, pp. 21

¹⁰² Ibid. pp. 23

- smuggling, drugs and weapons traffic – the occult side of underground economy
- terrorism – the violent sphere of underground economy

In the fiscality equation, one of the variables to be considered is the tendency of the tax payer towards tax evasion. The greater this tendency, the bigger will be the State's registered loss of fiscal incomes. In the short run, the disadvantaged ones are the other tax payers who do not resort to tax evasion, through a potential rise of fiscality so as to make up for the public financial resources diminished by evasion.

2.1 Tax evasion

In a complex definition, *tax evasion* is presented as avoidance, by any means, of taxes, dues, contributions or any other sums due to the State budget and to the special funds budget by natural and legal persons¹⁰³.

The most widespread classification method of the various forms of tax evasion refers to:

- "licit" tax evasion (*tolerated or intra-legem*)
- "illicit" tax evasion (*fiscal fraud or extra-legem*)

The terminological confusion between the notions of "licit" tax evasion and "illicit" tax evasion is frequent for their content acquires different meanings from one case to another. Categorically, there is continuity between the two forms of tax evasion (ensured by the so-called "grey area") and the demarcation line is extremely fragile, most of the times being artificially traced and being grounded on political reasons¹⁰⁴.

2.2 Illegal labor

Pioneering research in the field assimilated the concept of underground economy only with clandestine labor. Black market, illegal, under-declared or undeclared labor are forms of the same phenomenon reflected by unregistered activities which take place in the official sector and do not pay taxes. The reasons of black market labor are, mainly, economical as it gives the chance to the one practicing it to increase his resources, to the one using it to reduce costs and, to both of them, to avoid fiscal and social expenses.

The influence of this phenomenon on the budget is double:

- on the one hand, through the reduction of budget incomes caused by non-registration and nonpayment of mandatory taxes for the obtained incomes,
- on the other hand, through the unjustified increase of budget expenditures due to material supports granted to "unemployed" people.

Black market labor causes an alteration in the equilibrium of the labor market by destabilizing the ratio between the labor force supply and demand, without quantifying the level of unregistered economic activity which contributes to the achievement of GDP.

2.3 Money laundering

The process of money laundering represents the terminus point in the field of corruption and organized crime, which practically crowns the cleverness of criminal techniques in the economical-financial field and constitutes the link between cross border economical crimes. Following certain operations of financial engineering, it becomes possible to launder "dirty

¹⁰³ Iulian Văcărel, *Finanțe publice – Ediția a VI-a*, Editura Didactică și Pedagogică, București, 2006, pp. 455

¹⁰⁴ Dragoș Pătroi, *op.cit.*, pp.103

money” which acquire a “legal face” and can be introduced in the official sector of economy as investment resources, especially in the business recession stage, when an acute lack of capital is experienced, with a view to extend the economic activity capable of generating profit in the future. On the other hand, especially in periods of economic growth, the achieved profit is illegally “distributed” by drainage channels specific to the money laundering phenomenon, in order to avoid the current tax regime and to use in the future, in periods of economic recession, the sums thus obtained, after being recycled and given a tint of legality¹⁰⁵.

2.4 Corruption

The corruption phenomenon is one of the most serious conduct deviations which distort the administration of public affairs towards private purposes and which can offer to the “users” of underground activities protection from the State’s coercive measures.

For most of the penal systems, corruption is a prior normative concept, designating the infringement or illegal and immoral transgression of the norms referring to the duties of the clerk, of economic agents or of persons performing financial or banking operations¹⁰⁶.

Corruption phenomena are much varied, some of them, like: favoritism, intromission in the activity of clerks or that traditional form “the intervention” – being considered, if not daily facts, at least minor misbehaviors which cannot be sanctioned. We could add other forms of corruption, practiced on a large scale, which result from the influence of money in the political life, more and more mediatized, combined with the decentralization of local power, quick urbanization and internalization of economic relationships¹⁰⁷.

2.5 Smuggling, drugs and weapons traffic

Due to the ample monetary flows it generates, illegal activities (smuggling, drugs and weapons traffic, prostitution, etc.) are an important component of underground economy. Although these actions are mostly criminal and are liable of penal sanctions, their connection with the State’s incomes exists only in certain cases.

International trade with goods that leave yearly from exporting countries “to nowhere” are estimated at billions of euro, with direct implications on the avoided customs taxes and represent only the known side of the smuggling phenomenon. Direct evaluation of financial flows resulted from drugs traffic, based on international banking statistics and on the statistics of capital movements from payments balances is impossible. Neither the International Monetary Fund, nor the Bank for International Settlements can catch in their statistics the entire range of financial centers and, especially, the *off-shore* centers where most of the money coming from drugs circulate. Indirect methods can provide, at the most, an idea on the turnover from this area¹⁰⁸.

3. Economic models for determining underground economy – Lacko’s method

In order to delineate the scope of underground economy, for the purpose of identifying control methods, this phenomenon must be defined and also measured.

¹⁰⁵ Ibid., pp.226

¹⁰⁶ Dan Baciu, Sorin Rădulescu, *Corupția și crima organizată în România*, Editura Continent XXI, 1994, pp.16

¹⁰⁷ Vasile Dobrinoiu, *Corupția în dreptul penal român*, Editura Atlas Lex, București, 1995, pp. 17

¹⁰⁸ Nicolae Craiu, *op. cit.*, pp. 51

However, underground economy is also "hidden", "unregistered", "unofficial", etc so that its quantification is, to say the most, *an inexact science*. On an international level, several calculation methods have been established; however, mention should be made, that applied to the same country and to the same period, the results are rarely concordant, sometimes being completely different.

Shaping and defining underground economy as a system are used by a modern estimation method of the underground economy level. This method, called *the method of household electricity consumption* has been introduced by Maria Lacko and it aims at determining the level of underground economy in several European countries by means of one model.

It starts from the premise that in each country a part of the familial electricity consumption (in individual households) is used in underground (unofficial) economy. Thus, it is considered that the electricity consumed at the level of households in a certain country is not determined only by obvious causes such as the number of population, the standard of living, the geographical location (with reference to climate), the relative price of energy or the access to other sources of energy, but by the extension of underground economy.

On the other hand, a significant percentage of the unregistered economic agents carry out their activity within individual households or indirectly obtain incomes from them.

In this model, underground economy is represented by three variables:

- the percentage of taxes and dues in GNP,
- the ratio between the active and the inactive population,
- the level of social public expenditures reported to GDP.

The first two variables represent obvious relationships: the bigger these percentages, the bigger will be the quantum of underground economy. A high level of taxes determines more economic activities to move to the underground while a high level of the inactive population leads to an increased supply of labor force on the market of underground economy.

As to the third indicator, the bigger it is, the harsher will be the measures taken by the State for tax collection which reduces the level of underground economy.

The *equation describing the impact of factors* which determine the household energy consumption is the following:

$$ER_{ij} = 1C_{ij} + 2AG_{ij} + 3G_{ij} + 4Q_{ij} + 5PR_{ij} + 6H_{ij}$$

where:

i: the country, j: the year

ER_{ij}: energy consumption on inhabitant in a certain country and in a year (kwh),

C_{ij}: household energy consumption on inhabitant,

AG_{ij}: percentage of the gross national product realized in agriculture,

G_{ij}: coefficient for climatic differentiations, that is the relative frequency of the months in which heating is required, multiplied by the average temperature in January,

Q_{ij}: the percentage of energy sources other than electrical energy from the total household energy consumption,

PR_{ij}: the price of kwh consumed by the population (expressed in US \$),

H_{ij}: output from the underground economy (on inhabitant).

On the other hand, the *equation describing the effect of factors* which determine the level of underground economy is:

$$H_{ij} = 1TL_{ij} + 2TC_{ij} + 3D_{ij} + 4I_{ij} + 5EX_{ij}$$

where:

TL_{ij}: level of taxes on labor incomes,

TC_{ij}: level of taxes on capital incomes,

D_{ij}: decline of the output as compared to the year 1989: $D_{ij} = 1 - (PNB_{ij}/PNB_{1989})$,

I_{ij}: inflation rate at consumer goods,

EX_{ij}: governmental expenditures, percentage from GNP.

4. State fiscal policy and underground economy

State fiscal policy represents a certain conception of the State as well as a range of measures and actions concerning the role of taxes in the system of budget incomes, types of taxes, their perception and use, as an incentive of economic growth, the way in which fiscal efficiency is thought in a certain country¹⁰⁹.

The goal of conjuncture policy is the stabilization of economy through countercyclical methods: expansionist, in recession periods and restrictive, in expansion periods. Thus, State fiscal policy significantly influences economic conjunctures either through the modification of the tax rate, or through changes in the structure of State expenditures.

The change of the tax rate and/or of the share of budget resources categories in the sum of State incomes differs according to the economic situation at a certain moment: in case of recession, when economic recovery is planned, tax rate will be reduced, direct taxes will be less burdening, etc. and in case of economy overheating, contrary measures shall be taken.

It is generally known that an increase of indirect taxes generates inflation (reduced economic growth) and in case of recession, the decision to opt for preponderant favoring of inflation decrease at the risk of disfavoring the rhythm of economic growth is difficult and highly debatable, the instruments of fiscal policy being determinant.

The existence of underground economy in full development determines erosion in the growth of the tax rate which leads to a decrease of fiscal returns and to the State's deprivation of a part of its incomes, giving rise to budget disequilibria or to the accentuation of the already existing ones. The erosion of the tax rate and, consequently, the diminution of budget incomes imply the restriction of the State's manipulation possibilities in the economic, social, etc. field.

In this field, the most eloquent analysis is provided by *Laffer curve* and by the theory "*too much tax, no tax*" which aim at explaining the relationship between the tax rate and the level of fiscal incomes or the relationship between the extent of taxes and that of underground economy. Thus, the more a tax is based on an increased tax rate, the more increase the State's fiscal earnings but, over a certain tax threshold, earnings start to decrease. This causes a migration of the activities from the sector of real economy to that of underground economy.

The obligation to pay taxes started at the same time with the apparition of the State and of the law in the human society and, along the years, the attempt to elude this system was weaker or stronger, according to the increase or decrease of taxes. Irrespective of the used terms: fiscal

¹⁰⁹ ***Academia de Studii Economice, *Economie politică*, Editura Economică, București, 1995, pp. 435

burden, fiscal pressure, fiscal coefficient, rate of obligatory extractions, etc, the general idea is that of an obligation towards the State and of the diminution/amputation of particular incomes¹¹⁰.

The *fiscal pressure* indicator (or *fiscality rate*) represents the ratio between fiscal earnings (of the State and of local collectivities) and GDP or GNP, expressed in percentages. This indicator measures the share of the tax in the achieved wealth and allows the determination of the fiscal burden. The rate of obligatory extractions is often emphasized as an indicator measuring the degree of State intervention and is frequently used for making international comparisons, especially in order to measure the differences between countries, mostly in matters of fiscal pressure¹¹¹.

5. Conclusions

It is unanimously accepted in economic theory and practice that, in a certain country, the reality of macroeconomic indicators' dimensions is affected by the size of underground economy. A macroeconomic analysis based on indicators which are not corrected with the „share” due to underground economy cannot be true and the fundamental prognoses based on such analyses are unreliable.

The indicators which characterize economy appear distorted by the existence of an informal phenomenon, of variable sizes, but present in all countries and leading to a false reality perception at the level of the decision factors.

All these elements influence not only the decisions of economic policy but certain unexpected effects as well, due to the major impact of the unofficial sphere on the official one. On an international level, the obvious growth and refinement trends of the methods used by the „practicants” of underground activities impose the need to know and to evaluate this phenomenon, to establish the possible reaction ways of the public power, according to the cost and consequences forecast on the short term and, especially, on the long term, of the adopted measures. Analyzing this aspect, we start from the premise that “underground economy was not invented and will not disappear in Romania”.

We should learn from other countries' experience, but it is impossible to make a research in underground economy by translating from international literature. Although it is necessary to examine this phenomenon in our economy, in order to refute its negative impacts, we must perfect our laws and improve the bodies charged with the supervision and control of this phenomenon so as to put a limit to its disastrous effects in our country.

References

1. *Academia de Studii Economice, Economie politică, Editura Economică, București, 1995;*
2. *Dan Baci, Sorin Rădulescu, Corupția și crima organizată în România, Editura Continent XXI, 1994;*
3. *Angelica Băcescu- Cărbunaru, Analiză macroeconomică, Editura Economică, București, 2002;*
4. *Ionel Bostan, Controlul financiar, Editura Polirom, Iași, 2000*
5. *Mariana-Cristina Cioponea, Finanțe publice și teorie fiscală, Ed Fundației România de Măine, București, 2007;*
6. *Nicolae Craiu, Economia subterană între da și nu, Editura Economică, București, 2004;*
7. *Vasile Dobrinioiu, Corupția în dreptul penal român, Editura Atlas Lex, București, 1995;*
8. *Nicolae Hoanță, Economie și finanțe publice, Editura Polirom, Iași, 2000;*
9. *Nicolae Hoanță, Evaziunea fiscală, Editura Tribuna Economică, București, 1997;*

¹¹⁰ Mariana-Cristina Cioponea, *Finanțe publice și teorie fiscală*, Editura Fundației România de Măine, București, 2007, pp. 205

¹¹¹ Nicolae Craiu, *op. cit.*, pp. 123

10. Dragoș Pătroi, *Evaziunea fiscală între latura permisivă, aspectul contravențional și caracterul infracțional*, Editura Economică, București, 2007;
11. Ștefan Popa, Cucu Adrian, *Economia subterană și spălarea banilor*, Editura Expert, București, 2000;
12. Daniela Lidia Roman, *Finanțe publice internaționale – Asistența pentru dezvoltare acordată României*, Editura Economică, București, 2006;
13. Daniela Șarpe, Emil Gavrilă, *Microeconomie – Teorii și aplicații*, Editura Economică, București, 2002;
14. Iulian Văcărel, *Finanțe publice – Ediția a VI-a*, Editura Didactică și Pedagogică, București, 2006;
15. Peter M. Gutmann, *The Subterranean Economy*, 1977;
16. Simon R. James, *Taxations*, 2002;
17. Pierre Pestieau, *L'Economie souterraine*, Paris, Hachette, 1989;
18. Friedrich Schneider, Dominik Erste, *The Shadow Economy*, 2002;

Competition Rules and Constrains of Activities of the Credit Public Insurers

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Abstract

Granting of credits for export, with the state support developed so much after 1950, as it was necessary the adoption of norms for insurance of a certain international discipline for the purpose of limitation of disadvantages. In the current activity on the granting of export credits, it can be observed a very important issue, the need of affiliation to a set of standardized rules, on international plan. Although very hard, it was agreed that this issue to be performed with a large range of aspects that could give birth to interpretations. Therefore, under the OECD mark, it contrived a uniform, international regulation for the export credits and implicit for the credit insurers, for avoidance of non-loyal competition. This regulation became compulsory within the European Union by its inclusion in the community acquis. Certainly, being given the obligation of Romania to adopt the community acquis, assumed by the Affiliation Treaty to the European Union in 2005, it is necessary to take the measures for, in the future, to be observed by Romania, too.

Key Words: competition right; credit insurance; "*Consensus*"; risk in the financing of exports; credit risk; prevention/ limitation of consequences of risk production; insured; credit public insurer; The European Union; trust operations; aid credits; mix credits; OCDE; Import Export Bank of Romania;

1. Necessity of taking certain constraining measures

The politics regarding competition is one of the major interest points for each and every state and for the international community in its whole. Starting from this ascertainment and from the attention paid by the legal officers of competition, it has been developed a true right of competition.

The purpose of the right of competition is to protect the economic competition, by the politics regarding competition, in its whole, does not have only economic purposes, but also social and political purposes. It regards not only the promotion of an efficient production, but also the performance of economical politics, promotion of economic increase, increase of life standards, tight connection between the states¹¹².

Towards the necessity of economy protection against the anti-competition practices, it has been asked the question if the insurance of credit to export, practiced directly by the state or by a legal entity of private right, does not constitute more than an aiding form or a subvention form, than a real insurance.

The state support responds to the favoring necessity of external trading, either for stimulating the national industry affected by dole, or by a more general plan, to improve the situation of

¹¹² O. Manolache, Regimul juridic al concurenței în dreptul comunitar, Ed. All, Bucharest, 1997, p. 2.

accounts balance and facilitate the entry on new markets. The insurance of credit to export strengthens the position of beneficiary enterprises. The fundamental difference, which establishes between the aid measures and contemporary insurance of credit to export in its common manifestations, is that the insurer state does not accept the processing of credit risks but in exchange for a true counter-performance, the premium. This premium is not only a nominal value intended to cover only the management expenses, it is computed depending on the covered risk. The computation of probabilities is difficult to apply for the coverage of risks from the external trading, but the insurer organs try to insure the financial balance of their operations, they pretend to insured the premiums that are a serious counter-performance¹¹³.

The aid of state subsists to save financially the insurer organ in case of need, but it is, mainly, *self supporting*¹¹⁴: the insurer organ grant their risks, trying not only to cover the sinister from the funds for premiums, but also to constitute reserves for the future.

The decision given on February 17, 1959, by the O.C.D.E. Council confirms this distinction criterion. The insurance of credit to export is included in a list of aid measures to export, but only for the case when the value of premiums, considered on long term is not evidently sufficient to cover the costs and prejudices suffered by the insurer organ. The main restrictions have been imposed in the matter of insurance of the credits for export by O.C.D.E. and by the European Union, fact for which, in the current study, we will follow the two directions.

2. O.C.D.E. Regulations

O.C.D.E. issued the first regulations in domain, which regard the credits to export. They are the result of efforts made by the main exporting states, which, by the *summits* at Rambouillet (1975) and Porto Franco (1976), established mainly the need of avoidance of an excessive over-request regarding the public aid, granted to exporters. After difficult negotiations, the seven main exporter countries¹¹⁵, without concluding a properly treaty, decided that starting from July 1st 1976 to lead convergent national politics regarding the export credits, therefore accepting their alignment.

Under the aegis of the trading committee of O.C.D.E., and other states that do not have the member¹¹⁶ quality affiliated progressively to this first „*Consensus*”, as it was named, which otherwise has been modified and completed by a more formal agreement, into effect since 1978.

These regulations regard the credits to export, which benefit by a public aid, either as financing, or their insurance. They establish the maximum period of the granted credit to a foreign purchaser, the minimum debt with which this credit will be re-financed and the participation of purchaser (*aconto*).

This way, there are established the most favorable conditions that may be granted to exporters, but these regulations will not apply if, in accordance with the international provisions, the trust conditions for acquirement of certain products are less favorable than those provided by *Consensus*.

The regulations adopted in 1976 and 1978 have been modified for several times, consequently to the successive compromises that more underline than hide the profoundly adverse interests

¹¹³ I. Cârnu Albu, Asigurarea creditului, Ed. Rosseti, Bucharest, 2002, p. 95.

¹¹⁴ It finances its activity only from earnings, respectively from its own incomes, without appealing to other sources.

¹¹⁵ EX R.F.G., Canada, USA, France, Italy, Japan and the Great Britain.

¹¹⁶ Austria, Australia, CEE, Finland, Norway, New Zealand, Sweden, Switzerland.

of the participants to *Consensus*¹¹⁷. These antagonisms regard the industrial and trading interests of states in the worldwide expansion and in the fight for conquest of new markets. The disputes between the states also result from the diversity of financing systems, some of them being based on the idea of tight connection between the export activities and state's activities, and others on the un-gravating of public power by the liabilities regarding the support of export.

Certainly, these regulations are compulsory for the trading banks, persons of private right or for the insurers that act on their own account or on the account or by the aid of state. The regulations included in the *Consensus* indirectly influence also the financing institutions, persons of private right, in the sense that if these will intend to grant a credit to export (*acheteur* credit or for the production of goods to export), will confront with the refusal of credit insurers, which act on its account or with the state support to insure such credit.

Remember the fact that the O.C.D.E. Agreement, regarding the guiding lines for credits to export, benefiting by the public aid (*Consensus*), has been adopted as community rule by the decision 93/112/CEE of the Council. Therefore, this agreement received the power of legal norm, its observance being insured on the European Union territory.

In which regards directly the activity of insurers of credit to export, which act on its account or with the state support, also within O.C.D.E., it has been concluded an agreement, named „*Knaepen Package*”, which includes the main guiding lines, regarding the premiums and related conditions, applicable to the credits to export, benefiting by the public aid. This agreement, in force since April 1st, 1999, reformed the system of premiums and of the methodology of evaluation of the country risk.

As in the “cost” of credits to export, it is also included the insurance premiums, the harmonization of premiums will establish the alignment of the costs of credits to export, on medium and long term, which benefit by public support. As a matter of fact, the *Knaepen* Agreement indicates the explicit means that it also addresses to insurers, warrants or financiers to perform the alignment of prices of the products offered by them in the traditionally named “related conditions”.

The main guiding principles relating to insurance bonuses applied against country risk¹¹⁸ are the following:

- ✚ the bonuses are always calculated on a risk;
- ✚ eliminating distortion and leveling the competition conditions is related to the difference in the quality of products offered;
- ✚ the bonuses must not be insufficient for the cover of administrative expenses and long-term losses;
- ✚ the conditions for establishing the bonuses are transparent for the export credit institutions of the states participating to the *Consensus*;
- ✚ the bonuses concern medium to long term credits with a repayment period of more than two years (except for exports of agricultural products and military sales). By the establishment of minimum bonuses (Benchmarks), the possibility of concluding agreements for co-insurance and reinsurance is increased. In some cases, limitative provided by the agreement, the decrease in insurance bonuses below the minimum is accepted, but only in the case of credit insurance against country risk.

¹¹⁷ G. Barral, L'assurance des credits a l'exportation, Ed. Economie, 1987, p. 297.

¹¹⁸ Defined as the materialization of the risk of losses due to the facts and political and macroeconomic developments in that country

These exceptional cases, where the insurance export credit can be cheaper, refer to the existence of some cases where the credit is accompanied by certain guarantees¹¹⁹:

- ✚ Unconditional security emanating from a third country;
- ✚ The existence of an account seized opened outside the buyer's or borrower's state;
- ✚ the establishment of an actual guarantee on certain stock or debt affected outside the purchaser's or borrower's state;
- ✚ the establishment of a mortgage on some property situated abroad;
- ✚ Insurance or guarantee provided by a third state;
- ✚ The existence of an agreed debtor, acknowledged as being less risky than the National Bank or the correspondent Ministry of Finance;
- ✚ The co-financing status along with international financial institutions;
- ✚ Financing in national currency, in which case there is no currency risk (transfer).¹²⁰

As insurance bonuses are calculated according to risk, through the Knaeper-Package Agreement methods of risk classification are harmonized too. From this perspective, the models used by COFACE and Ducroire (Belgium) for many years, were taken largely by the OECD.¹²¹

Methodology Expert Group O.E.C.D. uses three factors established by precise equations: economic situation, financial situation and past experience in payments. The fourth factor, which concerns the political context, is not established by addressing the equations. In assessing risk, O.E.C.D. experts appeal to both experiences of credit insurers in respect to payments as well as to public sources, such as the IMF reports or the World Bank, private sources of information that some credit insurers use, are not taken into account.¹²²

3. Community rules on the matter

Treaty of Rome (Article 92 paragraph 1) states that as being incompatible with the common market, outside the exceptions provided, any aid granted by a Member State or through State resources in whatever form it may come, which distorts or threatens to distort the competition by favoring certain firms or the production of goods, insofar as it affects trade between Member States.

State aids, involve therefore, the practice of discriminatory measures that favor national activities, thus they tend to replace customs barriers that were removed and to artificially tear equality means.

Specifically, in practice, the protection of national activities is manifested through the provision of subsidies, including at export, exemption or reduction of tax burden and social guarantees of loans or providing low interest loans or deferment of their refund, transforming guaranteed loans into capital, improper practices on domestic prices for services and products, regional and sector aid, charging para-fiscal fees, whether they are applied to indigenous or imported products, if the distinction amounts collected privileges on the indigenous etc.¹²³
In the interest of fair competition, Community rules on credit insurance have been adopted.

¹¹⁹ In a broad sense, not in the restricted sense of guarantee

¹²⁰ <http://www.oecd.org/ech/act/xcred/knaepen-package-fr.htm>.

¹²¹ *F. Mellorie*, L'offre de garanties a l'exportation en matière de risques politiques, www-etudes.ccip.fr.

¹²² For example, COFACE, after the Asian financial crisis, turned his attention to these private sources, capable of helping to assess "health" of the banking system.

¹²³ *O. Manolache*, Legal regime of competition in EU law, Ed All, Bucharest, 1997, p.272

I. A first rule in this domain was Directive no. 70/510/EEC on adopting a common policy, for credit insurance on transactions with medium and long term with private buyers.¹²⁴

This referred to the activity of credit insurance organizations acting on behalf or with state support, which were obliged to fulfill the general conditions¹²⁵ listed in the Directive.

II. This Directive was repealed by Directive no. 98/29/EC of May 7, 1998 on the harmonization of the main provisions concerning insurance export credits for operations on long and average term.¹²⁶

In the very preamble of the directive the primary role that insurance export credit plays in international trade is stressed, the essential tool of trade policy, and that the differences between insurance systems export credit may cause production distortions in competition between enterprises.

The directive defines the characteristics of the loan provider and acheteur, it defines the manufacturing risk and credit risk, it establishes the principle of maintaining part of the insured risk load by the insurant (by setting the uninsured quote), lists causes of sinister and widely indicates the way of calculating the bonus and compensation.

Be noted that this Directive does not impose the limitation of the insured quote, but requires that the high level of insurance is to reflected by the determination of the amount received and that this situation should be notified.

The Community concept¹²⁷ of the term "supplier's credit" applies to a contract for export of goods and / or service done by one or more suppliers and one or more buyers, whereby the buyer (s) undertakes to pay the price in a certain period.

If a commercial contract is funded by a credit acheteur or by another financing arrangement, the insurance provided to the exporter, paid under the contract, complies with the rules applicable to insurance credit supplier.

The term "Credit acheteur" refers to a loan contract entered into by one or more financial institutions with one or more borrowers for financing a commercial contract for export of goods or services and under which lending institutions are required to pay for the account of the buyer-borrower to the supplier (suppliers) of the commercial transaction.¹²⁸

Under the Community legislature [Art. 5 point. b) of the Appendix to Directive no. 98/29/EC], in order to assess the status of the debtor, the insurer must take into account the following considerations:

- ✚ Legal status of the borrower (the public debtor is any entity that represents, in any form the public authority and that can not be declared insolvent through a judicial or administrative way);
- ✚ The real effectiveness of a legal action against the debtor;
- ✚ Sources of funding and income of the debtor;
- ✚ The degree of influence or control that the public power can have on the debtor.

¹²⁴ J.O.C.E. no. L 254 of November 23, 1970, repealed on June 7, 1998 by Directive. 98/29 EC.

¹²⁵ Regarding the definition of manufacturing risk, credit risk, generating sinister facts, the obligations of the contract parties, compensation, etc..

¹²⁶ J.O.C.E. no. L 148 of May 19, 1998, in force at present.

¹²⁷ Article 2 point a) of the Annex to Directive no. 98/29/EC of May 7, 1998 on the harmonization of the main provisions concerning insurance export credit on long-term and average operations.

¹²⁸ Article 3 point. a) of the Annex to Directive no. 98/29/EC of May 7, 1998 on the harmonization of the main provisions concerning insurance export credit on long-term and average operations.

The manufacturing risk is considered achieved when the execution of the contractual obligations to the beneficiary of the insurance contract or when the manufacture of goods ordered is discontinued for a period of 6 consecutive months due to one of the factors causing sinister [art. 6 points. from the Appendix to Directive no. 98/29/EC].

Credit risk is achieved when the beneficiary of the credit insurance contract is unable to recover the capital and interest thereon, under commercial contract or loan agreement for a period of 3 months from the due date, if this inability comes directly and only from one or more sinister factors of [Art. 6 point. c) from the Appendix to Directive no. 98/29/EC].

There are sinister factors the following situations:

1. Insolvency established legal or factual;
2. disappearance of the debtor and, where applicable, of its guarantor;
3. the decision of the beneficiary buyer of a credit supplier to suspend or cancel the commercial contract or reject arbitrary the taking of goods or services ordered.
4. any act or decision taken by the government of a country, other than that of the insurer's or of the insurance contract beneficiary's, as well as any act or decision of a similar public authority, that constitutes an obstacle in performing the contract loan or the commercial contract;
5. general moratorium addicted by the State Government or a third party debtor state, through which the payment due under the loan contract or the commercial one is made.
6. political events, economic difficulties or legislative or administrative measures taken outside the insurer's state, which prevent or delay the transfer of sums paid under the contract of loan or the commercial one;
7. legal provisions adopted by the debtor's state who declares as liberating the payments in local currency, although, due to fluctuation in exchange rates, these payments converted into the currency of the loan or commercial contract do not cover the amount of the claim at the moment of the transfer of funds;
8. any action or decision taken by the insurer's State Government or by the beneficiary's of the insurance contract and in particular any decision of the EC regarding trade between a Member State and a third country, the nature being one of an export ban, if its effects are not covered by the government as it is ;
9. force majeure occurring outside the insurer's state , such as war, civil war, revolution, rebellion, social unrest, cyclone, flood, earthquake, volcanic eruptions, floods and nuclear accidents if their effects are not otherwise covered.

Regarding compensation, the insurer must not pay the policyholder an amount greater than the actual loss or greater than it would have been entitled to receive from the debtor, the payment being made in the months following the expiration of the delay of payment that represents sinister (Art. 27 of the Appendix to Directive no. 98/29/CE).

Community legislature paid particular attention to the way in which the insurance bonus shall be set, establishing the following principles (Articles 32-38 of the Appendix to Directive 98/29/EC):

- ✚ the bonus must first correspond to the risk for which the insurance was made(country risk, public and / or private);
- ✚ the bonus must reflect the amount and conditions granted;
- ✚ the bonus must not be set at a insufficient level that would not cover costs and losses on a long-term management.
- ✚ In determining the bonus, the insurer will consider the quantity, the assessment of the country risk, creditworthiness of the debtor and the total risk duration.

Following the adoption of this Directive, the Commission adopted on April 29, 2002 a report on lessons learned and convergence achieved in applying the Directive 98/29/EC.

III. And in the field of credit insurance from short-term transactions with public and private buyers, a Directive ¹²⁹(71/86/EE of February 1st, 1971) was adopted on the harmonization of essential provisions.

Under this Directive, Member States must observe as credit insurance agencies, acting with the support or on account of the State, to close insurance contracts in compliance with the provisions in the Directive's Appendix.. These provisions are similar, in most part, with the rules laid down by Directive 98/28/EC, so we will not insist on them.

IV. The Commission too adopted on 17 September 1997 a Communication to the Member States on implementation of Article. 92 and Art. 93 of the Treaty in the short term insurance of export credits¹³⁰, aiming at the suppression of distortions in competition, caused by state aid in the insurance of export credits sector , where there is competition between public organisms or insurers of export credits operating with the state's support and private insurers of export credits.

Analyzing the legal aspects regarding the competition between them, the Commission concluded that the following factors are likely to create distortions in competition in favor of public insurance of export credits or insurers acting with the support of the State, reason for which the Member States are asked to proceed to their elimination within one year.

- ✚ ensuring by the state of the insurer's loan and losses resulted from this activity. Such guarantees allow the insurer to borrow and benefit from lower interest rates than those prevailing in the market or it determines them to no longer re-insure on the private market;
- ✚ any difference between the obligations of the public insurers and private insurers in respect to the obligation of constituting provisions corresponding to insurances of export credit on the short term. It is to be noted that the Directive no. 239 of 1973 was amended by Directive. 343 from 1987, so that public insurers or acting with state support must establish provisions for the activity of insurance export credit on short-term, but this requirement does not impose for long-term activity;
- ✚ total or partial exemption from the obligation to pay taxes owned naturally by other insurers;
- ✚ giving state aid or contributions made by this to the capital of the insurer. In this category are included all services as those for the provision of infrastructure and public services, of privileged information (such as, use of embassy services to obtain information on a debtor), when right price is not reflected. Also, under state aid reinsurance services provided by the state are included, directly or indirectly, through a public organism of insurance of export credits or with the state's support, under conditions more favorable than those on the private reinsurance market such as excessive lowering in the price of reinsurance.

By verifying the factors identified by the Commission, they reach the conclusion that in the past the activity of Eximbank Romania was likely to create distortions in competition due to the recapitalization¹³¹ and that since the accession of Romania to the European Union such a practice needs to be avoided.

¹²⁹ Directive. 71/86/EEC (JOCE no. L 36 of February 13, 1971).

¹³⁰ J.O.C.E. no. C 281 of 17 September 1997 and amended in 2001 and 2005.

¹³¹ REGULATION. no. 17/2002 (M. Of. No. 146 February 26, 2002), GEO no. 174/2005 (M. Of. No. 1120 of December 12, 2005).

References

1. Association „Henri Capitant” - *Les garanties de financement - LEDY, Paris, 1998;*
2. G. Barral, *L'assurance des credits a l'exportation, Ed. Economie, 1987*
3. Cârnu Albu Iulia, *Asigurarea creditului, Ed. Rosseti, București, 2002*
4. O. Manolache, *Regimul juridic al concurenței în dreptul comunitar, Ed. All, București, 1997*
5. Mellorie, *L'offre de garanties a l'exportation en matière de risques politiques, www-etudes.ccip.fr.*
6. Yves Simon, Samir Mannau - *Techniques Financières Internationales, Ed. Economica, 2002, Paris*
7. <http://www.oecd.org//ech/act/xcred/knaepen-package-fr.htm>.
8. *Publicația nr. 500 a CCI Paris referitoare la Regulile și Uzanțele Unifforme privind Creditele Documentare*

Financial Flows of the Enterprise

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Abstract

Enterprise and Environment conducted economic processes through exchanges involving the transfer of goods and money. Genesis cash flows are running the actual flows, and both bind the necessary capital management. Exchanges give rise to the company's financial life, as is done with money or their substitutes. For implementation of its objectives (the production and / or services) and the intended purpose (profit) enterprise (company) as a link to input markets, consumers and the financial market. The financial flows are the development of means of balance sheet, the debt, the net positions and actual movement of the currency.

Keywords: production function, financial flows, financial balance(liquidity – chargeability), economic flows, cash flow.

As an economic entity, the company is a combination of factors combining to produce and exchange goods and services with other businesses. Therefore, its purpose is to make goods and services acquired to provide goods and services of other traders. The business is based on work on the production and exchange.

Whatever form of property or of its size in a business environment which creates opportunities and constraints stemming mainly from the financial environment and define the subject of financial management, the enterprise shall provide the means it needs, connect their products and / or services, performs collection and payment.

The enterprise can be considered economic entity, human organization and decision center operating in an environment consisting of four interrelated components: industry-commercial, social, and financial state. In the context of the industrial-commercial to create relationships that are established between the company and its various business partners in processes of formation of material factors of production and realization of assets and / or services resulting from the operation of mining processes.

Social component of environmental work regards relations with employees and managers that the company meets on job market and requires reports on employment, use and remuneration of labor. Most complex component of the business environment of the enterprise is financial. It concerns the relationship that develops companies with the financial market in the processes of formation and utilization of its capital.

Content and conditions of financial problems the company undertakes are related, obviously, the financial environment characteristics and its own merits. Organization as a whole, is characterized by equity ownership by exercising the function of production and participation in a complex relationship between the domestic ones own organizational structures and functional and external nature of the environment in which they operate through relationships continue with: suppliers, customers, the banks and non-bank financial institutions, capital market, with different bodies and state institutions to achieve its objectives.

Thus, the enterprise is an entity that involves a whole combination of factors employed to produce and exchange goods and services with other businesses. However, the company is regarded as the basic cell of the national economy. It is the result of combination of factors of production, material and human resources, aiming to create goods and services for sale. To be and to work, companies must have capital, which is formed from a complex process of internal and external cash flows.

Some of these flows expressed relations associated with the creation, development or capital reduction, sharing and use of operating results particularly in profit enterprise. These flows are economic relations, in the form of cash distribution and / or use of funds to the business firms. Accordingly, the financial sectors provide funds and build up their resources to other sectors of the sale and / or services to partners, or financial market. In this situation, we support the key factor that reflects the financial position of industrial and commercial activities and any changes to it endangers the enterprise as a whole, influencing and operating environment. Hence the need to improve the way of carrying out the financial position of the company.

Transfers between participants in the business is conducted based on money, outlined the company's financial life. Of these exchanges depends on the operation of the production process and composition of capital. Any exchange involving two opposite movements: a general transfer of goods and services and other transfer of financial resources.

The amount of property or money transferred in a given period as a result of changes in the production process or between different actors in the company's financial life, affecting the structure and values of property is called flow. Enterprise and Environment conducted economic processes through exchanges involving the transfer of goods and money.

An outstanding American economist, characterized flows as "phenomena of movement, transportation entities and believes that they are six types of flows within an enterprise: material flows, cash flows, flows of machinery, labor flows, flows information, decision flows. Enterprise, regardless of its form of organization, its branch of activity, as the use of its capital, the nature of capital operating in the cash flows and financial nature.

Cash flows are the most important of all flows is presented and the main purpose of the financial implications of economic enterprise. At the same time, these flows of money expresses operations using materialized in transforming their inputs.

Operations occur in the preparation and conduct of economic processes and the conversion of the products or services in cash, which are made at the end of the said processes. Operations involving mainly management of material goods, such as supplies, raw material processing, selling the finished products are called real flows (tangible).

Economic flows, i.e. the period of annual revenue and expenditure are generated primarily from three areas of activity:

- operation, which is the dominant activity (basic) which aims to determine profit enterprise;
- Financial holdings in the capital of other companies and other investment activities.
- Extraordinary, referring to operations management and capital operations not related to normal business day.

Operating activity and financial activity is the regular business of the company. Financial life of the enterprise is conducted in a business environment where transfers occur between the three types of flows:

- inflows (inputs) represented by the transfer of capital (financial flows) and assets (real flows) needed for production;
- output streams (outputs) embodied in products and / or services produced (actual flow) and capital (financial flows);
- Autonomous flows without physical counterpart after the transfer operation.

Monetary and financial flows depend on a number of variables related to business, but also outside the enterprise environment. Movement of goods and services in an enterprise, mediated by processes of transformation (production), may be in the form of streams, as noted in the following figure. Economic flows are of two kinds:

- real or physical flows (goods, services, inputs);
- financial flows and monetary (money or substitutes / income and expenditure).

Grouping streams in cash flows and actual flows (body) is made to explain the financial management of business content aimed at procuring capital in time to the lowest possible cost and its allocation and the efficient use and then recovery of, and therefore they get a monetary surplus sufficient to cover its predetermined destinations.

The amount of money allows the purchase of goods and services needed for production and supply of goods produced and services created. By moving its currency raises financial flows, flows real input output their respective financial flows and vice versa.

Genesis cash flows are running the actual flows, and both bind the necessary capital management. Exchanges give rise to the company's financial life, as is done with money or their substitutes. For implementation of its objectives (the production and / or services) and the intended purpose (profit) enterprise (company) as a link to input markets, consumers and the financial market.

Cash flows, in turn, are classified into:

- dependent or counterparty;
- Autonomous.

Counterparty cash flows are created by the event prior to actual flows. These flows can be immediate or delayed. Therefore, undertaking proxy machinery, raw materials market inputs, etc.. Cash flows are the amounts used to pay the equivalent of supplies mentioned. In the consumer market is delivering products and / or services resulting from manufacturing operations, which bring real flows, this time from the company to buyers of products and / or its services.

If the counterparty cash flows take place concurrently with the real time flows are called immediate flows. Otherwise the cash flow streams is called dependent offset. Cash flows offset (in time) produce goods (products) accounts. Thus, a good currency exchange companies (product) financial course of specific, named financial operations. Products (good) financial materialize a debt due from the supplier and a buyer.

Cash flows occur when autonomous execution of the loan. Thus, the formation of a business is related to the submission of its capital, whose existence depends on the need for running its links with financial markets .

Is undertaking or increases the total capital by issuing shares, bonds and bank credit contraction, or by capitalization of part of the performance - pure financial transactions. Consequently, capital firm formed by autonomous flows of financial accumulation earlier,

outside or in business, flows that originate in the operations of the independent production and lead to quantitative changes, or the nature of various financial assets. Additional cash flows to the real flows of financial flows are autonomous, which is the capital of the company. Autonomous financial flows are performed and when the price paid capital employed, that payment of dividends and interest.

Finally, cash flows generated by economic activity of the company are related, first, the acquisition of capital, its use in accordance with the needs that requires smooth body flow and secondly, so full recovery thereof, and obtaining and using the profit.

Cash flows and takes the form of flow rate when undertaking foreign trade activities, whereas cash flows expression tangible (real) can be made not only in domestic currency but other currencies.

The concept of flow has been clarified in many literatures. A definition under IAS 7, showing that flows meet all the movements that have an impact, either immediately or delayed on the liquidity of the enterprise. General Classification of economic flows as financial theory of IAS's 7 is as follows:

- 1) Flows that have an immediate or delayed impact on the liquidity (cash), in which stand out:
 - a) real or natural streams, which correspond to purchases or sales of goods and services that impact on cash through payments that immediate earnings (cash) or deferred (credit);
 - b) cash flows, not as a counterpart physical flow of goods and services (such as tax payment, collection or payment of interest, dividend payments, repayment of loans) and have an immediate or delayed effect on the liquidity (cash), after or not as a time between the decision to achieve operation and the actual receipt or payment;
- 2) accounting movements without immediate or delayed impact on the liquidity (Treasury), which are designed to correct the record financial results when adjusting inventory and records division while revenues and expenses, are also called accounting discrepancies.
- 3) accounting movements without immediate or delayed impact on the liquidity (Treasury), which are reflected in the records for:
 - a) adjust the values of assets and liabilities: depreciation, reserves, revaluation differences, internal operations to increase capital, accounting errors, are also called flows or no flows fictitious.
 - b) playing the part of the active contribution operations, merger, division, are also called on changes to the basic movements.

In the picture flux is used first category of flows. Sometimes, depending on the financial outlook and pictures flow model chosen, can be used for flows in the second category.

Typical feature of financial flows, according to the concepts of the financial balance are:

1. in terms of flow assessment:
 - a. flows at historical cost and accounting
 - b. current flows to values, which take account of factors that distort values accounting, such as inflation, exchange ratio of the national currency, the real degree of obsolescence of goods.
2. in terms of how tracking flows during a year of accounting or accounting system adopted, the flows are classified into:
 - a. cash flows (cash). This cash flow is the amount released in a given period and is determined as the difference between receipts and payments period. Change in cash express the result of business activities. Cash flows are made based on cash accounting or receipts and payments.
 - b. flow of funds (the uses and sources);

These are all real flows related to business activities, irrespective of the receipt or payment. Flows of funds are also called potential cash flows to the extent that lead to actual cash flow, short or long. Flows of funds are reflected in the increase or reduction of uses that source. Exemplifying their balance sheet involves the establishment and implementation of accrual accounting.

The importance of cash flow is essential for the undertaking to operate and develop in line with overall strategy and policy. The importance of financial flows of the company (the cash flow) stems from the following considerations:

- ⊙ cash flow is an indicator of value, time of appearance and safety of future cash flows;
- ⊙ financial flows allow assessment of the company's capacity to adapt to new opportunities;
- ⊙ allow users to rate changes the net assets of the company;
- ⊙ supports users to evaluate the financial structure, liquidity and solvency of the company;
- ⊙ company highlights the company the ability to generate cash or cash equivalents;
- ⊙ allow a company to build analytical models, performing simulation of present value for future cash flow;
- ⊙ supports comparability between companies, operating results, whereas eliminate the effects of using different accounting treatments for the same transactions and events;
- ⊙ verifying the accuracy of past assessments, to reflect the future cash flow;
- ⊙ flow historical numbers used in the flow historical numbers used in the analysis of correlations between profitability and cash-flow current and current changes in prices.

The objective of an enterprise requires the existence of a flow of cash flows, flows that transform the material elements necessary to conduct the activities.

Cash flows are inflows or outflows of cash and its equivalents including availability of existing cash money in hand or in bank accounts and their similar elements. Knowledge of cash flows of a company is required to maintain the economic decisions and development activity and is linked to feedback about the firm's ability to generate cash, cash identify moments occur, their safety in generating cash and the company needs to use knowledge those flows. Establish cash flow statement is made in view of the international accounting standard IAS 7, which govern it. Businesses need cash to carry out their activities, to extinguish obligations to pay investors. Cash flow analysis facilitates users assessing company business, liquidity and solvency (financial structure) and the ability to generate cash business.

Cash flows correspond business activities grouped by functional criteria in operating activities, investment and financing.

Presentations concluded earlier, the prevalence of cash flow shows the results of the capacity of an enterprise to generate cash in the developed economies profitability indicators.

Cash-flow statement should highlight the existence of movement and transformation of cash on three types of activities namely:

- ▣ operational activities;
- ▣ investment activities;
- ▣ financing activities.

a) Cash flows from operating activities are derived from the principal revenue-producing activities of the enterprise, according to IAS 7 "Cash flow statements". Mining activities are core activities, income generating and other activities not directly related to mining, but are not part of a group of investment or funding (for example, transactions relating to debtors and sundry creditors).

Also, cash flow is a role for the future of the enterprise, since these activities are major components of revenue and cash flow is the main source of funding for production, investment and payment of dividends to shareholders.

Thus, the analysis flows from operating activities results give an idea of how business activities have generated sufficient cash for payment of loans; maintain economic and financial indicators, investors pay and making new investments without the need for new external sources of funding. So flows arise from transactions within the determination of net profit or net loss. Cash flows are the receipts and payments of an enterprise. Structure earnings report may be addressed:

- source of origin and
- business functions (investment, operation and financing) that generated them.

Correlative analysis of earnings, after the two classifications, involves a more complex understanding of them.

After the source of origin, earnings are divided into:

- Proceeds from sale of goods, execution of works and services;
- Proceeds from the capitalization of stock to third parties that exceed the actual needs or that are not moving, useless;
- Proceeds from the specific market capitalization of securities that the firm held;
- Proceeds from the placement of new shares issued to increase capital;
- receipts from interest, rents, royalties, fees, commissions, dividends, etc.;
- Proceeds from issuance of bonds or bank loans;
- Proceeds from advances received from customers on behalf of future deliveries;
- Proceeds from grants, donations, aid, tax refunds, taxes, etc.

The returns mentioned are either extinction of debts of partners, or employment of debt to third parties. Consequently, the company must adopt appropriate policies for managing each category of receipts listed. And payment structure and the revenue can be studied by several criteria among which we mention: that of the destination and their economic content and functionally. Criterion destination and economic contents of payments reflects that each group occupies a total payment and thus initiate operations to ensure the sound management of each of these categories. If you take into account business function that generates some categories of receipts and payments when their structure is as follows:

Cash flows from operating activities (revenue generated by mining activity) is divided into two segments, namely collection and payment:

- Cash proceeds derived from sale of goods works and services that give content objects of a company;
- receipts from royalties, fees, commissions and other income;
- Cash receipts, called advances, obtained from customers on behalf of future deliveries;
- Cash payments made to suppliers of goods and service providers;
- Payments made to and on behalf of employees;
- receipts and payments representing compensation insurance, annuities and other benefits from insurance policies, those related to operating activities;
- Payments or refunds of income taxes other than those that can not be identified specifically with investing and financing activities;
- Receipts and cash payments from contracts for investment or trading.

Consequently, the financial flows generated by the purchase and sale of trading and investment securities are classified as operating activities.

b) Exposure separate cash flow from investment activities specifically highlights on the one hand the extent to which these activities were self-financed, and secondly the amounts spent on investments that can generate positive cash flows in the future.

Investment activities include all activities related to the acquisition and disposal of fixed assets and other investments not included in cash equivalents.

Specific receipts and payments of investment activity can be:

- ▣ Cash payments made for acquisition of tangible and intangible long-term, and those executed for its own;
- ▣ proceeds from the sale of land, buildings, facilities, equipment, intangible assets previously acquired long-term and other assets;
- ▣ cash payments for purchases of equity instruments and debt and other companies and interests in joint ventures (other than payments for those instruments considered to be cash equivalents or those held with the purpose of investment and trading);
- ▣ Proceeds from the sale of equity instruments or debt of other companies and interests in joint ventures (other than receipts for those instruments considered to be cash equivalents or those held for investment and trading);
- ▣ Cash advances and loans made by other parties (other than advances and loans made by a financial institution);
- ▣ proceeds from repayment of advances and loans made to other parties (other than advances and loans made by a financial institution);
- ▣ cash payments for futures, forwards, options and swaps contracts, unless the contracts are held for investment or trading or when payments are classified as financing activities;
- ▣ cash receipts from futures, forwards, and options and swap contracts unless the contracts are held for investment or trading or when receipts are classified as financing activities.

The need for separate flow exposure related investment activity is that it can track how the initial advances of funds have materialized in assets which in turn will generate revenue fructifca and then turning it in cash.

c) Cash-flow from financing activities highlights the future development of cash from the donor company.

Components of the cash flow from financing activities are:

- ▣ proceeds from issue of shares or other equity instruments;
- ▣ Cash payments made to shareholders to purchase or redeem shares of the company;
- ▣ monetary proceeds from the issue of debt securities, bonds, loans, mortgages and other loans in the short or long;
- ▣ Repayment of substantial amounts of money;
- ▣ Cash payments made by the lessee to reduce the transaction related to a financial lease.

In broad terms, the largest share of total revenue is a debt to customers.

A suggestive indicator that reflects how the firm's cash management relationships with some of its partners that it is customers, "the average collection of claims" (d_{cr}), expressed in days, calculated by the relationship:

$$d_{cr} = \frac{\overline{C_r} \cdot 365}{C_{rT}} \quad , \quad \overline{C_r} = \frac{\sum_{i=1}^{12} C_{r1_i}}{12}$$

$\overline{C_r}$ - average balance of receivables determined that the simple arithmetic average of the balances recorded accounts receivables reflecting the end of each month;

C_{rT} - total claims the company, representing the total amount of accounts receivable claims.

The indicators listed can be calculated, for each claim separately and for all claims. It allows the evaluation of the state projected or actual length of time that collects debts. Thus, it allows judges issue relevant to the improvement or deterioration in the company policy on debt management.

Interdependence receipts and payments involves trial, both in terms of their size and of how each place (orders) over a certain period, i.e. as synchronized. Receipts and payments linked to the objects of a company reflects how it is conceived and carried out the process of capital turnover, that means attaining a proper match between the size of the operating assets and liabilities in the period considered, as a prerequisite to achieving financial balance. Payments are transactions relating to payment of debt also reflect that movement of money resources, representing cash and cash accounts, the business environment, or other operations resulting outflow of cash availability.

Determining the size of payments is of particular importance for the enterprise as enabling it to make money assessment on the scale of efforts which we must face the company in a time. Knowing how the money orders while debts is an important goal in forecast payments are initiated on this basis, appropriate policies have the effect of the creditors to obtain payment terms more relaxed and better correlation with earnings. A representative indicator in estimating payments is "the average time for payments" (d_{pl}) expressed in days. This indicator is calculated by comparing the average balance of obligations (\bar{P}_l) the total amount of credit debt accounts (P_{lt}), so

$$d_{pl} = \frac{\bar{P}_l \cdot 365}{P_{lt}}$$

So, flows from financing activities are necessary, especially for shareholders and creditors because, based on remuneration of funds advanced in prior periods can make predictions about future cash flows. Financing activities result in changes in size and structure equity and debt company. In conclusion, the financial flows are the development of means of balance sheet, the debt, the net positions and actual movement of the currency.

References

1. Bucataru, D., 2008. *The company's finances*, Ed. Junimea, Iasi;
2. Colasse, B., 1989, *Gestion financiere de l'entreprise*, P.U.F.;
3. Mironiuc, M., 2006, *Economical-financial Analysis: theoretical and methodological elements and applications – Sedcom Libris*, Iasi;
4. Neagoe, I., 1997, *The Company finances*, Ed. Ankarom, Iasi;
5. Onofrei, M., 2004, *The finances of the company*, Ed. Universit. "A. I. Cuza", Iasi.

The Role and Importance of Merchandising in Retail Organisations

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Abstract:

Pressure from the competition existent on the market, as well as the current conjuncture, determine organizations to use and respect merchandising techniques in order to ensure a successful image. Merchandising is a notion which refers both to adapting the prior and post sales services system to the customer's needs and to presenting the products in an attractive way and launching them on the market when demand is at its peak. The purpose of this marketing research is that of gathering sufficient information on the subject to be analyzed, to quantify and interpret the results and to highlight the role of merchandising in retail organizations.

Key words: *merchandising, retail, strategy, client satisfaction, needs*

JEL Code: L 83

1. Introduction

The role of merchandising is that of finding solutions to different problems related to the product: the choice of product placement, the amount of products to be presented in the sales department, the manner they're arranged, the presentation material to be used. In other words, we can say the role of merchandising is that of exposing products to the greatest "risk", that of being sold.

Merchandising appeared as a consequence of some considerable changes in the principles of marketing, starting with the birth of "libre-service", and consisting in a series of actions meant to animate and valorize products.

If we enter a modern shop or a supermarket nowadays, we don't necessarily intend to buy anything; but if we leave the shop with less money in our pocket, but with more products, it means merchandising did its job.

In a world without merchandisers, market surveys carried out by specialists pointed out that should 100 person enter a supermarket at the same moment, with the clear intention of buying a certain product, known under the name of tone product, their reaction in case the product is not on the shelves would be the following: 9 of them wouldn't buy anything, turn around and leave the supermarket, 15 consumers would delay the purchase, hoping that the next time they come here they'll find what they are looking for, 19 persons would reconsider and choose another product from the shelves, keeping the same brand though, and most of them, meaning over 50 consumers, would choose to buy the product they came for from the very beginning, but from another supermarket.

At the same time, another key aspect that the merchandiser must take into account is that the price shown on the shelves must be the same with the one in the system: a certain price on the shelves and another one at the pay desk, specifically a higher one, generate frustration on the consumer's part who, most likely, will either not buy the same product the next time, or will avoid that certain organization. Taking into account these two details, we ask ourselves: what came first - effective sale or product placement? We can answer this question by using the general economics practice: merchandising takes shape, merchandising expands and develops its own rules, sales are starting to depend on product placement, on laying out the space where the sale takes place or on the presence of a specialist behind the shelves (www.standard.ro/articol_28601).

Merchandising is an efficient marketing method, used in order to introduce new products or to change the consumers' plans, making them add the product in the basket even though they didn't intend to buy it at first. Efficient merchandising significantly increases sales and profits. Inefficient merchandising ruins a business in favor of the competition. As a consequence, adequate merchandising relies on the company's ability to plan distribution, sales and product presentation in an efficient manner and on the capacity of the sales' strength of convincing traders that visible product placement can increase the turnover and profits (Susanu, 2009).

In the end we can say that merchandising is marketing's "salt and pepper". As opposed to the more spectacular domains of marketing – product design, packaging design, advertising, promotions – merchandising "works on the field", in the places where companies display their products, and where people buy products from. It is because of this that merchandising attempts to make products visible and attractive for the buyers.

Merchandising takes place the moment the client decides what to buy. Dirty, disorderly or untidy promotional materials, products with deteriorated packaging or colorless labels, or simply the absence of a product on the shelves pushes the buyer away, both from the product and from the organization selling it. Thus, buyers will go for products from the competition, and if their pretensions are fully satisfied, they are forever lost to the organization. Efficient distribution, correct placement and attractive product presentation will tempt the buyer to purchase the product, and even more: to do this again. Merchandising's role is that of putting into practice Keppner's five rules: convenient product, at the convenient moment, at the convenient price, in convenient quantities, at a convenient place (Amerein and other, 2002).

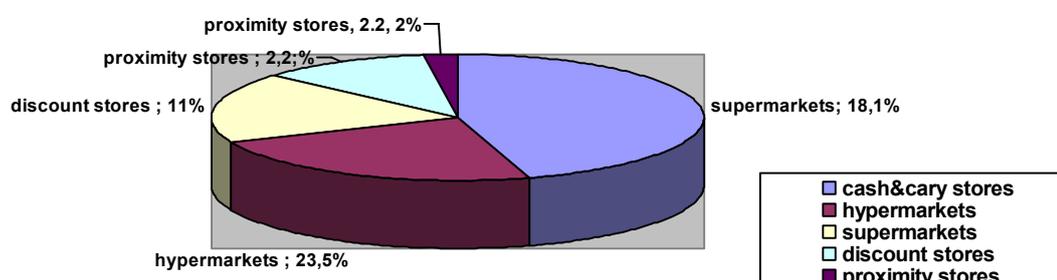
2. The Romanian retail market

Even though, in the last few years, in Romania too, we assist to a real avalanche of supermarkets and hypermarkets, the traditional commerce continues to hold the majoritar weight, of 71%, as compared to the 29% registered, at the present time, by the retail segment. This fact is also due to the fact that Romanians, like the British people, still like to chaffer and

are very attentive that the product they are buying deserves the money it consumes in order to be purchased.

The specialists in this domain appreciate that until 2010, the weight of the modern commerce will increase up to 50%, its value reaching the threshold of 100 milliards euros. To the national level, the modern commerce represented 29% from the total, in 2006, percent really inferior to Poland where a 57% weight of the modern commerce overall was registered. At the same time is also remarked that at the level of the Romanian capital, in 2006, was concentrated over 60% of the modern commerce developed at the level of the whole country. Staying at last year's level, a structure of the Romanian retail market can be realized and was presented as in the figure below:

Figure no.1 The structure of the Romanian retail market in 2008



As can be observed in the figure above, the structure of the Romanian retail market was last year made up of cash & carry stores (with a 45,2% rate), hypermarkets (23,5%), supermarkets (18,1%), discount stores (11%) and proximity stores (2,2%).

The market of the hypermarket type stores experienced a spectacular evolution in the province towns, fact materialized in 2008 in a percent of 50% from the total number of the hypermarkets, as compared to 20%, the rest being found in Bucharest. The big stores' networks preferred so far to independently develop, and this thing will change at the same time with the development of the big dimension commercial centers that started appearing in Romania too, with serious extension perspectives. Another aspect that contributes to this tendency is also the fact that the plots of land are more and more hard to find and at huge prices when compared to those on the more developed markets in the west too, so that the renting of the locations will be a strategy more and more adopted in the extension of the retail networks on the local market.

Is well known that in Romania finding plots of land becomes a big problem because of the juridical complications and of the claims. At the same time, their prices considerably increased, reality followed by the construction costs' increase too. Another obstacle in the way of modern commerce's development materialized in the huge commercial surfaces, is also the precarious state of agriculture, that needs a rapid development. This aspect has negative repercussions in the supply with fresh aliments, the Romanian producers being in the impossibility of offering on time and in the required quantities such products.

From the analyses realized in Romania, specialists got to the conclusion that the Romanian market can absorb all types of commerce, but the retail campaigns must adapt their strategies to the local level, because there are big differences between the consumption from Bucharest and the one in the province. The consumers that allot the biggest amount of money to the purchases from big surface stores are the inhabitants of Bucharest, followed by the ones from the west zone of the country and from Transylvania, on the last places being situated the inhabitants of the south and south-west zones.

The retail is less than 50% from the savings' grade. We shouldn't associate the development of this sector only with the increase of the consumption, it will develop and mature in the context of a market that develops and matures. The increase of the medium salary is also estimated and this will significantly contribute to the development of this type of commerce.(500 euros in Romania, at the horizon of 2015)

The modern commerce development will be based on the extension of the hypermarkets in the following years , and of the discount stores also, that practise a reduced prices' politic. The networks of discount stores will totalize a number of 200 stores at the end of next year and will get to a rate of 10% of the large consumption goods retail, as the specialized studies realized by authorized in this respect organizations show.

Instead, the cash & carry stores, another form of the modern commerce, will register a downturn of the market rate to almost 10% next year, mainly because of the stagnation of the number of stores. The modern commerce centers swallow, on an average, 570 Ron from the citizen's salaries every month. The towns with over 200.000 inhabitants represent a real Mecca for the modern commerce centers. The stores of the type hypermarket, supermarket, discount and cash & carry are the places where the Romanians spend a big part of their salaries. According to Shopper's Trend rapport, realized by ACNielsen Romania, in the urban medium are spent, on an average, 571 Ron monthly for the purchases from these centers. The inhabitants of the capital are even more inclined to this type of purchases. They leave at the cash registers over 600 lei monthly. From these amounts of money, a minimum salary is allotted only to the fresh products segment, that swallows 320 lei monthly. In a survey realized in what concerns the locations from which the Romanians get their supplies, they got to the following conclusion presented in the figure below:

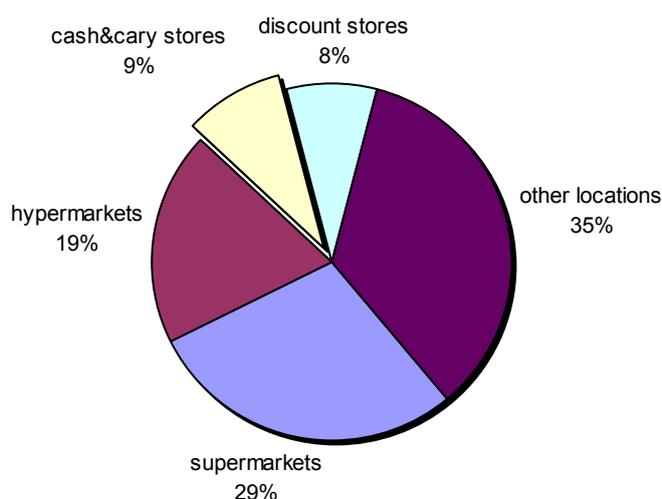


Figure no.2 The weight of the locations where the Romanians make their shopping

The modern forms of commerce have way bigger weights in the other European countries, as compared to Romania, thing that leaves a big swap margin to the autochthon market players. For example, in France, the modern commerce weight was of 96% in 2008, in Poland – 57%, in Greece – of 50% and in Turkey – of 51%. In Bucharest, the modern commerce's weight got to 60% in 2008, as compared to 49% in 2007, but the capital is still an attractive market, not at all saturated.

If in France there is a supermarket, a hypermarket or discounter to circa 5.638 inhabitants, in Romania we have such a store to 52.100 inhabitants – also explained the representative of Carrefour.

The big retailers took into consideration more strong points of the autochthon market when they invested in Romania or when they planned their extension. Thus, the Romanians are fascinated by shopping in the modern stores, which they consider the most attractive forms of commerce. The clients of the big networks are receptive to the new and the benefits that shopping in supermarkets and hypermarkets bring.

The main opportunities of the retail market are – in Carrefour's vision – the existence of some regions still uncovered by the modern commerce, the continuous increase of the Romanians' incomes (translated in the increase of the power of purchase) and the impositions of some quality standards in commerce by the European Union.

Romania is situated on the eighth position in the expansion preference of the retailers, while Russia holds the first place, followed by Czech Republic, as a research rapport of the Cushman & Wakefield real company shows. The main international retail groups present in Romania are Metro, Rewe, Carrefour, Auchan, Lidl&Schwarz, Louise Delhaize, Spar and Tengelmann.

3. Analysis on the impact of merchandising on retail organizations based on a questionnaire

Retail organizations are preoccupied with surveys on clients' satisfaction. The purpose of marketing research is that of gathering enough information about the components of the sample to be analyzed so that interpreting the results is relevant.

In carrying out the questionnaire we used:

- closed questions with a single choice of answer;
- open questions offering the possibility to answer freely;
- one control question, which affected to a certain degree the size of the sample;
 - questions with choice answers which offer multiple alternative answers, the questioned person being able to choose the answer that is the closest to his/her opinion;
 - questions with answers grouped on evaluation scales: they are the ones through which the questioned persons express their opinion by registering them on a scale;
 - questions evaluated by means of a nominal scale, which allows identifying a unique answer to multiple options that can be put up through names;
 - questions with an algebraic scale in which intervals are dispersed gradually from total disagreement to total agreement;
 - questions related to the importance of the chosen answer;
 - direct questions: used to obtain information (e.g. age, gender)

The questionnaire applies to a quota of the total number of Galati county inhabitants, on an established size called sample. According to Kotler, the sample represents a part of the population chosen to represent the population on the whole (Kotler, 2000). The sample must be representative, so that the researcher can make a just appreciation of the opinion of the population, based on the results.

In the case of random sampling, in order to establish the size of the sample, we took into consideration the following aspects: an admitted error level of 5% and a trust level of 95%, which corresponds to a 1,98 value. Because we have no information on p – the percentage of those who answered affirmatively, we will consider it to be 50%.

The size of the sample (n) is calculated this way (Nistor and Nistor, 2005):

$$n = \frac{t^2 * p(1 - p)}{E^2} \rightarrow n = \frac{1,98^2 * 50 * 50}{5^2} = 100 \text{ persoane}$$

t – the coefficient of the probability which ensures obtaining the result (from the statistical tables)

p – the proportion of the sample components that have the examined characteristic

e – the acceptable error limit

We have chosen a number of 100 persons to answer the questionnaire and they were interviewed in the 9-16 December 2008 period, between 10-12 am and 16-18 pm in Galati.

Question 1: How did you find out about the BILLA supermarket?

Note that most of the questioned persons (41%) were informed about the supermarket through the company's folders, followed by friends with 23%, and then TV (17%), press (14%) and Internet (5%).

Question 2: Have you ever bought products from BILLA? (If the answer is negative, we skip to question 15. If not, the possible answers are: once, more than once, I only shop from BILLA)

The questionnaire revealed that 56% of the persons shopped several times from the supermarket, 22% buy from BILLA supermarket only, 12% of the inquired persons claimed they have only shopped once from the organization and a number of 10 persons have never bought from this shop. Because a number of 10 persons answered negatively to this question, the questionnaire will rely on a number of 90 persons.

Question 3: Where else do you shop from?

The percentages related to other options of the customers are: 29% opted for Penny Market, followed by Real with 26%, Kaufland with 22%, Metro with 14%, Selgros with 7% and another shop (Flamingo and Viva supermarkets) with 2%.

Question 4: How often do you do your shopping from BILLA?

We determined that 33% of the questioned persons go to the supermarket once every two weeks, 23% once per week, 20% cannot give a precise answer, 16% of the persons choose to do the shopping from the BILLA supermarket once a month, and 8% represents the people that go 2-3 times a week to the supermarket.

Question 5: What is the element that determines you to buy from the BILLA supermarket?

As the defining element in their decision to shop from BILLA supermarket, 27% of them went for the prices, 21% for the shop's location, 18% for the quality and diversity of the products offer, 17% for promotional offers and only 10% for the shop's ambience.

Question 6: What is the main criterion for choosing the products?

Chart 1

Possible answers	Maximum grade 1	2	3	4	Minimum grade 5	Total
Lowest price (A)	38	32	11	9	0	90
Products from known brands (B)	34	29	7	19	1	90
Optimum quality-price ratio(C)	21	36	18	12	3	90
Promotional offer (D)	35	24	10	21	0	90
New product (E)	16	25	21	20	8	90

The average score for each criterion is calculated this way:

$$S_A = \frac{1 \cdot 38 + 2 \cdot 32 + 3 \cdot 11 + 4 \cdot 9 + 5 \cdot 0}{90} = 1,90$$

$$S_B = \frac{1 \cdot 34 + 2 \cdot 29 + 3 \cdot 7 + 4 \cdot 19 + 5 \cdot 1}{90} = 2,16$$

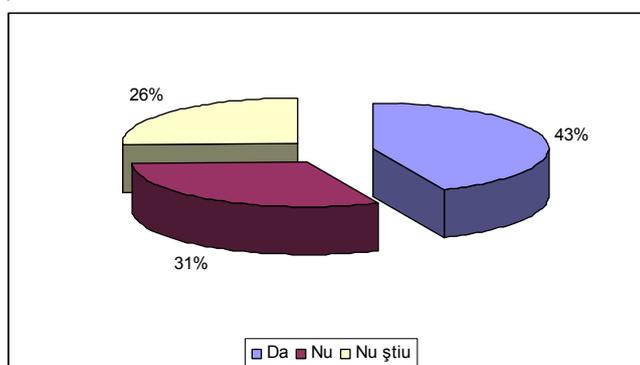
$$S_C = \frac{1 \cdot 21 + 2 \cdot 36 + 3 \cdot 18 + 4 \cdot 12 + 5 \cdot 3}{90} = 2,33$$

$$S_D = \frac{1 \cdot 35 + 2 \cdot 24 + 3 \cdot 10 + 4 \cdot 21 + 5 \cdot 0}{90} = 2,19$$

$$S_E = \frac{1 \cdot 16 + 2 \cdot 25 + 3 \cdot 21 + 4 \cdot 20 + 5 \cdot 8}{90} = 2,77$$

Following the analysis of the answers from the 90 persons, we noticed that "lowest price" is the main criterion for choosing products, thus obtaining the most maximum grades, followed by "products from known brands", "promotional offer", "optimum quality-price ratio" and "new product". It is relevant that the lowest score represents the element having the greatest importance in the product purchase decision process of the questioned persons.

Question 7: Do you think that the products presented in the BILLA folder influence your purchase intentions?

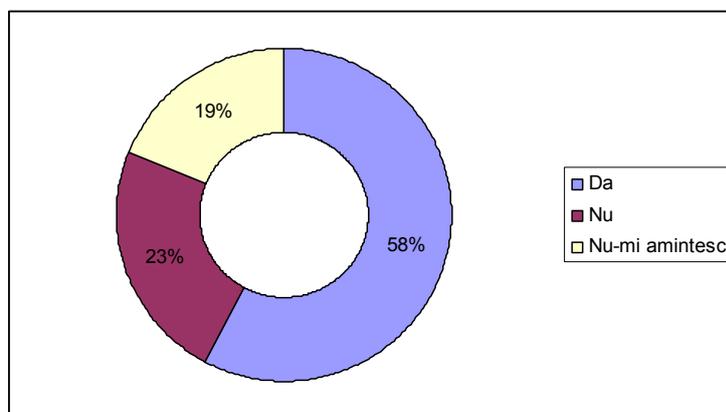


Picture 1. The influence of the products presented in the BILLA folder

Based on the answers, 43% of the questioned persons are influenced by promotional offers, 31% are not influenced by them, and 26% of the persons that answered were not sure.

Question 8: Did you benefit from features, promotions or free products?

According to the gathered data, 58% of the persons benefited from promotions and product features, 23% did not have the chance yet, and 19% cannot remember.



Picture 2. Benefiting from features, promotions and free products

Question 9: Please express your opinion on the following matters:

- a. The way products are placed on the shelves is suitable
- b. The shopping ambience is pleasant

Chart 2

Scale	Total agreement 2	Agreement 1	So-so 0	Disagreement -1	Total disagreement -2	TOTAL
a)	32	39	11	8	0	90
b)	19	20	39	12	10	90

We calculate the average score for each statement separately:

$$S_1 = \frac{32 \cdot 2 + 39 \cdot 1 + 11 \cdot 0 + 8 \cdot (-1) + 0 \cdot (-2)}{90} = \frac{95}{90} = 1,06$$

$$S_2 = \frac{19 \cdot 2 + 20 \cdot 1 + 39 \cdot 0 + 12 \cdot (-1) + 10 \cdot (-2)}{90} = \frac{26}{90} = 0,29$$

For the first statement, “The way products are placed on the shelves” we obtained a score of 1,06 which places it between “Agreement” (1) and “Total agreement” (2) levels. Being significantly closer to 1, the score shows that people generally consider the way products are placed on the shelves as being adequate.

For the second statement, “The shopping ambience is pleasant”, the score obtained is 0,29 , which is between “Agreement” (1) and “So-so” (0) levels. This score indicates that ambience is less important for the questioned people.

Question 10: To what degree does the information on the product labels satisfy you?

Chart 3

Answers	Very satisfied 5	Satisfied 4	So-so 3	Dissatisfied 2	Very dissatisfied 1	Total
Results	10	32	26	16	6	90

For the analysis of the answers to these questions, we used a semantic scale with 5 levels of evaluation, to which we attached numerical values: 5, 4, 3, 2, 1. Based on the answers we worked out the score, calculating the weighted average of the answers the persons opted for.

$$\text{The average is: } x = \frac{5 \cdot 10 + 4 \cdot 32 + 3 \cdot 26 + 2 \cdot 16 + 1 \cdot 6}{90} = 3,27$$

After calculating the average, its value being between level 3 and 4 – closer to 3 – we can say that the questioned people consider that the information provided by the products' labels neither satisfy nor dissatisfy their need to know more about the products.

Question 11: How do you find the quality-price ratio of the BILLA supermarket products?

Chart 4

Semantic differential scale	Exceptional 5	Very good 4	Good 3	Satisfying 2	Dissatisfying 1	TOTAL
Questioned people	19	22	25	15	9	90

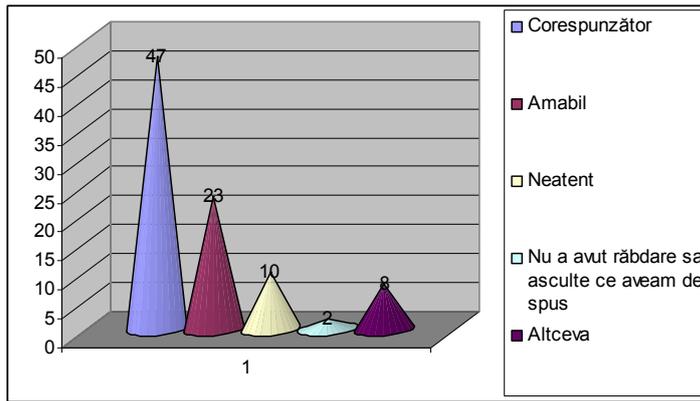
The score is the following:

$$x = \frac{19 \cdot 5 + 22 \cdot 4 + 25 \cdot 3 + 15 \cdot 2 + 9 \cdot 1}{90} = 3,3$$

Its value is between levels 3 and 4, closer to 3, so we can say that the questioned persons appreciate the quality-price ratio as being good.

Question 12: How do you find the employees' behavior?

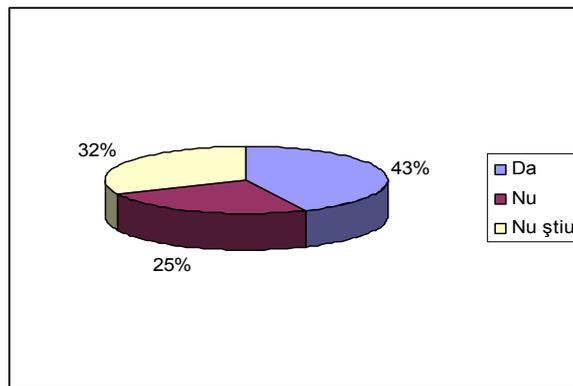
Based on the gathered data, 47 persons out of 90 appreciated the employees' behavior as being suitable, 23 opted for "friendly", 10 of the questioned people claimed the personnel is careless, 2 persons thought that they "don't have the patience to listen to what the customers have to say", and 8 persons opted for "something else", going for other answers. The answers are better seen in the following picture 3.



Picture 3. Employees' behavior

Question 13: Are you satisfied with the personnel's behavior?

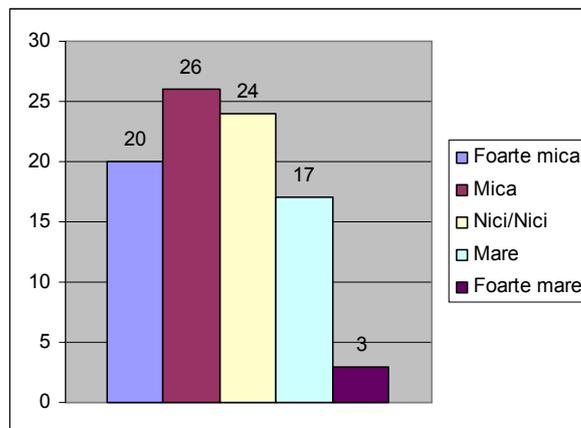
The questionnaire shows that 43% of the persons are content with the personnel's behavior, 32% are not sure if they're content with their behavior and the dissatisfied ones cover a 25% percentage.



Picture 4. The Degree of satisfaction with the personnel's behavior

Question 14: How do you find the wait time at the pay desk?

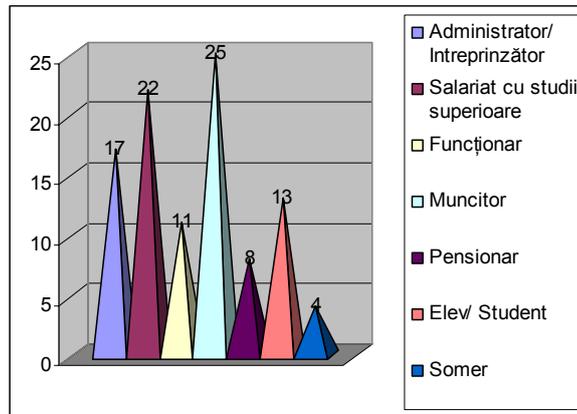
Out of 90 persons, 26 of them think the wait time at the pay desk is small, followed by those who consider that the wait time is neither small nor big (24 of them). The answers are better observed in the following picture 5.



Picture 5. Wait time at the pay desk (very small, small, so-so, big, very big)

Question 15: What do you do for a living?

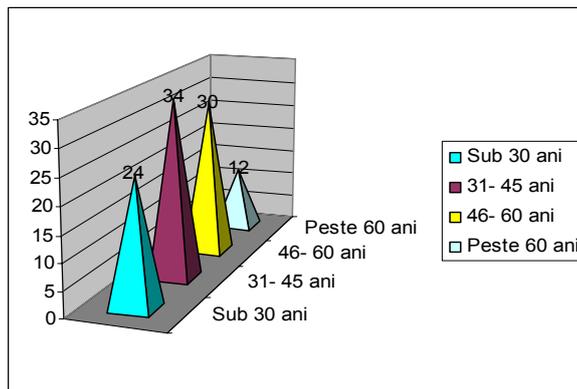
The answers are better seen in the following picture 6 (administrator/entrepreneur, employee with higher education, employee, laborer, retired, student, unemployed)



Picture 6. Job

Question 16: How old are you?

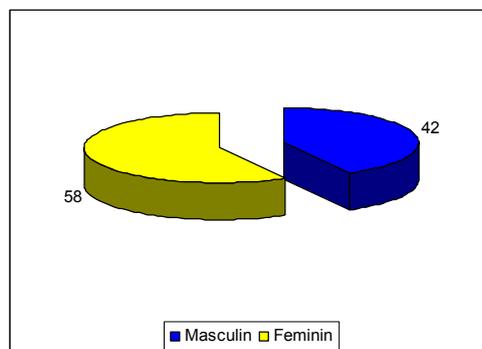
The biggest percentage (34%) is that of people aged 31-45, followed with 30% by those aged 46-60, 24% are under 30 years old and lastly, 12% are over 60 years old.



Picture 7. Age

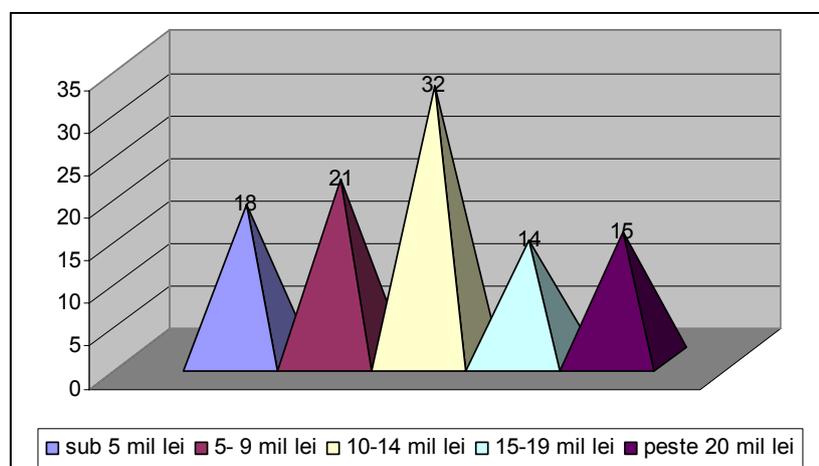
Question 17: Gender

We noticed that the majority is represented by women, who form 58% of the questioned people and 42% of the questioned persons are male.



Picture 8. Gender

Question 18: What is your family's net income? The questionnaire revealed that 32 persons have an income of 10-14 million lei, followed by 21 persons with 5-9 millions, 18 of the questioned persons with under 5 millions, 15 people have over 20 millions income and 14 persons have between 15-18 millions.



Picture 9. The income level

4. Conclusions

It is obvious that organizations cannot exist without customers. It is not enough, however, for the organization to have clients without knowing the degree to which they are (dis)satisfied and what their expectations are.

From this point of view, retail organizations place the customer in the center of their activities. The information received from the client is monitored, taking into account his/her perception on the way the organization satisfied his/her needs. We can say that measuring customers' satisfaction is one of the methods used for determining the management system performance of the retail organizations. No matter what the organization does, it is necessary for it to fulfill the customer's requirements, as long as they were established and accepted by both sides. It is important for the organization to know how well it performed for the customer, how satisfied is the client, using the initial agreement as a reference point. Studies like this one help organization managers improve the organization-customer relationship in two ways: reducing the operating costs and increasing the customer satisfaction. Improving the client satisfaction brings a direct benefit: the partnership between the organization and the client. Thus, retail organizations are concerned with surveys related to the customer satisfaction and, even more, whether their satisfaction is determined. The results obtained from such surveys represent entry data and elements to be used in order to establish the future global strategy of the organization.

References

1. Amerein, P., Barczyk, D., Evrard, R., Rohard, F., Sibaud, B., Weber, P. (2002) „Manual Marketing strategic și operațional”, Ed.Teora, București, pag.221
2. Nistor, R., Nistor, C. (2005) „Cercetări de marketing”, Ed. EDP, București, pag. 126.
3. Susanu, I. (2009) „Marketingul serviciilor”, Editura Didactica si pedagogica, Bucuresti
4. www.standard.ro/articol_28601

Sustainable Development Concerning with Mankind's Climate Changes

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Abstract

Mankind has witnessed many outstanding weather happenings which determined radical climate changes and thus, the draught is expected further to grow. Many experts, academics and scientists all over the continents have strongly called for attention about the importance of saving the water, either for housing and industrial consumers. According to the February - 2007 UNO Report, Terra is the subject of an accelerated global heating process, firstly due to the carbon emissions. Several decades further the climate changes will continue even if, theoretically, these emissions could partly be stopped. As one of the official UNO's institutions, the World Meteorology Organisation certified the global heating and alerts about another worrying phenomenon, namely the soil disaster.

Keywords: environment, climate changes, global warming, greenhouse effect, sustainable development, EU policy on the environment, climate protection

JEL Code: Q50; Q51; Q53; Q54; Q58

1. Extreme phenomena generated by climatic changes

Human society has lately witnessed some extraordinary meteorological phenomena. The recording of temperature started in 1880 and January and April 2007 marked the highest values, according to World Meteorology Organization (WMO): "*Since January 2007 we have witnessed extreme weather manifestations and record temperatures in many areas of the world*", reports WMO, noting that the global temperature was 1.89⁰ Celsius higher than the month's average in January, and 1.37⁰ Celsius above the average of that month in April. A 2007 assessment of the UNO Intergovernmental Panel on Planet Change (IPCC) shows that the planet's warming is not evenly distributed and this is most probably due to human activity, especially fossil fuel combustion. According to WMO, the most frequent extreme phenomena that took place in 2007 were:

- low pressure area monsoons, in a double number than usual, which caused devastating floods in India, Pakistan and Bangladesh, killing more than 500 persons, forcing other 10 million persons to leave their households and destroying vast agricultural areas;
- the first cyclone in the Arabian Sea, which stroke Oman and Iran;

- the wettest May-July period in Great Britain (England and Wales), when the highest precipitation level (406 millimetres per square meter) was recorded since they started recording them in 1766;
- the powerful storms in Northern Europe since January;
- the extremely abundant and early rains in Sudan, since the beginning of June;
- the landslips that caused 3-4.5 meter high waves which swallowed 68 islands from the Maldives archipelago in May;
- the heat wave that entered Western and Central Russia in May;
- the two waves of extreme heat that stroke South-eastern Europe in June and July.

If the examples above come from the Northern hemisphere, it does not mean that the Southern hemisphere has been protected from extremes. An unusually cold current of air, which caused strong winds, blizzards and heavy snowfalls in South America, also determined the temperature drop in July 2007, down to -22° Celsius in Argentina or -18° in Chile. In June 2007, South Africa had its first snowfall since 1981, the snow reaching 25 centimetres in some parts of the country. Nevertheless, the Northern hemisphere recorded the warmest January in history, The Netherlands reporting the highest temperatures since 1706, the average being 7.1° Celsius (2.8 degrees above the averages of the 1961-1990 interval). In Germany, during 2007, the temperature was 4.6° Celsius above the average of the 1961-1990 intervals. The Atlantic coasts of the USA are systematically stroke by hurricanes carrying the names of splendid human beings – men or women, fact recently extended to coasts of the Pacific. South-eastern Europe is ravaged by unprecedented heat waves, while Great Britain or Germany is experiencing major floods, unseen in the last half century. *“One might say that due to global warming there will be a number of meteorological extreme phenomena but we can not attribute specific events to global warming”*, says Malcolm Haylock, an expert in climatic problems. As for the floods and drought though, it is difficult to attribute the precipitation trend to human activities.

The European commissioner for Environment, Stavros Dimas, has drawn attention to the fact that it is absolutely necessary for the EU states to have a common strategy in order to be sure that in the future they will have sufficient water both for population consumption, and for commercial activities. The drought is expected to get worse due to climatic changes, he added. According to the Commission’s data, in the following years the drought will affect not only the south of Europe, but also the centre and the east of the continent. That is why the European experts emphasize the fact that water should be drastically saved both by household and industrial consumers. Otherwise, the drought will jeopardize the entire continent. Moreover, one recommends that the water sources should be correctly evaluated before starting any economic activity in any area.

2. Water: the great dilemma

On March 22nd, 2007, the European Parliament held the International Water Convention where European deputies, national representatives, local communities and citizens all over the world participated. The participants agreed that access to water is a human right and a common good, that water supplying should be publicly financed and that citizens should participate in managing the water sources. The growth of population and agricultural production – 70% of the water that we use is consumed in the agriculture, the bad management of water resources and, sometimes, the political situation may lead to lack of drinkable water in some regions. In the 21st century, the climatic change will intensify the desertification of Africa, which will lead to population emigration from the areas affected by the lack of water to the areas with an easier access to water, such as Europe. The water transmitted diseases cause 80% of illness and deaths in the developing countries, killing a child at every 8 seconds. In spite of the fact that

Europe has enough water supplies, this continent is confronted with problems related to pollution, unsuitable waste storage and abusive water use. Tourism is a risk factor for drinkable water in Europe, especially on the Mediterranean coast where a tourist staying at a hotel consumes, on an average, 30% more water than a local inhabitant of the same region.

In the following years, water related global crises might lead to conflicts and to a raising number of refugees. Some experts foresee that the wars of the future will be waged for water and not for oil. Water is already the cause of tensions in the regions that use the same water courses. The Nile, for instance, is used as water source by nine countries: the quasi-totality of the water used in Egypt (where it does not rain) comes from this river. Ethiopia and Sudan, situated up-river, use more and more water due to population growth, reducing thus the quantity that Egypt supplies from. The Tiger and Euphrates rivers are another example of this kind. These supply three countries: Turkey, Syria and Iraq; for instance, 80% of the water used in Syria come from the rivers that spring in Turkey. Water is a strategic resource in some regions of the world. Fifteen or twenty years ago nobody would have imagined that they could buy bottled water.

Water means life and any human being has the right to it, it was stated during the 2007 International Water Convention. Water is an essential resource and every citizen must have the right to it. It is important that we change the entire concept of surface water management, including the use of rivers, the diminishing of the un-forested areas, the increase of solid surfaces which leads to rapid drainage of water into oceans. This negative current has to be reversed. The politics of land cultivation have to take into consideration the water detainment measures.

The European authorities underlined the fact that 20% of the water presently used in Europe is wasted and the European Commission data show that, soon, the percentage could go up to 40%. This is why a rationalization of the consumption is in order. The European Commission specialists say that the drought has got bigger and bigger in the EU member states in the last 30 years. The drought and the extreme heat have cost the EU's budget more than 1000 billion EURO. In 2003 alone, over 100 million people suffered from significantly high temperatures and lack of water. The drought affected a third of EU territory and the damage is impressive. The European Commission defined a first series of strategic options to be adopted at European, national and local level and to be taken into consideration in order to ensure the availability of water resources. One of these strategic options is to establish a fair price for water under the circumstances that the "polluter pays" principle has to become the rule. This is in fact an older obligation of the EU member states which should give up using free water by the end of 2015. Therefore, important changes are necessary regarding water distribution to the users and the way it is used. The Commission suggests, among others, a few measures that can be easily adopted, such as encouraging the installation of tap water saving devices, new showerheads and toilettes systems. On a larger scale, the Commission recommends an adequate distribution of water among the economic sectors giving priority to water savings.

According to the latest UNO report, on February 2007, the Earth has been exposed for some time now to a global warming phenomenon caused primarily by the emissions of carbon dioxide. The climatic changes will go on for decades even if, theoretically speaking, the most part of emissions of carbon dioxide were stopped. Global warming is a phenomenon certified also by the World Meteorology Organization (WMO), the official UN body responsible of climate. According to the studies done under the patronage of WMO global temperature on Earth grew with almost half of degree between 1960 and 1990. A lot of areas in Europe and the USA have experienced heat waves, with record temperatures in July and August during the

recent years. Numerous regions in the USA had temperatures over 40⁰ Celsius while the European temperature average for July was 2.7⁰ Celsius above the world climatologic norm.

According to Baddour Omar, PhD in climatology with the WMO in Geneva (Switzerland), considering the global climatic scenarios, we shall witness a warming in winter of approximately 2⁰ Celsius and a lot more accentuated in summer, more than three degrees in northern Romania and over four degrees in the south. Almost unanimously the specialists admit that the climatic changes are mostly the result of human activities. The director of Greenpeace Romania, Ana-Maria Bogdan, has warned that *“unless carbon dioxide emissions are reduced with 20% by the year 2020, we are facing the risk that the Earth’s temperature grow by two degrees as compared to the present moment, and the climatic changes will be unprecedented in human kind history”*. One of these will certainly be the rise of sea’s and ocean’s level. Romania is directly affected by this and the beach erosion phenomenon – present on the Black Sea’s side for a several years now, will get worse in the future.

The destruction of farm land is another aspect worth taking into account. The land gets dry due to the hotter and hotter summers. According to a study made by weather experts from 13 countries, Romania included, a great part of Europe will face desertification. Our country is no exception. The most affected regions will be Dobrogea, Oltenia, part of Walachia and Banat. This fact will determine a chain reaction: the agricultural production might fall by approximately 50-60%. The prices of the agricultural products will go up and those that will be mostly hurt will be the peasants who are completely dependent on the fruit of the land.

The researcher Jim Hansen, NASA climatologist, believes that only reducing neither the emissions of carbonic anhydride – which reached in 2005 the highest levels ever recorded on Earth – is not enough nor the best fitted way to fight global warming at present. Carbonic anhydride will lead to a rise of the sea level and to the extinction of many animal species that can not adapt to the alteration of the delicate balance of their climatic habitat. According to a WWF (World Wildlife Fund) report, provided the global warming goes 2 degrees above the pre-industrial levels (at present the ratio is 0.8 degrees), the extinction rate of these species might be 38% in Europe and 72% in North-Eastern Australia.

3. Humanity’s post-industrial era – the Kyoto protocol

One marked that 1970 is the beginning of post-industrial era, and some years later the concept of sustainable development was defined in 1986, as *“satisfying the present necessities, without hypothecation on the future generations’ capacity of satisfying their own necessities”*, or, a *“meeting the needs of the present without compromising the ability of future generations to meet their own needs”*. Many institutions worldwide interested in the mankind’s and planet future have evolved many climate models and scenarios, based upon complex numerical models and dynamic physical and chemical laws.

Since 1970, the level of carbon dioxide emissions has risen by approximately 80%. The effects, little felt at first, and even less believed by the political decision makers have later been felt in the annual average temperature rise on Earth. As a result, the specialists started making calculations and prognoses, more and more pessimistic for the planet: in order to maintain global warming at a +2 degrees level, it is necessary to continuously reduce the emission of greenhouse effect gases by at least 50% under the level existing in 1990, and this by the year 2050.

As a concept, sustainable development implies the interest in developing new energy sources and minimization of the environment affecting waste as well. Fossil fuels are a finite resource

and an economically limited one, inducing emissions that affect the environment and contribute to the climate change. A sustainable energetic system has to integrate regenerating resources and low emission burning chains at acceptable costs. Sustainable development requires the generation of balance between economic development, social equity and environment protection in all the regions of the planet. Therefore, this concept can not become a reality in the absence of a real political will in as many countries as possible.

The Montreal Protocol in 1987, which was signed by several industrialized states of the world, stipulated the gradual reduction of chlorofluorocarbon emission by introducing new technologies that do not use these gases bad for the ozone layer anymore. The results appeared relatively fast. Starting with 1997, the climatic protection has been associated with the Japanese city of Kyoto where the United Nations adopted the first agreement that forced the signing countries to take measures of climate protection. However, legally speaking, the protocol yielded no obligations for medium developed countries like India and China. When negotiating, it was claimed that the industrialized western states had the moral obligation "*to clean up first in their own yard and remove the dirt they had produced for several decades*" before other countries join them in their effort of ecologically reconditioning the blue planet.

At first, only the less industrialized states committed themselves to reduce the gas emissions, responsible for the so-called *greenhouse effect*. The year 2000 was established as reference point. The EU assumed the responsibility of reducing its toxic gases emissions by 8% till 2012. Japan and Canada promised a 6% reduction, while the USA declared initially a 7% reduction. The treaty's Protocol was initially signed by Bill Clinton, and then it was rejected by the American Congress.

At present, 175 countries have ratified the Kyoto Protocol which will remain in force only till 2012. New negotiations regarding the prolongation of the protocol's effects started in the Indonesian island of Bali in December, 2007; the negotiations refer to the period after 2012 and are based on the commitments taken as a result of the Kyoto agreement. By the 90's, Romania realised the importance of these actions and signed the Kyoto Protocol of reducing the greenhouse – gas effects together with many other countries and adapted the judicial framework to this aim (i.e., No. 3/2001 Law).

The ambitious **Kyoto Protocol**, which was hoped to slow down the global warming process, is now in force, most of the industrialized countries having accepted to reduce their polluting emissions, less the United States of America. According to the terms of the treaty, the industrialized world is to diminish by 5% the present level of gas emissions by 2012, on an individually established ratio basis. The European Union committed itself to reduce its polluting emissions by 8%; the reductions refer to three of the most important gases: carbon dioxide (CO₂), methane (CH₄) and sodium oxides (N₂O) – which will be measured against the reference year 1990 (except for some of the countries with transitional economy, including Romania, and which will be measured against 1989).

In 2005, when the treaty was signed by 141 countries, of which 30 strongly industrialized, the USA and Australia considered that the protocol would burden their economies too much. Moreover, President Bush publicly expressed his doubt regarding the researches related to global warming, but the idea that the Earth is getting warmer is being contested by only a few scientists. At the end of 2007, the United States admitted the necessity of certain measures of stopping global warming, even if they had not signed the Kyoto Protocol, and then the new Australian government announced significant changes as far as the environment protection is concerned, thus ratifying the Kyoto Protocol on December 6, also 2007.

There is a general opinion that the emissions into the atmosphere of the above mentioned three gases, plus three types of fluorides, do contribute to the appearance and perpetuation of a greenhouse effect which could have dramatic consequences upon the delicate climatic system of the planet. The average global temperature rose by 0.6° Celsius between 1900 and 1990, and it may rise by another 5.8° by 2100, according to the amount of carbon dioxide in the atmosphere. In connection to this, the European commissioner for the environment, Stavros Dimas, stated that *“Climatic changes constitute one of the most important challenges in the environment sphere and are a threat against the economies of the EU countries. Our purpose is to bring to the same table those involved in this area and discuss about the solutions and efforts that are necessary to reduce the greenhouse effect”*.

The USA's leaving the Kyoto process worried the European industrial leaders regarding the economic costs for the accomplishment of the EU environment defence plans. The Intergovernmental Panel for Climatic Changes (IPCC), founded in 1988 by the World Meteorologist Organization (WMO) and by the United Nations Environment Programme, has made several evaluation reports regarding the climatic changes, which state that:

- Average global temperature rose by 0.6° Celsius (between 1960-2000), being more evident in North America, the equatorial region and Asia;
- Sea level, as global average, has risen by an annual ratio of 1 millimetre;
- Thickness and spatial expansion of the arctic ice has decreased (by 40% in the last 30 years); contrary to this, there were no changes in the expansion of the ice in the Antarctic region (between 1978-2000);
- Glaciers retired from the non-polar regions (in The Alps);
- Mutations took place in the bio systems: earlier blossoming of plants; earlier arrival of the migrating birds;
- Precipitations have risen by 5-10% at medium and high latitudes, in the northern hemisphere and fallen by 3% in the subtropical regions (land).

The climatic scenarios are based on some complex numerical models, which rely on physical, dynamic and chemical laws. Several important factors to be taken into account are the emission of greenhouse effect gases, the economic and social development, and the technological changes. There are following several ideas of climatic scenarios foreseen by the specialists for the 21st century:

- Average global temperature will rise by 1.4° - 5.8° Celsius, which means a warming 2-10 times bigger than last century;
- Quantities of precipitation at global level will increase, with large regional differences: rises and falls between 5% and 20%;
- Climate change will lead to changes in the atmospheric circulation; this, in its turn, will generate changes in the frequency and amplitude of some extreme events (tornados, hurricanes, tsunamis, etc.);
- Increasing number of very hot days, while decreasing the number of very cold days;
- Increasing amplitude and frequency of extreme precipitations in many regions, while the frequency of droughts will increase as well.

On March 11, 2005, the European Commission presented its strategy for the post-2012 period. In this document called *“Winning the Battle Against Global Climate Change”* the European Commission did not established new targets, but it focused both on the challenge of co-opting as many countries as possible (among which the USA and Australia but also developing countries such as China, Brazil and India), and including as many sectors as possible, whose activities should be monitored (for instance, aviation and sea transport). The EU environment ministers made more ambitious proposals of reducing greenhouse gases than in the case of the Kyoto Protocol: about 15%-30% by the year 2020 and about 60%-80% by the year 2050. The

European ministers wished to clarify that a global approach is necessary, which includes cooperation both with the great industrialized countries which chose not to adhere to the Kyoto protocol, and with the new economic powers of China and India.

In comparison with the 1961-1990 reference periods, the statistics underline the fact that the annual average temperature was 1.6⁰ Celsius higher in the 2002-2005 intervals. February, March, May, June, July and November were warmer than usual. Every year, several storms of significant intensities accompanied by whirlwinds happen in one or more countries on each continent, Romania being no exception from this "rule". As a result of the warming process, the expansion of marine ice in the northern hemisphere decreased by 40% in the last 50 years. In the 20th century, rivers' and lakes' annual freezing period decreased by approximately two weeks.

According to a researchers group in the United States, the whole in the ozone layer above the Antarctic has stopped its expansion process. Moreover, the ozone layer might regenerate in the next 60 years. The layer blocks the Sun's ultraviolet rays which are considered to be responsible, among others, for skin cancer. The regeneration of the ozone layers seems to be result of the reduction of greenhouse gases emissions, such as Freon. The ozone layer protects life on Earth from the ultraviolet radiation from space, especially from the Sun. discovered more than twenty years ago, the whole in the ozone layer above the Antarctic extended very rapidly. The cause: the chlorine ions in the chlorofluorocarbon gases decomposed the ozone or oxygen 3 ions. Chlorofluorocarbon has been used ever since 1930 to manufacture electrical home appliances, such as refrigerators and air conditioning units.

After 1987, when they signed the Montreal Protocol regarding the gradual diminishing and then forbidding the use of chlorofluorocarbon, decreases in the rhythm of degradation of the whole in the ozone layer was noticed and then even a tendency of regeneration. Studies monitoring the evolution of the whole in the ozone layer above the Antarctic of the last years, estimate a total regeneration of the layer around the year 2050.

Romania was among the first countries that ratified the Kyoto protocol of reducing the greenhouse effect gases, even since 1997, by the Law 3/2001. Once this protocol is in force, Romania may sell other signing countries the right to emit greenhouse effect gases within the ratio allotted to our country. Romania was assigned a ratio of 250 million tones of carbon dioxide-equivalent as compared to the annual 147 million tones that it pollutes the atmosphere with. The difference of 103 million tones of carbon dioxide-equivalent might mean over 1 billion Euros, that is a sum necessary for instance to start restructuring the energetic system. Selling the difference should take into account the medium and long term development of the Romanian economy. For the emissions sold now for 10 Euros per tone the Romanian companies could pay over 100 Euros penalties in the future. Therefore, the benefit of obtaining a considerable amount of money by selling gas emissions all these years might cost us dearly in the future.

At the end of 2007, an international meeting on climate issues was held in Bali (Indonesia) under the patronage of the UNO. Its primary purpose was to officially start the discussions regarding the establishment of an international framework for climatic protection after the Kyoto Protocol's provisions have ceased (2012). At the same time, a plan of the International Climate Convention will be outlined and which will contain the objectives, the activity calendar and aspects such as the role of the developing countries in fighting climatic change or technology development. The new treaty will be ready for approval debates no sooner than 2009. *"From the experience of the previous years, we know that the debates on such a difficult issue can not be called negotiations. I will not make it a secret though that I hope that here, on*

the island of Bali, we will succeed in drawing a formal plan of negotiations. I am convinced that the delegates will manage to cope with the challenges described by the scientists. Our mission is extremely important", as Yves de Boer declared at the beginning of the Bali Conference, as an executive secretary of the United Nations Framework Convention on Climate Change.

4. The effects of climatic changes

A report made at the middle of 2006 by EU Bank watch Network and Earth Friends-Europe showed how much money the EU allots to fight the effects of climate change. According to the both organizations as they established for 2007-2013 period, the funding will not be effective in reaching the European common goals. According to the report, the member states should allot five percents of the whole European funds for calamity prevention, and each member state should record almost similar values in terms of gas emissions.

The problem of global warming, as one of the most important preoccupations of planet's specialists, was analyzed at the middle of January, 2007, in Davos, Switzerland, at the traditional World Economic Forum. More than 5000 scientists from around the world gathered there to diagnose the so-called "climatic bomb": global warming. The UNO mandated intergovernmental group of experts that have in mind the problem of global warming published a new report on the topic of the future of our planet and of the danger of global warming. The melting of glaciers and the dilatation of the oceans are also consequences of the warming that might play "retroactively" the role of accelerators of this process. Climatologists assert that the greenhouse effect might amplify the warming without the possibility that we could determine the limits of this phenomenon and without the possibility to go through it, as Eduard Bard from the College de France explained. This study regarding the effects of climatic changes analyses the changes that have already appeared as compared to the level of the '80s and forecasts for the next 90 years, till the end of the present century. In some regions of the planet, the land will become arid, and grains will be successfully grown only in north of Europe, not in south or centre of it as it has been done so far. In Europe, twenty years from now, the corn production will be 60% of the present one, and the only areas suitable for grain cultivation will be Poland and Germany. According to the study of the UNO specialists, weather warming will affect the entire continent, but the areas with high risk of desertification are those from the southern half of the continent. Romania is also on list of the areas that will experience advanced changes. Along Spain, Italy and Greece, our country is among the first affected by weather change; the manifestations will be noticeable starting with 2015-2025. The central and northern regions of the continent will experience accentuated changes in the '80s of this century. In Romania, the main regions affected by desertification will be Oltenia, Banat and Dobrogea, where the land will get dry due to lack of water.

As it states at the middle of April 2007 in a public report of the American nongovernmental organization - CNA Corporation, "*Global change of climate might act as multiplication factor for the instability of some of the most troubled areas of the world and constitute a significant challenge for the national security of the USA*".

The particularly special value of the gloomy prognoses contained in the report is given by the fact that the text is supported by a Consultative Military Committee, consisting of 11 retiring generals and admirals, among whom general Gordon R. Sullivan, ex US Army Chief of Staff, and vice-admiral Paul G. Gaffney II, ex president of National University of Defence and ex chief of US Navy research programmes, as well as admiral Joseph W. Prueher, ex-chief commander of the American forces in the Pacific and ex ambassador of the USA in China.

In September 2007, the European Commission suggested a specific world alliance regarding the battle against climatic changes. It aims to encourage adaptation measures, to reduce the emissions resulted from deforesting, to use the benefits generated by the world carbon market and also to support developing countries being prepared to cope with natural catastrophes. Between 2007 and 2013, the EU is to invest 177 billion Euros in 10 of the central and east European Member countries. The money comes from structural and cohesion funds. As the report shows, *“In the same period when this money will be spent, Europe will have to take serious measures of gas emission reduction until the recently established limits of reduction about 20-30% by the year 2020, and about 60-80% by the year 2050 should be reached”*. It is disturbing the fact that Spain, Portugal, Greece and Ireland, the four countries that enjoyed the largest allocations of European funds, have also recorded the biggest increases of carbon dioxide emissions. According to the same document, *“If the EU wants to fight against climate changes efficiently, it has to make sure that this will not happen in the east and centre of Europe. On the contrary, the European funds for the new member countries must contribute to exactly the opposite of this thing: the reduction of gas emissions and the improvement of living standard”*.

Both World Meteorologist Organization (WMO) and World Health Organization (WHO) admit that the heat waves affect the health and this is the reason that they were on an advanced stage in making a Guide of rapid alert in case of heat waves. At present, the WMO cooperates with a series of partners in order to create warning multi-systems meant and designed to reduce the effects produced by climatic changes, especially by strong storms, floods and heat waves. On the World Health Day – that is celebrated each year on April, 7 – the World Health Organization (WHO) drew attention upon the severe effects that global warming has on peoples' lives. The General Director of WHO warned that tornados, floods, storms and drought kill tens of thousands of people every year. Similarly, diseases closely related to climate – such as malaria, diarrhoea, malnutrition caused by lack of proteins lead to the loss of more than three billion human lives every year. *“It is imperious that governments, health ministries in every country should adopt strategies which place people's health and welfare on the first place and should also protect the population from the effects of climatic changes”*, underlined the director of World Health Organisation -WHO. According to a study made by Australian researchers in April 2008, climatic changes will also contribute to the increase of blindness risks caused by cataract, due to high levels of exposure to ultraviolet rays.

By the beginning of April 2008, several sectors such as aviation, energy, health, financial services, transportation and tourism, were included by the KPMG (a firm of fiscal consultancy and financial audit) into a report regarding the risks of climatic changes. The six mentioned sectors are especially threatened by the risks of climatic changes, being little or at all prepared to cope with such changes. All 18 sectors analyzed by KPMG in its report are not sufficiently prepared to confront with the new risks associated with climatic changes. *“We have analyzed industries from the entire global economy and we have noticed that there are huge differences among them regarding the relation between the risks of climatic changes and the degree or readiness to cope with them, plus a tendency to underestimate these risks”*, showed Barend van Berger, director of KPMG Sustainability, the division which made the report. The conclusions of the document are entitled *“The climatic changes change your business”* and are based on the analysis of 50 public partial reports concerning the risks upon the business and the economic impact of climatic changes at sector level. The quoted public reports were analyzed and a level of risk and a degree of readiness to cope with this risk were evaluated. Although the energetic sector is much better prepared than the rest of analyzed sectors, the climatic changes that human kind has been confronted with for a number of years now, make it the most risky analyzed sector.

The scientific evidence of anthropogenic climate change is overwhelming; it is happening and it is accelerating. What we see today is only the beginning and the result of past greenhouse gas emissions. Present trends will continue whatever we do, unfortunately.

These scenarios should give highest priority to ensuring the convergence and coherence of the goals for competitiveness, job creation and resource efficiency.

5. Predictions and actions regarding climatic changes

Canada, Russia and many Northern Europe are expected that they should confront in the next years with very strong precipitations, while regions north of the Equator should become much drier. A clear connection between the manner in which precipitations are distributed and man's influence on the climate has been identified. Francis Zwiers, one of the authors of this report, says that *"It is for the first time that we detected a correlation between precipitations and man's influence on the environment. We can cope with the temperature changes but we can not cope with those interfering in the way water is distributed. There will be an impact on world economies and on the manner in which we produce food"*.

At the present phase and in terms of greenhouse effect gas emissions, China will surpass the United States, but it does not commit to reduce them, as long as neither do the United States. We can expect a country like China to make absolute commitments of reducing the emissions, and EU can manifest its willingness to cooperate with developing countries in order to enhance their contribution to the global effort to reduce the emissions, using all opportunities to reduce the intensity of the emissions resulted after their economic development. It is better that the impressive economic growth in China, India, Vietnam or other countries should be a great opportunity for the world, taking into account the fact that this growth implies an even greater responsibility of these countries from the viewpoint of fighting against global challenges, such as climatic changes.

Nowadays we can no longer afford to think like this: *"I take care of my energetic model, based on fossil fuels, I do not care about the rest of the world"*; China is already feeling the effects of pollution on health and on climatic changes as well. Effective governance of institutions for sustainability is vital. Many good ideas exist on paper. The European Union is the most advanced of industrialising regions and has tended *de facto* to take the international need. One could assess that the European Union has an uncontested world political leadership in social and environmental protection. The EU is today the first-ranked power in the sector producing technologies that do not emit greenhouse gas emissions. The EU is now seriously looking at economic growth "beyond GDP". The European climate is influenced by a climatic system called the North Atlantic Oscillation. This system is based on measuring the atmospheric pressure at sea level near Island and the Azores Islands. During the last 50 years these figures have had a falling tendency, but it is difficult to assume that they have been caused by human activity, as long as this fact can not be precisely established. Nathan Gillet, professor the department of Climate Research within East England University, says *"We have the clear proof that the man has a huge influence on how precipitations are formed. We have to fight against the effects caused by climate change and especially to improve our systems of protection against floods"*. The predictions of the British Environment Agency are even gloomier: Great Britain will suffer annual losses of 2 billion dollars, exclusively due to floods caused by climatic changes. The Globe and Mail publication has a much stronger point of view, based mainly on a study made by the prestigious *Nature* magazine.

A British study underlined that, along with the whole series of extreme phenomena whose effects have been tempered in the last two years by a series of natural phenomena, global warming will be much more seriously felt starting with 2009, moment after which extremely

warm years will be recorded. A group of researchers from the British National Meteorologist Agency studied that at least in half of the years between 2009 and 2015, the average annual temperature will be higher than 1998 as the reference year. Their predictions were formulated on the basis of a computer programme especially designed by the British meteorologists, a programme which takes into account both elements like greenhouse effect gas emissions, and marine and oceanic currents and temperatures, or meteorological phenomena such as "El Nino", which predicts the formation of hurricanes in the Atlantic Ocean and monsoonal storms stronger than usual in Asia. Starting from these data, the researchers made a climatic simulation for the years 2005-2014 and the conclusion was that the cooling of a part of the Pacific Ocean and the resistance to warming of the Arctic Ocean compensate for the rise of temperatures caused by the greenhouse effect gases. This compensating effect will be temporary though, and after 2009 global warming will be much more evident. Generally speaking, for the analyzed decade, there will be a rise of the average annual temperatures. Thus, in the opinion of the British researchers, the average annual temperature in 2014 will be 0.3^o Celsius higher than in 2004. Previous studies forecast a rise of the average annual temperature by 3^o Celsius by the year 2100, warning that this would have catastrophic consequences upon the environment. In order to check the viability of the programme, Doug Smith, from the British National Meteorologist Agency, and his colleagues tested the new simulation model on the years 1982-2001, so that they could be able to confront the results with the reality recorded by meteorological services in the world. According to Doug Smith, the validity of the new model has been proved, since it gave more precise results regarding temperatures than the previous simulations.

Actually, there are several environmental principles in the Treaty 27 - implemented in relevant Directives – that are of central importance to the environmental approach of all European banks generally, and the European Investment Bank notably. It means the integration principle, in Article 6, and the principle of aiming at a high level of environmental protection in Article 95 (3) and Article 174 (2). The integration principle requires that environmental considerations be appropriately weighed in all aspects of EIB work, including through the transparent development and implementation of its corporate strategy, operational plans, objectives and targets, sector lending policies as well as in the projects it finances. EU policy on the environment coordinates a high level of protection based on the application of the precautionary principle, and on the principles that preventative action should be taken, that environmental damage should be rectified at source, and that the polluter should pay. The principle that environmental damage should be rectified at source is enshrined in a number of EU laws, notably those concerning water and air pollution. It implies emission restrictions on production facilities and other point sources of pollution, for instance, as defined in the Integrated Pollution Prevention and Control (IPPC) Directive 30.

The EIB requires that promoters implement appropriate measures to prevent, or at least reduce point source pollution from impacting areas within and beyond the boundaries of a project. Underlying the above principles is a requirement on the part of the EU that investment decisions reflect their true value to society, including through the prices people are willing to pay – or are actually asked to pay as users in application of the polluter-pays principle - to protect and enhance the environment and the costs that society incurs when the environment is damaged.

6. Conclusions

The degradation of ecosystems and the erosion of their associated biological diversity are barriers to achieving the sustainable development, as human well-being depends on the Earth's ecosystems and the continued flow of services they provide. Climatic changes will lead to wars and armed conflicts, which will affect at least 2.7 billion people and 46 countries, according to

a study made by International Alert, at the middle of 2007. The largest area of Asia, Africa and South America will witness war hotbeds and social problems, as climatic changes will determine the erosion of the soil, the rise of sea level, the melting of the glaciers and the intensification of storms. 1.2 billion persons and 56 countries risk to be politically destabilized, and “*the climate changes will enhance the predilection for violent conflicts, which will leave the communities even poorer and less capable of coping with the consequences of climatic changes*”, warns the report. Dan Smith, the coordinator of the study declared that the most severe threats are those regarding the countries that do not have the necessary resources and stability to cope with the global stabilization. Smith gave Peru as an example of a country which uses drinkable water that comes mainly from melting the glaciers. In 2015 almost all glaciers will have melted due to global warming, and the 27 million inhabitants will be almost deprived of drinkable water; in case the Peruvian authorities take measures now, they might be able to prevent the crisis to appear, but Peru has a reduced democratic experience. As climate changes tend to lead to military conflicts and even wars, which can affect billions of people and many countries all over the world, the present society must cope with twin challenges:

- To cope with the effects of climate change that we cannot, or choose not to, prevent.
- To adapt economic and social development to cope with the need to mitigate further change.

According to Hans Joachim Schellenhuber of the Potsdam Institute for Climate Research the first decision in managing climate change is „...*the art of avoiding the unmanageable and managing the unavoidable*”. The unmanageable in his view was the scenario of a 6 degree centigrade rise in temperature and the unavoidable was the 2 degree centigrade rise into which we are probably locked by past decisions and the momentum of present systems. Effective governance of institutions for sustainability is vital. Many good ideas exist on paper. The EU is the most advanced of industrialising regions and has tended *de facto* to take the international need. There is also a need for more comprehensive study of support mechanisms to determine what interventions is effective, how much they will cost and how the burden will be shared. The challenge is to work out how to deploy these technologies within the constraints imposed by climate change whilst meeting aspirations for welfare growth and equity. This will require massive investments in education, thus ensuring the development of good behaviour and practices that better reflect the true value of biological diversity and natural ecosystems, towards better recognising the real costs of using the Earth’s natural capital in the course of its work.

References

1. GORE, AL (1995), *The Earth in Balance (Romanian language)*, Technical Publishing house – Bucharest;
 2. HEINBERG, RICHARD (2003), *The party is over: Oil, War and the fate of Industrial Societies*, New Society Publishers;
 3. MANEA, DUMITRU (1991), *Chances for the New Energy sources competing with classic Fuels (Romanian language)*, National Institute of Information and Research, Bucharest;
 4. MASHBURN, WILLIAM H. (1989), *Managing Energy Resources in Times of Dynamic Change*, USA;
 5. WILSON, C. (2001), *Energy: Global Prospects 1985-2000. Final Report of the Workshop on Alternative Energy Strategies (WAES)*, McGraw-Hill Book Company, New York.
- *** *Doing More with Less - Green Paper on Energy Efficiency*, European Communities, Bruxelles, 2005;
- *** *Energy in a Finite World-Paths to a Sustainable Future*, report by the Energy Systems Program Group of the International Institute for Applied Systems Analysis, USA, 1981;
- *** *Energy Efficiency Policies*, World Energy Council Report, United Kingdom, 1995;
- *** *Map route towards the Renewable Energy: creating prerequisites to increase its average by 2020 to 20 per cent of EU’s energetical sector*, Conference MEMO/07/13, Bruxelles, January 10, 2007;
- *** *Progress Report on the Implementation of the European Renewable Directive*, WWF, 2004;
- *** *Towards a Post-Carbon Society*, European Research on Economic Incentives and Social Behaviour, Conference proceedings Brussels, October 24, 2007.
- *** *Statement of Environmental and Social Principles and Standards*, European Investment Bank (EIB), - 2009

Considerations Regarding the Investment Decisions on Structural Funds, in Certain and in Uncertain Medium. Study Respecting the Financing of the Investment: Touristic Pension With 20 Places in Poiana Ilvei

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Abstract

The financing decision can be defined as the rational process to choose an action direction, on the basis of the analysis of several solutions, to insure continually the production with funds and for their efficiently consumption, fact that can admit the payment of the obligations over third part, and also a continuously grow.

Keywords: investment; the investment decision; initially investment expenses; the financial actualization rate; cash flow; financing decision

JEL CODE: G

1. Introduction

The investments decisions determine the structure of the company assets and influence directly their liquidity degree. In the case of the analyzed company, this company puts into practice an investment project on structural funds FEADR, whose actualized value is bigger than the costs that must exist, creating by this way a value, so the consequences are the growth of the company's assets value.

The stages of substantiation, issuance and execution of the financing decision are:

- ✚ the establishment of the financial objectives included in the company plan of economical development of perspective
- ✚ the analysis of the available information
- ✚ the adoption of the financing decision
- ✚ the execution of the financing decision
- ✚ In the current economical-financial practice are used several kinds of financial decisions, namely:
 - ✚ current financial decisions (operative), that are attached of the current activity and have the bigger weighting in the activity of the financial department (sending of the sums arrived at the date of payment to the budget, credit reimbursement, sampling of sums at the own funds etc)
 - ✚ strategic financial decisions (of perspective), that concern the future evolution of the company economic-financial activity, endorsing also bigger actions in the creation and in the grow of the social capital, investments etc. These decisions are subordinated to the

following objectives: the defrayal from the own incomes, the continual grow of profitableness and of the efficiency.

The decision to invest is related to the certitude degree of the future when the cash flows will have place. From this point of view, we consider that there are two classes of decisions: investment decisions in certain medium and investment decisions in uncertain medium.

2. The investment decisions in certain medium

The investment decisions in certain medium, or without risks, make allowance for the following hypothesis: the monetary flows are exactly determined; the decider considers the investment project independent from others; there is a perfect capital market, with a small rate of interest; there is no uncertainty, so there is no risk. The criterions of investments selection in certain medium (without risk) are creating an ideal model, but the chances to realize it have a small probability that depends of many factors of the competitive market. These criterions can be simple options, where we don't deal with the method of the incomes and expenses actualization or with methods based on actualization.

The simple criterions of option include: the cost criterion, the criterion of the medium rate of capitalization and the criterion of the recuperation period of the invested capital.

a) The cost criterion is applied in the case in which the investment effort regards the substitution of the used corporally immobilisations, substitution that brings or not to the growth of the production capacity. This kind of investment has place when the production costs are smaller when is used the new installation, in comparison with those obtained by using the old installation.

b) The criterion of the medium rate of the profitableness supposes the determination of the medium rate of profitableness of the investment project and it's comparison with that one of other similar projects or with a standard (the profitableness of the immobilized assets rate, the determined rate as objective by the company direction, the medium rate of profitableness at the level of the activity branch).

c) The recuperation period of the un-actualized investment can be defined as the number of years in which a company recovers the initial investment, from the net cash flows. The recuperation has place when the cumulated cash flow entered in the company minus the first investment is zero. The recuperation time limit is the years number for which has place the above equality.

d) The un-actualized profitableness index (IP), a competitor indicator of the recuperation time limit, shows the relative profitableness of the investment during all its existence, respectively the value obtained by the achievement of the project related to a first investment expense of one unity (the index gain/cost).

An independent project is accepted only if $IP > 1$ ($=1$ is the critical point). If there are more competitor projects, the project selected is the project that has the bigger IP. The traditional methods, based on simple option criterions, have the advantage of simplicity, because they don't use the actualization techniques. By this way can be determined a set of indexes of the investment efficiency (R_j , R_m , T_r , IP). But these methods have an essential limit because they refer to medium results, ignoring the possible instability of the indexes taken in the calculation.

Certainly, the company that we consider here can not be situated in this kind of decisions, and the inconveniences of these methods are averted by the actualization methods, and that the

reason for which we refer to the investment decisions in uncertain medium. The principally problem after the selection of the project is the co-financing problem.

The financing policy of the company on long term has as decision alternatives some possible financing sources:

- **intern sources**, obtained from auto-financing (amortization and profit);
- **extern sources**, respectively the receive of capitals from outside the company, that can be intrinsic (from shareholders and co-partners) and lend (from banks and/or obligators).

In the financing decision, the principal chose is between the intrinsic sources and the lend sources. The selection criterion of the financing sources is the cost of obtaining the capital, trying to reduce the medium weight cost of the capital. At the tourist pension considered in this study, because the company is new created, the intern sources are absent, and the extern sources are from shareholders and lend from banks.

The management of strategically decisions has at its basis the following technical elements (financial):

- the expenses for investments (there must be taken in consideration the opportunity cost-the cost involved by the renunciation to a favorable, opportune occasion);
- the life duration of the investment; the supplementary profits or the economies resulted by the exploitation of the investment (cash flows); the first investment;
- the cash flow from the exploitation (the net cash flow awaited during the economical life of the project: profit + amortization);
- the residual value.

All the financing analyze regarding the investment process and the selection of the optimal investment variant must have at its base the objective criterion of taking the decisions, to admit **the maximization of the company's market value**, which represents the fundamental object of the company.

The strategically investments decisions determine the structure of the company dues and directly influence their liquidation degree. The global analyze of the investment is very important to have in view and to achieve the major objective of company value growth. The principally investments on middle and long term that the company effects are: investments in immobilized dues and financial dues.

The evaluation process of an investment project implies the organization of a conomical documentation that contains: the opportunity study, the juridical situation, the feasibility study, the technical project, the notifications and the execution documentation. The essential elements from the objective of the technical documentation refer to: the project costs fixation, the cash movement estimation, the indicative budget, the project risk estimation, the actualization of cash waves etc.

3. The investment decisions in uncertain medium

The investment decisions in uncertain medium are taking in consideration the cash movement determination, positive or negative movement, as long as the investment project functions. In the case of investments in an uncertain medium, the estimation of the cash movements is the most important, but also the must difficult problem that an investment project can produce. These estimations refer to the initial investment costs and to the annually net cash entrance, that refer to the project life period, detailed on months for the first year. The effort and the effect of an investment can be outlined by the following elements:

- the initial cost is the net size of the necessary capital for the start of the investment exploitation, that composes from the following elements: the cost of the fix immobilized dues; installation and assembling expenses, but also staff specialization expenses; growth of the circulating funds, respectively growth of the stocks and of the customers debts minus the growth of the exploitation debts, caused by the new production capacity; the resale price of the dues not-invested.

- the investment life duration is an another element that must be considered when we are estimating an investment project value, because it can be explained from more points of view.

Relatively to the life duration of the investment, this can be considered from the following points of view: the fiscal duration, that is also named the service rated duration of the permanent elements from the liquidation norms catalogue; the technical functional duration, that is influenced and caused by the functional technically characteristics, the commercial duration, that is influenced and caused by the life duration of the products fabricated with that investment; the juridical duration, that represents the duration of the juridical protection over the concessionary right over a terrain, over an exploitation etc, in the case in which the concession is allowed by the regulations in accordance with the investment project.

- the net treasury movements (free cash-flows) can be determined starting from the following assumptions: certain medium; sufficient personal capitals; the income tax must be paid at the end of the financial budgetary year; the inflation rate doesn't modify.

- the residual value of an investment project represents the value that can be recovered after the finish of the investment life duration.

- the making actual rate for the estimation (the evaluation) of an investment project represents an another appreciation element in the process of the investment decision, influencing also the present value (actualized value) of the following treasury movements.

The rate of the investment decisions in an uncertain medium imposes the use of the methods based on actualization, that allow the determination of indicators that deliver an objective foundation, compatible in the appreciation of the investment projects efficiency. To bring possible the comparisons between the investments and the benefits generated by the project utilization, the time influence must be eliminated, and all the operations must function at the same moment of reference. With that end in view, there must be calculated the capitalization of the annually allocations (that has at its foundation the relation of the composed rate) and the actualization of the capital annually recuperations by the annually cash movements resulted during the life duration of the investment.

In the economic-financial practice are used, generally, the following option norms of actualization: the net actualized value (VAN), the intern profitableness rate (RIR), the actualized recovery period (T_{ra}) and the profitableness or benefit index (IP).

a) The net actualized value method (VAN), named also actuarially value, is a cash movements' actualization technique. All the cash movements caused by the project are actualized at an actualization rate equal with the marginally cost of the capital, and than, these values are totalized.

The project is accepted if the sum, named net actualized value (VAN), is positive. As the actualized benefits will be bigger that the invested capitals, so the investment project will be more efficient. All the investment projects with a positive VAN are preferred for monetary investments, on a market interest rate "i". The investment project with the highest VAN will be the best and will determine the highest possible grow of the company benefits.

On the analogy of the notes mentioned above, VAN can be determined with the relation:

$$VAN = [VP(FN_n) - I_0] + V_r / (1+i)^n; VV_n = VAN (1+i)^n,$$

where: VP(FN_n)- the present value of the positive and/or negative cash movements in the period "n"; I₀- the initially negative cash movements (initially investment expenses); V_r- the residually value of the project; FN_t- the cash movements from the year t; n- the years number of the project working; VV_n- the following net value

To find VAN in the zero moment, you must use the relation:

$$VAN = \sum_{i=1}^5 \frac{FN_i}{(1+r)^i} + \sum_{i=6}^{12} \frac{FN_i \exp lt}{(1+r)^i} - VI$$

The reason that stands at the basis of VAN method is very simple: if a company wants to implement a project financed from extern sources, the company's value will grow up with the sum that represents the net actualized value of the cash movements estimated. If a project's VAN is positive, the growth of the company's value tops the sum of extern funds necessary to create the investment.

b) The intern profitableness rate of the investment (RIR), named also actuarial rate or actuarial cost, is defined as the actualization rate that makes the actualized value of the net cash entrances, estimated into the project, be equal with the actualized value of the costs (cash issues), estimated for the respectively project. Otherwise, the actuarially rate is the interest rate for which VAN is zero.

On the basis of what we said, we can write the equation from which we can get the RIR is the minimum rate allowed on which a money borrow for the project financing can be accepted. If it is smaller that the profitableness rate of the market, the investor is tempted to invest his capital rather on the financial market that in a productive investment.

The determination of RIR starts from the hypothesis that the future benefits (FN_i) can be constantly reinvested at this rate. The two actualization techniques VAN and RIR offer the same acceptance (rejection) decisions for independent projects, in the case in which the projects mutually exclude. If there emerge this kind of results, VAN method must be used and considered correctly. The both methods (VAN and RIR) are superior to the simple criteria of option, but VAN is a better method than RIR.

c) The actualized recovery period is defined by the number of years necessary for the investment recovery from the actualized cash movements. The recovery term, in this case, is the number of years "n", for which has place the relation:

$$(Dr) = \frac{\text{The investment value}}{(\text{sum the cash movement from the year t, actualized} + \text{sum exploitation cash flow actualized}) / 2}$$

(Dr)= duration of the investment recovery
 t = 1 to 5

In the case in which exist more different competitive readings, the project accepted is the project with the less recovery period.

d) The actualized benefice index (IPJ) express the actualized period of the project that correspond to the initial one unity investment expense (equally with one). This index is fixed

as a report between the actualized value of the net treasure entrances (FN.) and the expense for the investment, corresponding to the relation:

But: $VP = VAN$, results: $IP_a^m = VAN / A_0$

The project is profitable if $IP_a > 1$. "IP" is an index of relative profitability, because VAN measures the actualized value that corresponds to 1 leu of invested capital. The criteria IP_a is very important in the investments selection, being a part from the fructification criteria of the invested capital.

According to the rules in force in our country, the financial actualization rate is established on the basis of the minimum level of the financial profitability rate, more exactly: for the objectives financed principally from loans, the interest rate at which the loan has been obtained; for the objectives realised by auto-financing, the middle profitability rate from the under-branch from which the company is part.

The actualization rate determined (image of the capital cost) doesn't reflect also some facts that appear in the market economy, as: the inflation, the devaluating, the investment risk etc. That is why it is necessary its correction by adding at the profitability rate (R_j) of a inflation or a deflation rate (R , that reflects the prices evolution), of a monetary (R_-) depreciation rate (repreciation), of a risk investment reserve (M_r). The calculus relation between the actualization' rate, in this case, is the following:

$$R_a = R_d + R_i + R_r + M_r$$

4. Study case-the touristic pension Poiana Ilvei

The substantiation of the investment necessity and opportunity results from the theme about the substantiation of the necessity and of the opportunity considered at the acceptance of the feasibility study. By this project, the interest is the build of a tourist pension and a multifunctional court named: "TOURISTIC PENSION POIANA- ILVEI 20 PLACES", whose value is 470,000 euros. The time limit for the submission of the project was 30.10.2008, and the selection had place at March 2009.

At **29.09.2008**, the exchange rate for euro was **3.7010 lei/euro**, date when was established also the value for the future investment. The project was selected, but the company was faced with the big difference of exchange rate, in the crisis conditions and because the project should be realized in the conditions provided by the feasibility study to benefit by the non-callable funds.

The financial projections calculated to demonstrate the eligibility criterion for the investment viability consisted in:

1. The incomes prognosis :
2. The expenses prognosis
3. The projection of the benefit and loss account
4. Synthetic balance forecasted
5. Cash flow
6. Financial indicators

Hypothesis that sit at the base of financial projections elaboration were:

1. The investment value (VI) = **1.463.053 lei**
2. The exploitation incomes (Ve) = incomes realized from the current activity, according to the activity object of the applicant, calculated starting from the physic (quantity of products,

production volume, services), making allowance for the prices/ tariffs on the measure unity, different for every activity object: $t_1=1.354.008, t_2=1.581.068, t_3=1.658.768, t_4=1.688.768,$

$t_5=1.723.779.$

3. Exploitation expenses (C_e) = expenses generated by the deployment of the current activity. These are expenses related to the incomes from exploitation and they are calculated based on the activity domain and the specific consumptions, and they regard the expenses related to the project, but also those related to the activity of civil build: $t_1=1032016, t_2=1.084.913, t_3=1.143.236, t_4=1.147.236, t_5=1.151.736.$

4. The rate of the exploitation result (r_{Re}) must be minimum 10% from V_e . The result from the current activity (Re) is calculated: $Re= V_e - C_e$ - it must be positive, and the rate of the exploitation result must be minimum 10% from the exploitation incomes during the evaluated years: $t_1=23,78, t_2=31,38, t_3=31,08, t_4=32,07, t_5=33,18$

5. The duration of the investment recovery (Dr) = 2.3 years.

6. The profitableness rate of the invested capital (r_{Rc}) - must be minimum 5% for the evaluated years; $t_1=44,53, t_2=61,6, t_3=62,03, t_4=64,39, t_5=67,31.$

7. The rate of the coverage by the cash flow (RAF_N) - must be ≥ 1.2 for the evaluated years;

$RAF_N = \text{exploitation cash flow} / (\text{interests} + \text{leasing payments} + \text{dues reimbursement});$

Not is caused.

8. The due rate on medium and long term (r_i) – must be maximum 60% for the evaluated years;

It is calculated as rapport between total dues on medium and long term and total assets, where:

$TD_i = \text{total dues an medium and long term during the year } i;$

$TA_i = \text{total assets during the year } i;$

Not is caused.

9. The actualization rate – is **8%**, and it is used to actualize the future cash flows.

10. The actualized net value (VAN) – must be positive = **4.172.208 lei.**

11. The available cash at the end of the period:

$t_1=1022527, t_2=1753423, t_3=2489508, t_4=3253503, \text{ Total } t_5=4052160 .$

The decision to build the pension proved to be taken in uncertain conditions. Considering that the society disposes of the co-financing part, the exchange rate difference will be covered by a demanding credit and by a discount received at the acquisition of material, wiring and equipment. As such, the project will be realized.

5. Conclusions

The evaluation of an investment project, when the financing is realised by European funds, has at the basis the profitableness rate waited by a holder. The profitableness rate waited (the cash-flow) is the actualization rate for which the actualized benefit's hope is zero. The calculus of the profitableness that is waited has the bases on the uncertain (stochastic) dimensions of the

expenses and of the cashing, which are stipulated and corrected with some possibilities. The calculus procedure is that from the RIR.

The investment risk is the essential parameter that must be taken in consideration in the investment decision. The appreciation of the risk level is absolutely necessary. This must be realised with the “mathematical hope for win”.

References

1. Bailesteanu, Gh. *Diagnostic, risc si eficienta in afaceri*, Editura Mirton, Timisoara 1999;
2. Dănilă N., Anghel L.C., Dănilă M.I., *Managementul lichidității bancare*, Editura Economică, București, 2008;
3. Halpern, P si colab. *Finante manageriale*, Editura economica, Bucuresti, 1998;
4. Popa A., *Investitiile pe coordonatele economiei de piata*, Ed. Universitaria, Craiova, 1997;
Nicolae A., Popa A., *Piete de capital si eficienta investitiilor*, Ed. Dova, Craiova, 199;.
5. Ristea L, „*Managementul societăților bancare și instituțiilor financiare*”
6. Spulbar C, *Management bancar*, Editura Sitech, Craiova, 2008 ;
7. Triandafil C, Petre, Brezeanu., *Managementul Financiar Bancar al riscului de faliment corporativ*, Editura Cavallioti, București, 2008;
8. Țirlea Mariana Rodica – *Proiect pe fonduri europene 2008 :*
“*Infintare pensiune turistica Poiana – Ilvei*”;
9. 8. Țirlea Mariana Rodica – *Proiect pe fonduri europene 2008 :*
“*Dezvoltarea SC Livmir International SRL prin achizitii de utilaje forestiere prin fonduri structurale*”, 2009.

Theoretical and Practical Aspects Concerning the Causes for Annulment of *GMS* Decisions

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Abstract

The theme of this paper is of maximum importance for any commercial company since it presents an in-depth analysis of a delicate problem in the life of any company: the ways and means of annulling the decisions made during its General Meeting of Shareholders.

Keywords: *GMS* decision, annulment, total nullity, partial nullity, suspending *GMS* decisions

A Decision of the General Meeting of Shareholders (*GMS*) is a complex legal document which constitutes a source of obligations, specific to the business law. Article 132 paragraph 1 of Law number 31/1990 concerning commercial companies (amended and republished) states the principle that decisions taken by the *GMS* within the confines of the law or of the act of association are mandatory even for shareholders who did not attend the meeting or voted against the decision. In theory and in practice there is the question whether a company can by itself invalidate a *GMS* decision. The legal status for invalidating *GMS* decisions is not clearly defined. This confusion, especially with regard to cases of absolute and relative nullity, was the result of induction from Art. 132, paragraph 3 which expressly states the possibility of attacking a decision for reasons of absolute nullity, but it does not provide a particular criterion to distinguish between the two types of nullity.

There is great interest in the two separate regimes governing these two types of nullity and the effects that they might have on a company's life. Moreover, we believe that explicit indication of absolute nullity will have long term adverse consequences because, even after a very long time, people could appeal to *GMS* decisions which are already in effect. The resulting chain of events could have more serious consequences for a society: suppose that a *GMS* decision to end a large credit agreement used to purchase industrial equipment was put into practice. After a long period of time, one of the shareholders accuses irregularities in that particular *GMS*. A few questions arise: where is the distinction between the best interest of the company and the shareholder's own interest and how do we explain the social nature of the action for annulment? Can we censor the circumstances which made the decision necessary? Can we prove a minority abuse? We believe the only the action for annulment should be reinforced in its role as the unique and specific tool to review the legality of *GMS* decisions, possibly by modifying certain provisions in a manner that ensures that the full rights of the shareholder are obeyed. We are also thinking of the deadline of 15 days from publication in the Official Journal of Romania for attacking the decision, a provision which is intended to provide a feasible way of informing the shareholders. However, this time may be insufficient and it is calculated from an uncertain and variable date, if we consider that the Official Journal is not distributed in the day of printing and that distribution throughout the country greatly varies in time.

Coming back to the question previously expressed, the need for such a clear distinction results from some legal texts and regulations and some views held in judicial theory and practice. All

these contribute in outlining the existence of oversights and contradictions in the legal regime of absolute nullity, fault for which the consequences must be invariable. Consider the following as arguments to this effect:

- Art. 125 paragraph 5 which declares the nullity of a decision made by a GMS where the board members, directors, directorship and supervisory board members or various officers are shareholders, with the exception of the case when, without their vote, the required majority would not have been obtained;
- A decision taken by the exclusion of a shareholder's vote even though he had that right is invalid by absolute nullity; even though their exclusion does not create a minority, their vote could influence the vote of the existing majority.
- In other cases, when listing the reasons for invalidating a decision through relative nullity, it was considered that this penalty occurs only when the refused votes were essential for forming the majority
- the court could consider the case of invalidity in terms of whether the decision offered the best solution at that time or whether the applicant's vote could have influenced the outcome of the GMS decision.

The social character of the action for annulment

The action for annulment has a social character, even if it is promoted by only one shareholder. Its effects - if it is allowed and the decision remains irrevocable - shall influence all shareholders, the company being required to take a new decision and to respect provisions or rights previously infringed. Even if the plaintiff seeks to promote action for a personal interest, the social character of the action for annulment is recognized taking into account the decision's contribution in achieving a conduct in accordance with the law and the act of association.

Control of legality versus control of opportunity

It is believed that by promoting an action for annulment a control of legality is made, but not a control of opposability, whereas in the latter case the court should intervene in the functioning of the company, which is inadmissible. However, a decision made against the best interest of the company by hijacking the social function of the GMS vote is recognized as grounds for declaring relative nullity. Therefore, the analysis by the court of such a plea involves an analysis of the company's business, its economic conditions and the influence of the contested decision, i.e. whether it was opportune or not. As will be seen from the arguments that we present below, we consider outdated the theory that the judge must exercise only a control of legality over a company; the necessity of a control of opportunity is proven by the realities encountered in trade.

Classification criteria

The difficulties of making the distinction between cases of absolute and relative nullity in the case of laws which do not indicate the nature of invalidity

The criterion used in classic theory is that of the nature of interest protected by the legal provision in question: absolute nullity when the protected interest is of public nature and relative nullity when personal interest is protected.

Express cases of absolute nullity:

- a) shareholders are represented in the GMS by the board members, executives, concerned members of the directorate and supervisory board or officials of the company in general meetings, in cases when without their vote a decision would not be taken (Article 125 paragraph 5)

b) increasing the social capital without granting the right of choice to the existing shareholders (art.216 paragraph 2)

c) forbidding access to a shareholder who meets the law requirements to attend the general meeting of shareholders of a company trading in regulated market (Art. 243 paragraph 2 of Law no. 297/2004)

Virtual cases of absolute nullity:

a) Breach of the provisions for calling and holding a general meeting. Which is the reason for which it is considered that violations of these provisions attract absolute nullity of the decision? According to the theory of the civil legal act, the penalty of absolute nullity arises when an essential element for formation of the legal act is missing, such as consent, cause, object etc. Since the absence of such items can not be transposed as such to GMS decisions because they are result of the will of the present shareholders, we have to remember that in order for shareholders to be able to vote, the assembly must be convened and conducted in accordance with the law so that all shareholders have access to meeting and vote on an informed basis. So, the reason is given by the importance of these provisions in defining the will of the company. Controversy remains open, since not all provisions governing the convening and holding of a general meeting can impose absolute nullity when breached.

We believe that the sanction of absolute nullity arises in the following cases:

- The meeting does not take place at the company headquarters or in the premises indicated in the invitation (Article 110 paragraph 2)

- Not publishing the invitation Romania's Official Journal and in one of the widespread newspapers in the locality where the company is registered or in the nearest settlement (Article 117 paragraph 3). Also, the GMS I meeting convened by fax is automatically struck by absolute nullity. But it must be noted that if all shares are nominally registered, according to Article 117 paragraph 4 convening may be done only by registered mail or, if the act of association allows it, by letter sent electronically and accompanied by electronic signature, dispatched at least 30 days before the meeting to the shareholder's address as it is entered in the register of shareholders. Change of address can not be invoked against the company, if it was not communicated in writing by the shareholder. Paragraph 4 of Article 117 appears to allow the choice of convening the shareholders by registered post or by electronic letter. Consequently, it was decided that if the convocation was held under Article 117 paragraph 3 which is generally the norm, the fact that it was not also done under Art. 117 paragraph 4 cannot lead to the invalidation of the GMS decision since a mandatory means of communication cannot be imposed. (decision 1143/2007 of the High Court of Cassation, Commercial Section)

- Failing to respect the time limit for holding the GMS, i.e. minimum 30 days from the date of convocation in the Official Journal of Romania, Part IV (Article 117 paragraph 2)

- The quorum conditions for presence or deliberation are not met (art.112 and 115). In this respect it was shown that the minimum for a quorum to convene at the first extraordinary meeting in which the decision was made is a matter of public knowledge and the a clause in the statute that reduced it makes the decision absolutely null. It is noted that Article 115 of Law 31/1990 does not expressly state that the shareholders may not establish in the act of constituency other limits (higher or lower) than those set by law for the quorum and voting majority required for adoption of a decision at the first convocation of the GMS. These provisions should be read in conjunction with those of Article 112 which expressly provides limits for a quorum and voting majority required for adoption of a valid decision at the first convocation. (decision 537/2007 of the High Court of Cassation, Commercial Section)

- Meeting deadlines are not met for the first or second meeting (art.118 paragraph 3 and Article 117 paragraph 2)

- The secretaries do not record the attendance of shareholders (they would also have to state the capital each represents) and they do not record, when appropriate, a report of the auditors by which to establish the number of deposited shares (art.129 paragraph 2). We believe that if these formalities are not met, absolute nullity is proven given the fact that article 129 paragraph 6 provides states that the proceedings of the GMS can begin only after the above actions (required by law) and those required by the act of constituency are fulfilled. Thus, preparing the attendance of shareholders and minutes submitted by the auditors are mandatory to ensure the legality of the GMS.

- The minutes of the meeting were not created (art.131 paragraph 1). The minutes are intended to prove the legality of convening and conduct of the general assembly. In the case when the minutes do not include all the elements required by art.131 paragraph 1, we believe that nullity can not be claimed as those matters may be proved by other evidence.

- Breach of art.130 paragraph 2 relating to a secret ballot for the election and removal of board members, i.e. members of the supervisory board and internal auditors / censors. Breach of the decisions stating the responsibilities of the members of the administration, management and control of the company.

- Issues that were not mentioned in the convocation are discussed and voted on. In this case the shareholders' right to information is not respected; and advertising of the convocation according to Article 117 paragraph 3 is intended to inform shareholders and allow them to make decisions on an informed basis. It exempted the situation of those issues that fall under the category "miscellaneous". In practice, observing the trend of misuse of this provision, we must make a distinction between different "miscellaneous" aspects: those that are not important and concern only the day to day activity of the company and important issues that can not be reduced to the level of the company's daily operations. This matter is at the discretion of the court, which must determine the importance of the issue and to what extent should it demand the respect of the right to information. The task is easier when the issues in question were disguised as "miscellaneous" but are clearly listed to the contrary in Law No. 31/1990 in articles III and 113. In this case, the applicable penalty is absolute nullity. For example, at the end of a debate in an extraordinary GMS, under the heading "Miscellaneous" is called into discussion the issue of managing, training and liability of the administrators. Concerning the extraordinary GMS, given the tasks of this category of assembly, i.e. modification of the act of association, it is not possible to discuss any issue raised in the framework of discussions under the heading "Miscellaneous", whereas significance of the issues pertaining to an extraordinary meeting demands absolutely correct information, complete and publicized together with the convocation; article 117 paragraph 7 expressly demands this.

- Increasing the social capital without allowing shareholders to exercise their right of choice for least a month (art.211)

- If the responsibilities of an ordinary GMS have been decided by an extraordinary GMS and vice versa (art.111 and art. 113), even if the minimum quorum of attendance for deliberations is created, the decision is not valid because there can be no transference of responsibilities between different types of GMS.

b) the decision is contrary to public order or morality

Cases of relative nullity

- When the decision was taken by the vote of a shareholder whose consent was vitiated/corrupted

- When the decision is taken by shareholders who do not have legal capacity or are not legally represented (art. 125). Thus it was found that a GMS decision was taken in violation of Article 125 paragraph 5 because the company manager (who was also a shareholder) voted as the representative of another shareholder and, without this vote, the majority required by law to adopt the decision would not have been met. It is noted that according to Article 125 paragraph 5 under conditions in which managers are shareholders, prohibition of representation concerns the company's managers making no distinction between regular managers and those who are also shareholders. The position of company manager is under concern, irrelevant of other circumstances, when establishing the legality of reaching a majority. (decision 3706/2007 of the High Court of Cassation, Commercial Section)

- When the decision is goes against the best interest of the company

- When specific provisions of the act of association have been violated, others than those which attract absolute nullity. For example, non-compliance with corporate management rules (corporate governance) if the companies listed on the BSE (Bucharest Stock Exchange) PLUS category have included them in their constitutive documents.

Total and partial nullity

Although Art. 132 does not expressly provide a reference to the extent of the effects of invalidity, such an interpretation is required depending on the cited reason. Such an interpretation is particularly necessary for the requests for suspension when, even though the grounds for the breach relate to personal interest or just a point of the decision, it would be detrimental to the shareholders and the company to suspend all the points of the decision. Such issues are carefully consider in the case of the request for suspension. This interpretation is imposed by the law-maker himself once it became necessary to distinguish between absolute and relative nullity. This means that the possibility has appeared of infringement of both personal and public interest; because of this, the extent of the effects of invalidity must be reported to the reason cited. Therefore, the quantitative criterion is used to distinguish between total and partial nullity.

We must not bring into discussion as a counter-argument the social character of action because it would mean altering the basic distinction between the two categories of nullity: the interest which is protected. As a result, we would obtain a total nullity of the GMS decision whenever the grounds for it affect all points determined by the decision (eg, breach of the provisions relating to advertising the convocation). Just the same, we would obtain partial nullity when the effects of the invoked grounds concern only some aspects of the contested decision.

Several cases of violation of Law No. 31/1990 which do not result in absolute or relative nullity

Concerning the breach of certain provisions, the decision maker set the penalty expressly so that in these cases the invocation of relative or absolute nullity was excluded. By way of example:

- when the shareholder has a specific interest, either personally or as trustee, which is contrary to that of the company, he must abstain from the deliberations, in such a case, the shareholder guilty of non-compliance is liable for damage caused to the company, if without his vote the required majority would not have been obtained (art.127). So, in this case the law has expressly provided the penalty for this case: the GMS decision was made by breaching Article 127 and it can be annulled. In other cases, some courts have found, for example, that the decision to over-estimate the value of goods has injured the shareholders and brought profit to one of them who was supposed to abstain from voting; this decision was declared null.

- When the right to vote is transferred, the penalty of absolute nullity does not concern the decision of the GMS, but the convention through which the mode of exercising the vote was decided. (art.128)

Deadline

The action for annulment is made within 15 days from the publication of the GMS decision in the Official Journal of Romania, Part IV. The 15 days deadline is a prohibiting one. When grounds for absolute nullity are invoked, the right of action is guaranteed and the request for annulment can be made by any interested person.

However, the action for annulment may be brought before the publication of the GMS decision; there are no grounds for rejecting it as prematurely submitted. In the particular case of one decision (CJC Decision no. 1474 of 28.02.2002), in order to dismiss the action for annulment as prematurely submitted it was cited the lack of interest of the applicant because the decision could not affect him since it was not yet published in the Official Journal, so it could not have been applied (Article 131 paragraph 4). We believe that shareholder should not justify an interest, its existence is already assumed; thus, the moment when he becomes entitled to action is when he learns of the decision, and if he was present at the meeting, this moment is the date of the decision. By establishing the 15 days deadline which begins on the date of publication of the decision in the Official Journal, the legislature has officially set the statute of limitation for this issue. Our view is also supported by the social character of the action for annulment and its purpose as mirror of the will of society. Moreover, as we have argued, the decision can even be annulled by the company on the condition that it has not yet been published. Any passive attitude of the company's managers is not an indication of "security" for shareholders.

With respect to third party individuals who can prove an interest in the matter, we apply the same reasoning and consider that even if the GMS decision has not yet been published they can submit an action for annulment. The obligation established by article 131 paragraph 4 concerns the administrators and its observance is meant to protect both the shareholders (especially those absent) and any third parties. Violation of this duty by the administrators - for example by ignoring the 15 day statute of limitations for filing the decision with the Trade Register Office - can not be used against third parties who have already learned of a decision which harms them. In the case cited above, when considering the evidence, the court says that if the administrator delays or refuses his obligation to publish the GMS decision, shareholders may convene a general meeting to decide filing charges against him. The solution seems inappropriate and cumbersome if we only consider that: it only concerns the shareholders, not any third parties; and such a decision entails discontinuation of the administrator's mandate (art.155 paragraph 4) and is not a solution in itself since the general meeting so convened shall not have the power decide on the issue of the decision's publication. To deny the existence of a third party interest in promoting an action in court on the grounds of non-publication is to consider breaching the law (non-publication according to article 131, paragraph 4) and hindering an injured person who will probably check weekly the Official Journal anyway. The injured person should be provided free access to justice. We believe that the interpretation of article 131 paragraph 4 must be that by non-compliance with these obligations third parties can not be harmed, because they may still take action for annulment in court if they learn of a harmful decision even if it was never published.

Jurisdiction

Action will be filled with the court on whose territorial area the company has its headquarters. Jurisdiction is absolute and the dispute can not be settled by arbitration, even if an arbitration agreement exists.

Procedural issues

The application shall be handled in contradiction with the company which is represented by its administrators. If the decision is contested by all the administrators, the company will be represented in court by the person designated by the court president. This person will be chosen from the company's shareholders and will fulfill the mandate with which he was charged until the general meeting convened for this purpose will choose another person. If several actions for annulment were introduced, they can be joined. The application will be judged in the council chamber. Judicial theory and practice have opposing opinions on the obligation to resolve the action for annulment in the council chamber.

The opinion supported by judicial practice (e.g. decision 345/2003 of Timisoara the Court of Appeal) argues that this rule is imperative, the goal being to protect the confidentiality of information about the company's activities and by violating it the accused party is caused an injury that can be removed only by annulling the decision established without observing the legal forms as imposed by article 105 paragraph 2 of the Code of Civil Procedure. Therefore the decision rendered in open court should be abolished according to article 304 point 5 of the Code of Civil Procedure and the case should be sent for retrial.

The second view outlined for this issue, with which we agree even if the application is solved in open court, the decision should not be abolished arguing that the advertising provided by the open court is designed to act as a guarantee of a fair trial so that there is no danger of mistrial. The reason why some disputes are settled in the council chamber is not that they should be tried in secret, as a guarantee of confidential information on the company's activity, but because they ensure a quicker solution. In such a case the decision is invalid only if by settling the application in open court one of the parties was caused harm that can be repaired only by canceling the decision; the prejudice must be proven by the party which claims it. The irrevocable annulment of the decision will be mentioned in the trade register and published in the Official Journal of Romania, Part IV. On publication, it is enforceable against all shareholders. Thus, an action won by a single shareholder benefits all shareholders. Although Law 31/1990 does not mention the decision's effect on third parties, the theory is constant in assessing that the rights acquired by good faith third parties upon the annulment of the GMS decision remain valid.

Suspending the implementation of the GMS decision

When applying for annulment the applicant may also request the court for an injunction to suspend the contested decision. The presiding judge who issues the injunction can impose a bail on the applicant. Usually the applicant is required to pay such a bail when the reported illegality is not clearly demonstrated or in order to curb "daring and rash" actions for annulment. Moreover, the bail sum is meant to cover damages for the company in case the action for annulment is dismissed. Starting from the provisions of Article 133 regulating the suspension of enforceability of a GMS decision we notice that judicial practice is not uniform and has not yet outlined the limits to which the judge can examine the merits of the application for annulment. Some courts take the view that only one proof is required for suspension - namely proof of registration of the action for annulment, another court considers that it can not examine the issues raised in the action for annulment and, finally, another court considers that for it to admit the application for suspension several conditions must be met, respectively as detailed by Article 133 of Law No. 31/1990 and art.581 of the Code of Civil Procedure.

It is true that the judge, when solving the request for suspension, can not examine the basic merits of the case, nor has he the possibility to assess the appropriateness of suspension. This does not mean that the request for suspension should be automatically accepted based only on proof that the action for annulment has been filed, which is the only condition expressly mentioned under Art. 132. Thus, the admission of the application for suspension must be the

result of researching the general conditions of eligibility of the presidential order as established by article 581 of the Code of Civil Procedure, but also the general conditions for exercising the action, namely quality, capacity, interest. First of all, the plaintiff must prove urgency, whose existence is assessed at the time when the judgment of suspension is pronounced; secondly, it must be analyzed if the plaintiff appears to be entitled to his claims.

We do not believe that the condition of urgency is fulfilled if the applicant's rights may be protected by other means provided by Law No. 31/1990. This does not mean that the protection must be in effect, it is sufficient to prove that there are other ways to protect the rights of the applicant. Such an approach builds on the social character of the action for annulment and that if there is another option for protecting the rights of the plaintiff, the suspension of a GMS decision is not justified because it affects all shareholders and the company's activities.

Take for example, the action for annulment of a GMS decision on grounds that it was taken without respecting the right to information by not making available important documents relating to the agenda, in which case the assembled members could have taken a different decision. We believe that in this case the request for suspension must be dismissed because the alleged information which was not offered is not subject to loss and the right to information is not affected, the applicant having at his disposal specific means of protecting this right, such as, for example, article 136 of Law. 31/1990. For the same argument stated above (i.e. there is a provision protecting the rights of the applicant) the request for suspension must be rejected if it was filed by a shareholder who holds shares in a special category, against a GMS decision which has changed the rights and obligations of that class of shares, and, up to the date when the request was filed, that decision had not been approved by the meeting of shareholders of that special class. For this example, Article 116 paragraph 1 states that the effects of such a decision occur only after their approval at the meeting of shareholders of that special class. This is why the plaintiff can not prove an injury, because the condition of urgency is not fulfilled.

Suspension is a temporary measure, it can produce maximum effect pending resolution of the merits of the action for annulment. Its temporary status also results from the Article 133 paragraph 1 which states that the request for suspension is filed together with the action for annulment. Without this information, the suspension would not have been linked to filing the action for annulment and the temporary nature of the measure would not have been evident since the plaintiff would not have been obliged to also file an action for annulment. For the same reasons any such request for suspension filed independently from the action for annulment is not possible. Assessment of the action for annulment is based on the apparent circumstances on which the GMS decision is founded because when stating the considerations of the decision the judge should refrain from making reference to the merits of the case. This does not mean that the settlement of the suspension will not consider the general conditions of admissibility of the action for annulment or that it will not examine its apparent legality. We believe that there are reasons for rejecting the request for suspension: the action for annulment is inadmissible, such as for example the action for annulment is made by an administrator against a decision which has dismissed him from this office, the action for annulment is filed too late or the plaintiff was present at the GMS in cause but he abstained from voting etc.

The debate of this topic raises some other questions: Could the company (in case the resolution of the action for annulment is delayed) remove the effects of temporary suspension? What are the measures the judge may order for settling the request of suspension? May the judge intervene in the life of the company? In settling the request for suspension we should consider the cited grounds for annulment from the applicant. Analysis of this reason should be generic, without an analysis in the context of the GMS otherwise the judge would resolve the merits of the case, which is not permissible via presidential order. In other words, total or partial nullity must be determined according to the cited reason for annulment. Thus, if the plaintiff relies as

grounds convening the meeting without complying with Article 117 paragraph 3 of advertising, it becomes clear that the reason affects all the points of the contested GMS decision.

Contrary to this, if the plaintiff claimed absolute nullity, for example, on grounds that the social capital was increased without offering preferential rights to existing shareholders (art.216 paragraph 2), it is natural that the suspension of the GMS decision will concern only this point of it and the execution of the other issues decided can not be suspended. We believe that in this case even if the plaintiff requests a the suspension of the whole GMS decision, the judge may request him to limit his request otherwise the entire request for suspension can be rejected following the analysis of eligibility conditions with reference to all points of the decision. By not allowing such a solution we would enable shareholders to abusively exercise their rights and affected the company's activities, although the reasons they invoke relate only to some parts of the decision. In other words, there must be a direct correlation between the breached rights, the protected interests and the exact part of the decision which causes the breach. Partial nullity must be understood in quantitative sense.

The request for suspension shall be heard in open court and not in the council chamber since it is against the company. We support this view which is also the most common in practice because no legal text states that the request for suspension shall be heard in closed session in the council chamber. As it is stated expressly for the application for annulment of a GMS decision (Article 121 of the Code of Civil Procedure) the hearings will be public, except where the law states otherwise. Therefore public hearings are the rule and the exceptions are strictly due to interpretation, they must be expressly required by law and they can not be extended by analogy. It was considered that when the request for suspension is granted, the administrators should be summoned according to Art. 132 paragraph 5, which states that the company is represented by its administrators, i.e. the directorate.

We do not believe that suspension should be done in the council chambers because of the above argument and also because the law does not expressly require this, and as a practical argument which would impede the settlement of such claims, the Administrative Council of some companies has a large membership. We must not forget that the administrators have a legal obligation to represent the company and we think Art. 132 paragraph 5 was intentionally introduced, although it is redundant, just to make it clear that the administrators should represent the company especially since the plaintiffs are often major shareholders. The order of suspension may be appealed to within 5 days from its issuing.

A problem that requires a separate analysis relates to the admissibility of the request for suspension made by the administrator revoked by a GMS decision. In this case, by the request for suspension filed by presidential ordinance under Article 133, the applicant requested suspension of the enforceability of the GMS decision by which he was removed as an administrator. The suspension is required until the merits of the action are resolved and the decision annulled. Note that the only point of the GMS decision was the revocation of the administrator.

By ordinance No. 9 of 01.06.2006, the Dolj Court upheld the application for stay of execution of a GMS decision until the merits of the case were solved. The case made by the plaintiff on the grounds of Art. 132 paragraph 4 was rejected based on the fact that Art.581 of the Code of Civil was respected. This verdict requires an examination from at least two respects: first, the question is whether there are grounds for such a request for suspension in the case of companies with limited liability. It is true that Article 133 provides for the formulation of such a request, but the text of the law refers strictly to shareholder companies.

Art.196 refers to limited liability companies and it contains only one reference to Art. 132, which governs the action for annulment but makes no reference to the request for suspension

which is governed separately by Art. 133. Thus, the interpretation of the law must be restrictive, given that where the law does not distinguish, neither is the user able to do so. Secondly, this was not a question until Law No. 31/1990 was amended by inserting the paragraph 4 to Art. 132 which stipulate that administrators i.e. supervisory board members may not appeal a GMS decision regarding their dismissal from office. Leaving aside the first criticism, it is clear from Art. 132 paragraph 4 that as long as administrators or supervisory board members are no longer entitled to file action for annulment, they can not file any application to suspend the enforceability of GMS decision and such a request is inadmissible.

The insertion of Art. 132 paragraph 4 is justified, because it strengthens the legal doctrine that states that revocation of an administrator is ad nutum and can occur anytime, regardless of the will or of any contractual fault of the administrator. Considering that the revocation is ad nutum, justification is not needed (because it represents the will of the company embodied in a GMS decision); on the other hand, accepting the request to suspend the GMS decision against the will of the company has no basis in theory. At this moment, there exists a legal basis for this theory: Art. 132 paragraph 4 of Law No. 31/1990. In conclusion, in this last considered aspect, we believe that the court should reject the request for suspension.

References

1. ****Înalta Curte de Justiție și Casație- Jurisprudența secției comerciale pe anul 2007*, Hamangiu Publishing House, 2008
2. BOROI, Gabriel; SPINEANU MATEI, Octavia - *Codul de Procedură civilă adnotat*, All Beck Publishing House, Bucharest, 2007
3. CĂRPENARU, Stanciu – *Drept comercial*, All Beck Publishing House, 2002
4. DAVID, Sorin, in Stanciu D.Cărpenu, S.David, C.Predoiu, Gh. Piperea, *Legea societăților comerciale*, C.H. Beck Publishing House, Bucharest, 2006.
5. DOGARU, Ion; SĂULEANU, Lucian - *Teoria generală a obligațiilor comerciale*, Didactică și didactică Publishing House, Bucharest, 2006, pg. 64-65.
6. GEORGESCU, I.L., *Drept comercial român. Teoria generală a obligațiilor comerciale. Probele. Con-tractul de vânzare-cumpărare comercială*, Lumina Lex Publishing House, Bucharest, 1994
7. GEORGESCU, I.L. - *Drept comercial român*, vol.II, All Beck Publishing House, Bucharest, 2002
8. GEROTA, D.D. - *Curs de societăți comerciale*, Fundația Culturală Regele Mihai Publishing House, Bucharest, 1928;
9. GHEORGHE, Cristian - *Societățile comerciale. Voința asociaților și voința socială*, All Beck Publishing House, Bucharest, 2003
10. JORA, Cristian - *Aspecte privind admisibilitatea suspendării hotărârii adunării generale în cazul intentării acțiunii în anularea acesteia*, in R.D.C., no. 6/2006
11. LE CANRTU, Paul - *Droit des societes*, Montchrestien Publishing House, Paris, 2003,
12. PIPEREA, Gh. - *Societățile comerciale, piața de capital Acqnis comunitar*, All Beck Publishing House, Bucharest, 2005
13. SAULEANU, Lucian - *Studiu cu privire ia acțiunea în anulare și acțiunea în constatarea nulității absolute a hotărârilor adunării generale a acționarilor. Suspendarea executării acestora*, Revista de drept comercial nr 7-8 /2007
14. ȘCHEAUA, Marius - *Legea societăților comerciale no. 31/1990 commented and annotated*, Rosetti Publishing House, Bucharest, 2002

The Comparable Analyse of Internet Banking Solutions Existing in Romania

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Abstract

E-banking is the first of the banking services(e-Banking, Mobile Banking, Home Banking) that really economize time, because it allows to the user to accomplish from behind the computer many operations in the bank account, represents the computational solution that allows to the holder to have access at distance at the capitals from his account, purposing to obtain information about his account situation and the situation of the effected operations, of the payment and of the capitals transfers over a beneficiary, by a computational application, of a authentication method and of a communicational average, the e-banking is absolutely necessary in the integration conditions.

Keywords: e-Banking, Mobile Banking, Home Banking

JEL Code: M

Introduction

Internet Banking, Mobile Banking or Home Banking are modern banking instruments, intended to the banks' customers, natural or legal juristic persons, for the payment of bills, accomplishment of transfers, money transfer from an account to an another and so on.[1]. The Internet-banking can be used from any computer connected to Internet, no matter where it is. Practically, in the most of cases, the user of this service doesn't need to have his own computer, an I-Cafe being useful for him. There are the same operations as for E-banking: transmission of payment orders, transfers, exchange, view of the accounts' situation etc. Banks started to jump over the primary stage of E-banking, directly to Internet Banking. The E-banking services subsist from more than 20 years, and in Romania, beside ING Barings and ABN Amro, they are the founders of this kind of services. The operations that can accomplish by E-banking are starting from the view of companies' account balances, arriving to payments, transfers and exchange, creating term deposits etc. The Electronic-banking or E-banking is the first of these banking services that really economize time, because it allows to the user to accomplish from behind the computer many operations in the bank account, without being necessary to go to the bank, to wait at the office, to complete forms, to sign it, to stamp it, to allow it to the clerk, all these needing many time.

To exemplify, we will refer to the order ticket, that is a payment instrument and credit title, under private signature, by which a person, named under-writer or issuer, in quality of debtor, must pay to a person named beneficiary, in quality of creditor, a sum of money, in a certain term or at presentation. The obligation of the under-writer (the issuer) of a ticket at order is identical with that of the acceptant draw of a bill, because it must absolutely pay at term the sum inscribed on the title, so the order ticket must contain the following obligatory mentions:

a) the name of order ticket. The absence of the name of order ticket attracts the nullity of the title;

- b) the unconditional promise to pay a determined sum (sum that must be mentioned in ciphers and letters). The issuer (the under-writer) must absolutely pay a sum of money. Any conditions, limitations or anti-performances that add to the promises to pay the order ticket attract the nullity of the title;
- c) the name of the person for which or at the order of which the payment must be accomplished (the beneficiary). The banks only accept order tickets where the name of the person for which or at the order of which the payment must be accomplished- the beneficiary of the order ticket- is indicated very clear.
- d) the date of issuance. The date of issuance must be unique, possible and certain.

The order tickets will wear clear mentions respecting the day, the month and the year of the issuance, to admit:

- the estimation of the date of payment on a certain period after the issuance;
- the finding of the legal capability of subscribers at the moment of signing on the title;
- the determination of the subscribers' rights for the bill action against the bill obligators (protest, regress etc.)
- e) the signature of the issuer (under-writer), and, for legal juristic persons, the stamp.

The comparison between the necessary time for the manually complement and the time necessary for the electronic complement is not necessary, because, in fact, there is many time economised: time with the complement, time to go to the bank, time to waiting at the pay office and time necessary to the office operator.

The services offered by E-banking are the following:

- payment orders in lei;
- scheduled payment in lei;
- global payment orders used for the employees salaries;
- intra-banking transfers between the own accounts of card and/or current;
- intern or extern currency payments;
- exchanges;
- the visualisation in any moment of the account balances opened
- information about different appreciations
- possibility to visualise and to print the statements
- definition of the beneficiary of the payments, directly by the client.

The banking transfers, the payment orders, the banking changes and the operations' historical consultation can be applied directly from the mobile phone. Demirbank has introduced, for the first time in Romania, the service Mobile-banking. The bank doesn't collect any tax for this service, and the client need only a mobile phone with WAP (Wireless Application Protocol) and a subscription for this service. To use Mobile-banking, a client of the bank must sign a contract with the bank. He receives a "user-name" and a password, and after this he can use his mobile phone for baking operations. There is only one constraint- the money from the account can be transferred over a predefined list of companies. In the case in which the mobile phone is lost and, hypothetically, the person who found it would know the "user name" and the password, he could transfer the money only over a company from the predefined list. A successfully system is that system that evolve, that adapts the faster to the needs of every customer, so the customer must analyse the hard and the poor points at the banks' offers and to choose what corresponds to his demands.

In this sense, we took over some information from five banks, to create a comparative analyse of the opportunities. Except the high availability, this service also offers the advantage of the simplicity. Generally, the navigation on the sites dedicated to the "Internet banking" is simple

and intuitive, the majority of this product interfaces being "user friendly". The mobility is another benefice of this service. Wherever you are, if you have a computer connected at the Internet, you can realize the operations that the "Internet Banking" puts at your disposition.

More than that, to encourage the using of the "Internet Banking", banks perceive a smaller commission for the online operations than for the operations realised at the pay box or by the telephone. Therefore, the E-banking (electronic banking) is also named electronic fund transfer, and it uses the computer and the electronic technologies as a support for paying and for other banking operations. The electronic banking services include three elements: internet banking, home banking and mobile banking. If for the first two elements you need a computer connected at the internet, for the last element (mobile banking), you need only a telephone.

Any physical or juridical person can be an e-banking beneficiary. This means that, even if you are an employee or an employer, you can pay your bills, your taxes, your dues, your penalties etc, by a simple "click" at the computer or on the mobile phone, wherever you are.

The internet banking represents a simple way to control your banking account and your money, sitting in front of the computer, at home or at work. By this service, you have the possibility to keep the relation with one or more banks, to make operations without going at the bank, without waiting your turn and without depending of a schedule or a place. You only need an internet connexion and an internet e-banking subscription at one of the banks that offer this facility.

The internet banking is a service generally structured on the following modules: administration, accounts, statements, payment orders in lei, payment orders in currency, financial and banking information, cards and taxes.

The home banking is the way in which you can find out detailed information about the current situation of your accounts (card, storage or flow), as about the historical of the transactions realised.

The mobile banking is that service offered by the mobile telephony operators from Romania and from abroad, that ensure the permanent link between a client and a bank, by using the mobile phone. There is no necessary a special SIM card.

The steps that you must do to use the Internet Banking services are the following:

- First, the person goes to the bank or to the banks where he has opened accounts or a card; there, he must complete an access demand to the e-banking service.
- After signing the forms for access, he will receive a password or a PIN code, which will allow him to enter in the system or directly on the bank site.
- Every bank will offer him consultancy, by its specialists, during the first accessing months, so that he can familiarize with payments and with the operations realized directly from his personal computer.

Some of the operations that can be realized by Internet Banking are:

- Verifying the account or the card sold that a person has
- Making payments (in currency or in lei) over physical or juridical persons, directly in their account.
- Currency sale or buy.
- Creating term deposits, in lei or in currency
- Paying taxes or dues
- Observing the capital movements from the account directly from the personal computer (payments realised, sums received, final sold)

– Observing the evolution of the term deposits or of an account sold.

To offer to the clients the “Internet Banking” service, a bank must obtain an advice from the Ministry of Communications and Informational Technology. In present, according to the information that exists on the Ministry site, there are 30 services of “Internet Banking”, mobile banking and home banking advised.

The advantages of using the Internet Banking services are:

- unlimited access (24 hours from 24, 7 days from 7), from any place where is an internet network or a telephone;
- maximum security in the operations
- simple access at the information regarding the banking products
- time and sometime money economy

The security obligations that an e-banking system must accomplish are:

- information privacy an integrity
- personal data protection
- authentication of the parts that participate at the transactions
- maintenance of the banking secret
- continuity of the services offered to the clients
- prevention, detection and monitoring the non-authorized access in the system
- restore of the information administrated by the system in the case of natural calamites or inscrutable events.

1. Transilvania Bank [2]

Transilvania Bank, conscious of the dangers that result from the informatics identity robberies, firmly engage to assure the dates' privacy of it's customers and of their transactions. At the same time with the bank's efforts for the dates' security, because of the risk development of the illegal attacks, online or otherwise, and of the sophisticated methods, it is necessary that the customers be conscious of the potentially menaces, that he can identify a malevolent action and to apply the adequate protection measures. To keep the privacy of the personal information and of the security of the on-line activity, the bank demands to the customers to NOT communicate any information regarding the personal identity, the accounts, the card number, the expiry date, the code PIN or other banking produces and services detained. If the method used is the e-mail, than an electronic message is send to the customers, pretending being sent by a lawful source (in this case, the bank), message which demands some confidential information, which can be introduced using a link over a site indicated in the message text. This link directs the customers over a false site that reproduces very well the original page of the bank or of the e-Banking product used. By introducing the personal and confidential data and validating it, the attackers take possession of these information and they can use it to scroll operations in the account of the identity attacked by them. The fishing-attack can be realised also by the phone: a person pretends that he calls from the bank and, by inventing technical problems (for example in the payment system), he demands confidential data as: the PIN code, the account number, the password. Transilvania Bank will never admit e-mail messages that contain links over different sites where you must introduce information about the personal identity, the accounts, the card number, the date of expiry, the PIN code or other banking products and services that you use.. Transilvania Bank engages it-self to assure the higher security standard in its own systems, but you, as final user, you are playing a very important role in the assurance of the information security sent by internet.

2. The Commercial Romanian Bank

The service Home banking MultiCash BCR admits the realization of banking operations in lei and currency, convenient and in totally security, directly at the customer's seat, by an application that will be installed on the customer's PC. The Internet service Banking e-BCR/e-BCR+ offers the opportunity to effect convenient and in maximal security of the banking operations in lei and currency, from any computer connected at the Internet.[3] The customer signs the Convention for authorized legal and physical persons, regarding the accomplishment of banking operations by MultiCash and e-BCR/e-BCR+; he must dispose of a minimal technical endowment, consisting in: a computer compatible IBM, Pentium II, modem/connection at the Internet and operation system WINDOWS 2000, XP, ME etc.[4]

The operations that can be effected by the service MultiCash/e-BCR/e-BCR+ [4]:

- payments from the accounts/undercounts in lei and currency, in intra and inter-banking system
- sale/buy of currency
- visualization of the statements for the own accounts (inclusive Maxicont) and for under-accounts (in lei and currency)
- constitution of deposits at term in lei and in currency
- consultation of the informative report of the Treasury Direction, which contains information about: appreciation, interest rates of deposits at term, the quotations of the deposits Certified with discount, the quotations of the Stock Exchange
- the import/export of payment Orders/ statements in/from other applications
- liquidation of deposit before the term
- buy/buyback of deposit certificates with discount ACTIV BCR

Customer's advantages [4]:

- the program installation (only for Multicash), the training for the customer and the technical assistance are free
- permanently electronic link with the bank with intention to transfer the payment orders and to obtain financial-banking information
- rapid and secure transfer of the sums in currency for and from Romania
- security and privacy of the transactions effected
- operations control from distance by using the electronic and/or dispensed signatures or the facility of subscription, using the function Sign
- control over the rights of access and operation of users of the company and/or the facility to decide over the users' rights of operations, inclusive sum limits on day/operation

The collection and the payment operations in intra and inter-banking system are commissioned according to the price list in force. [4]

The level of commissions can modify making allowance of the bank policy, and the modifications are posted at the BCR centres.

3. Uni Credit Ţiriac Bank [5]:

Uni Credit Ţiriac Bank started an age group for the use of the services Online Banking and Business Net, that address to the physical persons, respectively to little and middle companies. For contracts concluded until 31 March 2009, the banks offer gratuity in using the appliance "digipass" for six months. After these six months, the customer can choose the take-back of the access appliance at the accounts of the issuer branch office and the closure of the account for Online Banking, or he can choose to use it on, paying the guarantee.

"In 2008, the number of transactions realised by internet banking by the bank customers physical persons and little and middle companies doubled relative at 2007. It is certain that the

banking operations at distance are more and more appreciated and they will probably continue to develop, considering also the costs advantages. The company new-launched is one of the measures that regard the amelioration of services quality, in this case by offering to the customers who want to manage their banking accounts from distance the most advantageous access at internet banking”, has declared Zoltan Major, vice president Uni Credit Ţiriac Bank, responsible of Retail Division. The bank perceives commissions 50% lower for the operations realised by internet, comparative with those from pay box.

4. ING Home’Bank:

Description:

- ING Home’Bank is your own bank, to which you can dial at any hour and from anywhere in the world
- ING Home’Bank- you can effect banking operations 24 hours from 24, 7 days from 7, wherever you are in the world, as long as you have access at a computer connected at the Internet
- you have total security by: the most advanced data encryption algorithm and by the certificate VeriSign SSL, for the website identity and authenticity verification

Benefits [6]:

- with ING Home’Bank, you can verify the balances of all your accounts opened at ING, debit accounts or credit accounts, as well as the deposits and the assurances afferents to credits
- your on-line bank from ING allows you to effect payments and transfers in lei and currency over the accounts opened at ING Bank or at other banks from Romania and in foreign countries
- you use and reimburse the credit lines
- you pay the utilities bills
- you effect exchanges, without commission
- you verify the transactions effected during the last six months

On the BCR site, at a simple search, you can find information about the benefits of this kind of transactions and how you can realise them, what do you need for such a transaction. Unfortunately, there are too few information about security, or even at all, and this is the reason for which it is questionable the election of this bank services. The third offer of UniCredit Ţiriac Bank in an offer in process, but we can’t find anything about the benefits and the security of these services. We also find articles about robberies from this bank by the fishing method, but this can not convince us to choose this bank as new customers who care about their money. From these banks, the most preferable is Transilvania Bank, because it specifies the security measures for the financial cash of customers, the operations that can be effected and protection measures for the customers. On the BCR site, at a simple search, you can find information about the benefits of this kind of transactions and how you can realise them, what do you need for such a transaction. Unfortunately, there are too few information about security, or even at all, and this is the reason for which it is questionable the election of this bank services. The third offer of UniCredit Ţiriac Bank in an offer in process, but we can’t find anything about the benefits and the security of these services. We also find articles about robberies from this bank by the fishing method, but this can not convince us to choose this bank as new customers who care about their money.

5. The CEC Bank internet banking

CEC online is an Internet Banking service offered by CEC Bank, that ensure the access over the products and the banking services 24 hours from 24, 7 days on week. The clients can effect many banking operations, from the office, from home or from anywhere. All that is necessary is a computer and an internet connexion.

To use this service, you need first of all an account opened at a CEC branch office. You must complete the agreement for using the internet banking service and the demand for access/ access modification at the Internet Banking service of CEC Bank. The client will receive the connecting data and a "digipass" with which he will have access 24 hours from 24 at the bank services. There a guaranty of 50 lei/digipass, the subscription being zero, and the other operations effected by CEC online having a commission reduction with 30% regarding the prices of the operations realised at the bank office.

The information transmission is protected in the following way:

- the communication client-bank is realised using the protocol SSL 3.0 128 bites;
- the digipass device is protected by a PIN code, necessary for the authentication on the Internet Banking
- the users access can be realised only by using a user name and a single code generated by the digipass
- the digitally signing is realised with the same code generated by the digipass, to ensure the non-disclaim
- the system security is bigger because of the protection measures of the network with firewall devices
- the system disconnect a user after 10 minutes of inactivity
- the automat blockage of the digipass after 3 wrongly testing to introduce the PIN code.

The transactions that can be effected by using the current account in the online CEC application are:

- the visualisation of the statements and of the transactions
- the consultation of the current accounts situation (operations historical)
- payments in lei intra- and inter-banking
- payments in currency
- scheduled payments (periodical)
- payments in expectation (payment orders that have a time limit for the payment, different from the current day)
- loading payment folders from the clients applications by using the Internet Banking
- exchanges
- deposits creation and liquidation
- remission of payments confirmations

By the card account, you can realise INTERBANKING payments over current accounts, over Privilege or over another card account (from CEC Bank).

The juridical persons can effect by using the Privilege account all the transactions that the current account admits.

The physical persons can effect by using the Privilege account only intra-banking and inter-banking payments.

Conclusions

By making a comparative analysis, on concrete situations, over the five banks taken in our study, we can note that the problems opened by e-banking, are:

- the risk of fraudulent attacks;
- comfort in using the application;
- the customers' option behind the multitude of e-banking applications and the criterions that lie at the bedrock of the choose of one application;
- the commissions and the taxes that banks perceive for these applications;
- the diversity of the operations offered by the application;
- the rapidity in the information transfer from the payer over the bank;
- the transfer rapidity between the banks;
- the rapidity to actualize the information after having finished the transfers;

- correction possibility in the case of the introduction of some incorrect information or some possible mistakes;
- the compatibility with financial- bookkeeping systems, those that belong to the banks and also those that belong to the companies;
- the way in which this kind of operations answer or fold on the customers' needs.

Consequently, we consider the these problems resolution supposes first of all a marketing study on the banking market and a comparative analysis of the banking offers, so that the decision for one version can be the best and folds on the beneficiary demands.

Starting by the e-banking definition, given by the ORDER no. 389 from 27 June 2007, as a payment instrument with access at distance, represents the computational solution that allows to the holder to have access at distance at the capitals from his account, purposing to obtain information about his account situation and the situation of the effected operations, of the payment and of the capitals transfers over a beneficiary, by a computational application, of a authentication method and of a communicational average, the e-banking is absolutely necessary in the integration conditions.

The analysis of the computational commerce indicates us an ascending evolution from the view point of the clients, but also from the view point of market transactions until October 2009, date after which, because of the economical crisis, the situation will change: the value volume on the first trimester of 2009 diminish in comparison with the same period of the year 2008, but the transactions number in the same period grows up. We consider the these problems resolution supposes first of all a marketing study on the banking market and a comparative analysis of the banking offers, so that the decision for one version can be the best and folds on the beneficiary demands.

References

- [1] <http://www.ebanker.ro/Produse.aspx>
- [2] <http://www.bancatransilvania.ro/printeaza.php?id=426>
- [3] http://www.infobancare.ro/internet-banking/BCR/Home_Banking_MultiCash_BCR.html#detalii
- [4] https://www.sparkasse.at/PFA/Service_electronic/Multicash/e-BCR+/sPortal.portal;jsessionid=LGTPJr9Nr7x7nOVbjW5dHzzvLGhpy1flnsjDwnclTnJ3Sr2T8NL!-2003172691?nfpb=true&windowLabel=LABEL_MENU&urlType=action&LABEL_MENU_sh=6737810a8020407f4a54e7b9f312265e&LABEL_MENU_zz=31481.853136499492&LABEL_MENU_pc=1&cci=09002ee28039426b&desk=bcr_ro_0785&&navigationLink=TRUE&menu_navigationId=02181191493609119000194&menu_chronicleId=09002ee2803942b7&navigationId=021811914936091190000194
- [5] <http://www.atitudinea.ro/articole/bancar/unicredit+tiriac+bank+ofera+acces+gratuit+ timp+de+6+luni+la+serviciile+de+administrare+a+conturilor+prin+internet>
- [6] <http://www.ing.ro/ing/ing/Home-Bank.html>
- [7] <https://www.bcr.ro/bcrr0>
- [8h] <http://www.bancatransilvania.ro/>
- [9] http://www.inm-lex.ro/fisiere/pag_33/det_48/256.pdf
- [10] http://www.euroavocatura.ro/legislatie/200/Legea_nr_58_1934,_asupra_cambiei_si_biletului_la_ordin_Actualizata_2008
- [11] <http://www.bnro.ro/500.htm?aspxerrorpath=/apage.aspx>
- [12] <http://www.ing.ro/ing/ing.html>
- [13] <http://www.ingromania.ro/wps/portal>
- [14] <http://www.banking.ro/>
- [15] <http://www.cec.ro>

The Effects of Fiscal Policies over the Consumer Behavior

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Abstract

The article presents the modalities by which consumer expenses of a household are linked to the available income, income represented by wages, social security benefits and previous liquidities, called affluence. This article is also focused on the effect of taxes on the household consumer behavior. In what regards previous owned capital (affluence), it will be updated by a discount factor. The update is accomplished to better keep track of the household future behavior.

Keywords: Cybernetic system of consumer, consumption, optimality, wealth, fiscal policy, consumption dynamics, transversality condition.

JEL Code: D11, D12, D13, D31

1. Introduction

The concept of fiscal policy refers to the way in which the governments adjust its own level of expenses having as main purpose the monitoring and the influence in economy. Fiscal policies are the set of regulations that monitor the assessment and the levy of taxes, duties and other public income. They can also constitute an instrument of intervention, which will monitor the accomplishment of general and specific objectives of the government. If the government will face a budgetary deficit, than it will need supplementary funds to cover up this deficit. In order to get supplementary funds, the government will make public loans that will be expressed in as governmental bonds or monetary emission. After the government covers up the deficit (by means of bonds), there is a possibility that the revenue tax will increase, because the loans that the government made will lead to a greater need of available income so it can be invested in the bonds that the government issues. This phenomenon is known as crowding out work and it is contrary to the objectives of the budgetary deficit. Another alternative the government has to tackle the increase in governmental expenses is the financing of major construction projects [BIM1992], [Maz2009].

In what regards fiscal policy, equilibrium between influences must be found. Thus, stimulating an economy which is stagnating, an increase in the risk of inflation can be reached. This is happening because an increase of money quantity followed by an increase of consumption demand can lead to a decrease of monetary value – meaning a greater amount of money is needed to buy a good than if the value of the currency was not modified [DoN1997].

In the case of a decreasing economy, unemployment level will be high, consumer expenses will be high, and the businesses do not produce revenue. In the case of such an economy, the government will decide „to get the economy back on its feet” by reducing duties. Reducing duties will result in a greater increase of consumer expenses and at the same time governmental expenses will increase, due to the acquiring of services from the market. By acquiring more services, the government will create new working places and wages, which in turn will influence the economy by pumping money and by reducing the unemployment level. With more money in the economy and less taxes to pay, consumers will require more services and goods, which in turn leads to a „revival” of businesses. In the case in which there are no new inputs in the process, productivity increase can cross the line and lead to an increase in the money on the market, this excess leading to a decrease in currency value and at the same time an increase in prices, which leads to inflation. When inflation is big and strong, a recession of the economy will take place. In this case, the government can use fiscal policy to raise taxes and duties instead of accumulating money from the economy. Fiscal policy can dictate a decrease in governmental expenses which will lead to a decrease in monetary circulation. The negative effects of such a policy on a long term can be a slow economy and a very high level of unemployment [GiFA1994].

In what concerns the effects of fiscal policies, these are not always the same, but depend on political direction and the goals of the politicians. Thus, reducing taxes and duties will affect only the middle classes (this group being also the biggest economic class). In the case of an economic decline, this class (the middle class) will be the most influenced by paying higher taxes and duties.

The conclusion that can be drawn is that the main problem in what regards the impediments of politicians is to decide how much the government should get involved in the economy. The level of involvement in the economy is equal to that level that can sustain an economy where its welfare depends on the welfare of the population [wwwin-HeR].

2. The policy of balanced budget and the dynamics of consumption

Because the focus is on the balanced budget policy, we will consider that the government is spending only what income is available, the income being expressed by taxes and duties levied:

$$g_t = \tau_t \quad (1)$$

where g_t represents the amount of goods the government is buying and is represented in the form of governmental spending, and τ_t represents all taxes. It is presumed that the government destroys the goods it acquires, which is highly unrealistic in most cases, but this presumption is made to make the case easier and it does not lead to great differences in the analysis, exception being the case in which the optimal determination of governmental acquisitions is not taken into account.

Using the idea of wealth per capita of the households and taking into account of the taxes and duties imposed, the following dynamic equation take form:

$$c_t + \dot{a}_t + na_t = w_t + (1 - \theta)r_t a_t + z_t - \tau_t \quad (2)$$

where c_t represents consumption, \dot{a}_t represents the dynamic equation of wealth and presents its growth, a_t represents wealth per capita, na_t represents wealth coming to the population (n -number of members), w_t represent wages, θ represent rate of refreshment of discount factor, r_t means the rate of interest, z_t represent the level of social insurance per capita.

The left side of the equation (2) presents the use of acquired income. The division of acquires income is made between consumption and putting aside. The right side of the same dynamic equation presents all the sources of income that a consumer gets. From the obtained revenues taxes and duties that are applied will be subtracted.

By using the equation (2) and by rearranging the terms the dynamic equation of wealth will be obtained, that will take the following shape:

$$\dot{a}_t = w_t + [(1 - \theta)r_t - n]a_t + z_t - \tau_t - c_t \quad (3)$$

Or the utility function at time t, which will have the form:

$$U_t = \int_t^{\infty} u(c_t) e^{-\theta t} dt \quad (4)$$

and will represent the sum of all momentary utilities of the current and future consumption for each individual, refreshing them with a discount rate θ . The sums of utilities appear with an integral because continuum case is taken into account. The function of utility of consumption ($u(c_t)$) represented by the equation (4) respects the imposed conditions on the utility function, that is non negative, monotonous increasing (the first degree derivate is positive) and concave (the second degree applied derivate is negative).

The target is that on maximizing the utility function U_0 :

$$\left\{ \begin{array}{l} \max_{c_t} U_0 = \int_0^{\infty} u(c_t) e^{-\theta t} dt \\ \text{under the conditions} \\ \dot{a}_t = w_t + [(1 - \theta)r_t - n]a_t + z_t - \tau_t - c_t \\ a_0 - \text{data}, c_t > 0, a_t > 0 (\text{negativity condition}) \end{array} \right.$$

Because the utility function is treated in the continuum case, to determine the optimum solution of consumption, taking into account the wealth and imposed taxes and duties, the Pontriaghin principle will be used – continuum case [OpG&all1996].

The „profit” function (because maximization is wanted) will take the form:

$$\max J(u) = g(t_f, a_f) + \int_0^{t_f} u(c_t) e^{-\theta t} dt \quad (5)$$

where $g(t_f, a_f)$ represents the evaluation of „cost of reaching” final wealth a_f , and $h(t, a(t), c(t))$ represents the „effort” needed to reach the consumption policy, along the trajectory of wealth.

The Hamiltonian for the utility function is created:

$$H(t, a(t), c(t)) = \lambda_0 u(c_t) e^{-\theta t} + \langle \psi(t), \dot{a}(t) \rangle \quad (6)$$

where $\psi(t)$ represents adjunct variables. Because the optimization case is solved t=fot the maximization case, than the variable λ_0 will have the value 1, thus the hamiltonian will become:

$$H(t, a(t), c(t)) = u(c_t) e^{-\theta t} + \langle \psi(t), \dot{a}(t) \rangle \quad (6')$$

Using the relations (3), (6) and knowing that $a(t_0)=a_0$, the dynamic of the system will become:

$$H(t, a(t), c(t)) = u(c_t)e^{-\theta t} + \sum_{i=1}^m \psi_i f_i(t, a, c) \quad (7)$$

where $f_i(t, a, c)$ represents the dynamic equation of wealth.

Taking into account the relation (7) the necessary condition of optimum is written like this:

$$\max_{c_t} H_t = u(c_t)e^{-\theta t} + \psi_t [w_t + [(1-\theta)r_t - n]a_t + z_t - \tau_t - c_t] \quad (7')$$

meaning: $\frac{\partial H_t}{\partial c_t} = 0 \Rightarrow u'(c_t) = \psi_t e^{\theta t} \quad (8).$

Assuming that the functions $u(c_t)e^{-\theta t}$ and f_i are differentiable in the state variable ($a(t)$) and in adjunct variable, a canonic system will be obtained formed by two differentiable equations:

$$\begin{cases} \dot{a} = \frac{\partial H}{\partial \psi}(t, a, c, \psi) = f(t, a, c) = 0 & (9a) \end{cases}$$

$$\begin{cases} \dot{\psi} = -\frac{\partial H}{\partial a}(t, a, c, \psi) = -\left(\frac{\partial f}{\partial a}(t, a, c)\right)^T \psi - u'(c_t)e^{-\theta t} = 0 & (9b) \end{cases}$$

From the relation (8) results that $\psi = u'(c_t)e^{-\theta t}$ (9b'). Using the same relation (9b) will result that:

$$\dot{\psi} = -\frac{\partial H}{\partial a}(t, a, c, \psi) \Rightarrow \dot{\psi} = -[(1-\theta)r_t - n]\psi \Rightarrow \dot{\psi} = [n - (1-\theta)r_t]\psi \quad (10).$$

The relation (10) was obtained taking into account the transversality conditions that limit wealth: $\lim_{t \rightarrow \infty} a(t)\psi(t) = 0$, that is $\lim_{t \rightarrow \infty} a(t)u'(c_t)e^{-\theta t} = 0$.

Using the relation (9b') and multiplying it to $e^{\theta t}$ the first degree derivative of the consumption utility function:

$$u'(c_t) = e^{\theta t} \psi \quad (9b'').$$

Taking account of the equation (9) the adjunct variable of the dynamic equation will be obtained:

$$\frac{\dot{\psi}}{\psi} = [n - (1-\theta)r_t] \quad (10')$$

Substituting in (10'), the expression of ψ_t given by the necessary condition of optimum (8), the dynamic equation of consumption will be deducted:

$$\begin{aligned} \frac{[u'(c_t)e^{-\theta t}]'}{u'(c_t)e^{-\theta t}} &= n - (1-\theta)r_t \Rightarrow \frac{u''(c_t)e^{-\theta t} - \theta u'(c_t)e^{-\theta t}}{u'(c_t)e^{-\theta t}} = n - (1-\theta)r_t \Rightarrow \\ \frac{u''(c_t) - \theta u'(c_t)}{u'(c_t)} &= n - (1-\theta)r_t \Rightarrow \frac{u''(c_t)}{u'(c_t)} - \theta = n - (1-\theta)r_t \Rightarrow \\ \frac{u''(c_t)}{u'(c_t)} &= n - (1-\theta)r_t + \theta \Rightarrow \frac{\dot{u}(c_t)}{u(c_t)} = n - (1-\theta)r_t + \theta \quad (11) \end{aligned}$$

Using the relations (3) and (11) the evolution system of wealth and consumption on optimum trajectories will be obtained:

$$\begin{cases} \dot{a}_t = w_t + [(1-\theta)r_t - n]a_t + z_t - \tau_t - c_t & (3) \\ \frac{\dot{u}'(c_t)}{u'(c_t)} = n - (1-\theta)r_t + \theta & (11') \end{cases}$$

In order to deduct the optimal evolution of consumption from the equation (11) it is needed to know the utility function. If the utility function is of RAR type (relative aversion to risk), than the coefficient $\frac{-c_t u''(c_t)}{u'(c_t)}$ is the elasticity of marginal utility of consumption and will be marked as E_u . If it will be marked as $\sigma = E_u^{-1}$ the coefficient of marginal elasticity utility, than:

$$\frac{-c_t u''(c_t)}{u'(c_t)} = \frac{1}{\sigma} \quad (12).$$

Using the equation (11) and coefficient of marginal elasticity utility the dynamic of consumption per capita will be obtained:

$$\frac{\dot{u}'(c_t)}{u'(c_t)} = c_t \cdot \frac{u''(c_t)}{u'(c_t)} \cdot \frac{\dot{c}_t}{c_t} = -\frac{1}{\sigma} \cdot \frac{\dot{c}_t}{c_t} = n - (1-\theta)r_t + \theta \Rightarrow \frac{\dot{c}_t}{c_t} = \sigma[(1-\theta)r_t - n - \theta] \quad (13)$$

Taking into account the relation (13), the system of wealth and consumption evolution can be reformulated as follows:

$$\begin{cases} \dot{a}_t = w_t + [(1-\theta)r_t - n]a_t + z_t - \tau_t - c_t & (3) \\ \dot{c}_t = \sigma[(1-\theta)r_t - n - \theta]c_t & (11'') \end{cases}$$

The system being formed of relations (3) and (11'') represent the optimal evolution and is a non linear dynamic system, accentuating the rate of growth of consumption per capita and being proportional to $(1-\theta)r_t - n - \theta$, that is to the refreshment of the interest rate diminished with the sum between the growth rate of number of members and the refreshment rate.

In order to obtain the stationary state of the dynamic system (c^*, a^*) the stationarity condition will be made, that is: $\dot{a}_t = 0$ and $\dot{c}_t = 0$:

$$\begin{cases} c_t = w_t + [(1-\theta)r_t - n]a_t + z_t - \tau_t & (3') \\ (1-\theta)r_t = n + \theta & (11''') \end{cases}$$

By analyzing the system above the conclusion is that the consumption equation can be rewritten as follows:

$$c_t^* = w_t + \theta a_t^* + z_t - \tau_t \quad (3'')$$

that is consumption is obtained through the difference between owned income and imposed taxes and duties.

Determining the influence that measures that intervene in the relation (3'') will be made by differentiating it in proportion to each of these. We will have:

$$dc = \frac{\partial c}{\partial w} \cdot \partial w + \frac{dc}{d\theta} \cdot d\theta + \frac{\partial c}{\partial a} \cdot \partial a + \frac{\partial c}{\partial z} \cdot \partial z + \frac{\partial c}{\partial \tau} \cdot \partial \tau \quad (3''')$$

Each factor from the right side express the marginal influence that the respective factor has in modifying the consumption with a unit.

We are interested in the influence that wealth brings on consumption and for that we will present only the influence that wealth has on consumption and for that we will present only its influence on consumption. $\frac{\partial c}{\partial a} = \theta$ and it shows how much consumption will increase by a unit, if consumption is influenced by the rate of wealth refreshment.

In order to track the effect of consumption fiscal policy the relationship between consumption, wealth and imposed duties should be determined. In this respect, we will begin by determining the relationship between consumption and wealth, than we will track the relationship with imposed duties per capita.

By using the equation (3) of wealth dynamic the trajectory of evolution will be determined, thus:

- firstly the homogenous equation will be determined:

$$\dot{a}_t = [(1-\theta)r_t - n]a_t \Rightarrow \frac{da}{a} = [(1-\theta)r_t - n] \cdot dt$$

By integrating the above relation from the moment 0 to the moment t in time, the evolution trajectory of wealth for the homogenous equation will be determined:

$$\ln a_t - \ln a_0 = \int_0^t [(1-\theta)r_t - n] \cdot dv \Rightarrow a_t = a_0 \cdot e^{\int_0^t [(1-\theta)r_t - n] dv} \quad (14).$$

- next the variation of the constant:

$$a_t = z_t \cdot e^{\int_0^t [(1-\theta)r_t - n] dv} \quad (15)$$

where z_t is a constant of dynamic equation (3) and more $z_0 = a_0$.

By deriving the relation (15) we will obtain:

$$\dot{a}_t = z'_t \cdot e^{\int_0^t [(1-\theta)r_t - n] dv} + z_t [(1-\theta)r_t - n - (1-\theta)r_0 + n] \cdot e^{\int_0^t [(1-\theta)r_t - n] dv} \quad (15')$$

Knowing that

$$\dot{a}_t = a_t \cdot z'_t \cdot e^{\int_0^t [(1-\theta)r_t - n] dv} + (w_t + z_t - \tau_t - c_t)$$

than:

$$z'_t \cdot e^{\int_0^t [(1-\theta)r_t - n] dv} = z_t \cdot [(1-\theta)r_t - n] \cdot a_0 \cdot e^{\int_0^t [(1-\theta)r_t - n] dv} + (w_t + z_t - \tau_t - c_t) \quad (15'')$$

If $t=t_0$, than $\dot{a}_0 = [(1-\theta)r_0 - n]a_0$, and the result is $a_0=0$. Taking into account this observation, the relation will become (15''')

$$z'_t = (w_t + z_t - \tau_t - c_t) \cdot e^{-\int_0^t [(1-\theta)r_t - n] dv} \quad (15''')$$

Integrating the above relation we will obtain:

$$z_t - z_0 = \int_0^t [(w_t + z_t - \tau_t - c_t) \cdot e^{-\int_0^t [(1-\theta)r_t - n]d\sigma}] dt \quad (16)$$

Taking into account that at the time 0 the constant is equal to the wealth at the same given time, than the evolution trajectory of wealth will have the following shape:

$$a_t = a_0 \cdot e^{\int_0^t [(1-\theta)r_t - n]d\nu} + \int_0^t [(w_t + z_t - \tau_t - c_t) \cdot e^{-\int_0^t [(1-\theta)r_t - n]d\sigma}] dt \quad (16),$$

where t represents a finite time frame.

By defining $v_{[0,t]}$ as being the discount rate at the initial time of value unit (refreshment coefficient) under the form: $v_{[0,t]} = e^{-\int_0^t [(1-\theta)r_t - n]d\nu}$ and by multiplying the relation (16) to it an infinite time moment will be obtained:

$$\int_0^\infty c_t \cdot e^{-\int_0^t [(1-\theta)r_t - n]d\nu} dt = a_0 + \int_0^\infty (w_t + z_t) \cdot e^{-\int_0^t [(1-\theta)r_t - n]d\nu} dt - \int_0^\infty \tau_t \cdot e^{-\int_0^t [(1-\theta)r_t - n]d\nu} dt \quad (16'),$$

taking into account the transversality condition of wealth.

By noting V_0 as being the expected present value of future income, defined by the first integral to the right, the current value of future consumption will be determined:

$$\int_0^\infty c_t \cdot e^{-\int_0^t [(1-\theta)r_t - n]d\nu} dt = a_0 + V_0 - G_0 \quad (17)$$

where G_0 represents the present value of governmental expenses. The term governmental expense was introduced as a term, because in relation (1), it was considered that there is equilibrium between the collection made by the state and governmental expenses.

In a similar way the optimal evolution of consumption will be determined, starting the relation (13), obtaining the trajectory of evolution:

$$c_t = c_0 \cdot e^{\int_0^t \sigma[(1-\theta)r_t - n - \theta]dt} \quad (18)$$

By substituting the relation (18) in (17) the relation between initial state will be determined:

$$c_0 = \beta(a_0 + V_0 - G_0) \quad (17')$$

where β represents the proportionality coefficient. The relation (17') points out that consumption should be proportional to total resources, from which duties on income are subtracted.

Conclusions

As it has been shown in this article, the consumption behavior is influenced both by previous income that a household have and also by the duties applied to incomes.

Because of the importance of public sector, it is necessary to apply on all revenues a series of taxes and duties. A reduction of duties will lead to an increase in consumption only when there is a sufficient amount of money left over after levying that can be returned on the market.

References

1. [BIM1992] Blaug M. - *Teoria Economică în Retrospectivă*, Editura Didactică și Pedagogică, București, 1992
2. [DeA1992] Deaton A. – *Understanding Consumption*, Oxford University Press, London, 1992
3. [DoN1997] Dobrotă N. - *Economie Politică*, Editura Economică, București, 1997
4. [GiFA1994] Gilbert F.A. - *Economie Politică*, Editura Humanitas, București, 1994
5. [Maz2009] Mazilescu V. – *A Processing Algorithm for a Production Predictable System*, 11th WSEAS International Conference on Mathematical Methods, Computational Techniques and Intelligent Systems/8th WSEAS NOLASC 2009/5th WSEAS CONTROL 2009, Date: JUL 01-03, 2009 Univ La Laguna Tenerife SPAIN Source: *Mathematical Methods, Systems Theory and Control* pp. 69-74
6. [OpG&all2004] Oprescu Ghe., Imperato A., Andrei A. - *Cibernetica Consumatorului. Abordare Statică și Dinamică*, Editura ASE, București, 2004
7. [OpG&all1997] Oprescu Ghe., Spircu L., Zaharia M. – *Bazele Ciberneticii Economice*, Editura Inforec, București, 1997
8. [OpG&all1996] Oprescu Ghe., Marin D., Andrei A. – *Modele Dinamice ale Economiei de Piață. Studii de Caz*, Editura F.F. Press, București, 1996
9. [RoD2005] Robbins D. - *Handbook of Public Sector Economics*, Taylor & Francis Group, 2005
10. [wwwin-HeR] www.investopedia.com – Heakal R. - *What Is Fiscal Policy?*

International Navigation Market

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Abstract

Economic record of human society in the last period has involved an unprecedented growth of world trade, trafficking of basic raw materials needed for industry and agriculture, and trade in industrial products or food. To the huge volume of movement of goods, shipping takes back the role of first order both quantitatively as well as efficiency. This situation is encouraged by factors such as diversification of trade, number of participants in this process and the increasingly complex international trade.

Key words: world commercial fleet , mineral bulk carrier, conventional cargo, oil tankers, maritime transport market

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1. Introduction

The present paper is structured into four chapters. The first chapter presents an introduction to international maritime transport market and the demand and supply mechanism depending on the ship type and fleet ownership. Chapter two emphasizes maritime trade of crude oil and petroleum products by Suezmax and Aframax ships then, Chapter three will determine Romanian Shipping Analysis and Perspectives. Chapter four presents conclusions of this paper.

2. Supply and Demand in International Navigation

Modern maritime trade is an economic activity so vast and complex as the volume of traffic in goods annually and that their material value. History of shipping activity in the construction of the first steam ship with more than a century ago, was one in which the successive periods dominated by profits and fabulous period dominated by financial disasters. Maritime industry is comprised of a group of companies - owners, brokers, ship builders and bankers - which together carry more than annual 4 million tonnes of cargo at sea and see the sea as something more than a business.

Shipping activity is one of the most internationalization activities and studying the economics of shipping we have to take account of changing global economy. The first reaction of a ownership or navlositor when hears about important events, such as a nuclear accident in Russia or an increase in oil prices, is to try to intuit what effect will this event on the maritime market. Most profitable business in the maritime transport were due to political conflicts, the most notable of these being resealing the Suez Canal in the years 1956 and 1967.

Besides the appearance of political or strategic importance of maritime transport activity can not be neglected. As the shipping to internationalized new industrialized countries with the OECD countries have contributed to the development of maritime trade. To better understand the economic and political factors that have competed to develop the business of shipping needed to take a look at the interactions between the dual development of the maritime transport and economic development worldwide. One of the products of the industrial revolution was to develop and consolidate a cheap and fast transport. Thus day by all the distances shorter and countries for millennium have ignored each other were awakened at once into contact or conflict. This progress in a world composed of isolated communities to a global community was possible, and with transportation and maritime commerce. On the other hand increasing maritime trade has forced the transport to reorganize and adapt to market requirements. The most representative example of recent years is the introduction of unilateral U.S. Congress by the U.S. Oil Pollution Act 1990 which imposes stringent rules for pollution prevention for ships operating in U.S. territorial waters.

The idea that the shipping is a catalyst for economic development is not new. Adam Smith, often regarded as the father of the modern economy, has seen the sea like a stone test for economic development. In Chapter three of the century reference book its "Wealth of nations," he argued that the economic strength of the central capitalist economy is the division of labor and the degree to which it can be applied depends on the size of a crucial market. A business started in a provincial town with no connections with neighboring cities can not reach a certain level of efficiency because the very small will limit the degree of specialization of the company. Adam Smith saw the sea as a source of cheap transportation, transportation that open access to all markets wider, thus encouraging firms and specialty companies are offering some very large distances can offer products at prices much lower than those produced locally. n time it has been demonstrated that economic development has gone arm in arm with maritime trade. With all the technological advances made since Adam Smith wrote these words in 1776, and although developed countries have today a highly developed internal infrastructure, the shipping was more than keep pace with these changes.

From mid-'60 were two technical revolutions have played an important role in developing a global market for finished products and for raw materials. During 1960 the traditional transportation of goods (packaged or unpackaged goods with different shapes and sizes and offered to transport small quantities) in the shipping line has become increasingly unable to keep pace with the volume of freight. To overcome these problems was introduced used pallets and containers to fluidized flows of goods. Work for the release of goods in general standard unit load has been higher than anticipated by most enthusiastic supporters of this system. If in the early'60 goods shipped from Europe to the U.S. had several months to reach its destination in the early'80 just days after a container leaves the production plant can reach your destination with cargo intact and ready to be transferred to a barge or in a car with minimum effort and without delays. In short maritime industry has used the organization to resolve a fundamental problem, and solving the gates opened wide for the development of global economy.

Revolution generated by the development of freight transport in bulk was not less important through the effects it has generated. Bulk transport of raw materials was first seen as part of an integrated process for handling of goods in which investments can improve productivity. Using large vessels, through investment in means of handling and rapid integration of the entire transport chain, transport costs of goods in bulk have been brought to such a level that it became cheaper to import raw materials from suppliers at the thousands of miles away from the domestic suppliers are a few hundred miles away. Ships with capacities increasingly large played a central role in this process, during 1945-1995 the capacity of transport ships oil

increased 20 times, and the mineral bulk carriers 15 times. Improvement of the handling of goods in port and a better integration of maritime transport with land transport completed this transformation.

How was the shipping industry in the XXI century, ship owners have met with a number of new issues will evolve as the shipping industry. The issues are essentially the same now as 10 years ago:

1. Replacing the fleet of 70
2. Production capacity - will be sufficient?
3. Prices - will increase or decrease?

Table no. 1 presents a summary of the demand and supply balance of 1990 tonnage as well as the tonnage from 2000 and 2008. The tonnage total surplus in 2008 was higher than in the previous year, working out at 12.1 million dwt. This was mainly due to a high level of vessels commissioned over the last year. The excess weight percentage in the world commercial fleet also grew to 1.1 percent.

Tonnage total surplus of the world commercial fleet, 1990 - 2008

Table no. 1

	1990	2000	2004	2005	2006	2008
	Million tdw					
World commercial fleet	658.4	808.4	895.8	960.0	1042.3	1117.8
Tonnage surplus	63.7	18.4	6.2	7.2	10.1	12.1
Active fleet	594.7	790.0	889.6	952.8	1032.2	1105.7
	Percent					
Percent of tonnage surplus of the world commercial fleet	9.7	2.3	0.7	0.7	1.0	1.1

Source: Review of Maritime Transport, 2006-2009

Mechanism of supply and demand depending on the ship type

The supply of tonnage in oil tankers increased in 2008 to 393.53 million dwt since the newly delivered ships were overweight (exceeded the required weight) due to the scrap, out of service or lost tonnage (see tables no. 2 and Figure no. 1). This aspect combined with the reduced transport, increased to the 7.8 million dwt overcapacity or to 1.98 percent of global oil shipping.

Analysis of the surplus tonnage depending on the ship type, 1990 - 2008

Table no. 2

	1990	2000	2004	2005	2006	2008
Oil tankers fleet world	266.2	279.4	298.3	312.9	367.37	393.53
Tonnage surplus total of oil tankers	40.9	13.5	3.4	4.5	6.08	7.80
Percent of tonnage surplus of oil tankers fleet world	15.4	4.8	1.1	1.4	1.66	1.98
Mineral bulk carriers fleet world	228.7	247.7	325.1	340.0	361.81	393.45
Tonnage surplus total of mineral bulk carriers	19.4	3.8	2.1	2.0	3.4	3.61
Percent of tonnage surplus of mineral bulk carriers	8.2	1.5	0.6	0.6	0.94	0.92
General conventional cargo fleet world	63.6	59.3	43.6	45.0	44.68	43.75
Tonnage surplus total of general conventional cargo	2.1	1.1	0.7	0.7	0.65	0.7
Percent of tonnage surplus of general conventional cargo fleet world	3.3	1.8	1.6	1.6	1.44	1.6

Source: Review of Maritime Transport, 2006-2009

In 2008, the total supply of mineral bulk carriers increased to 393.45 million dwt. The constant increase in the main dry goods transport brought about the over tonnage reduction to 3.61 million dwt, the equivalent of 0.92 percent of the bulk carrier fleet. For general conventional cargo fleet (ships carrying general conventional cargo), the overcapacity remained stable in 2008 with a supply exceeding the demand by only 0.7 million dwt, or 1.6 percent of the international fleet in this particular sector.

The tonnage surplus of vessels transporting general goods continued to pursue a descendent trend even since the beginning of the 90's remaining below 1 million dwt.

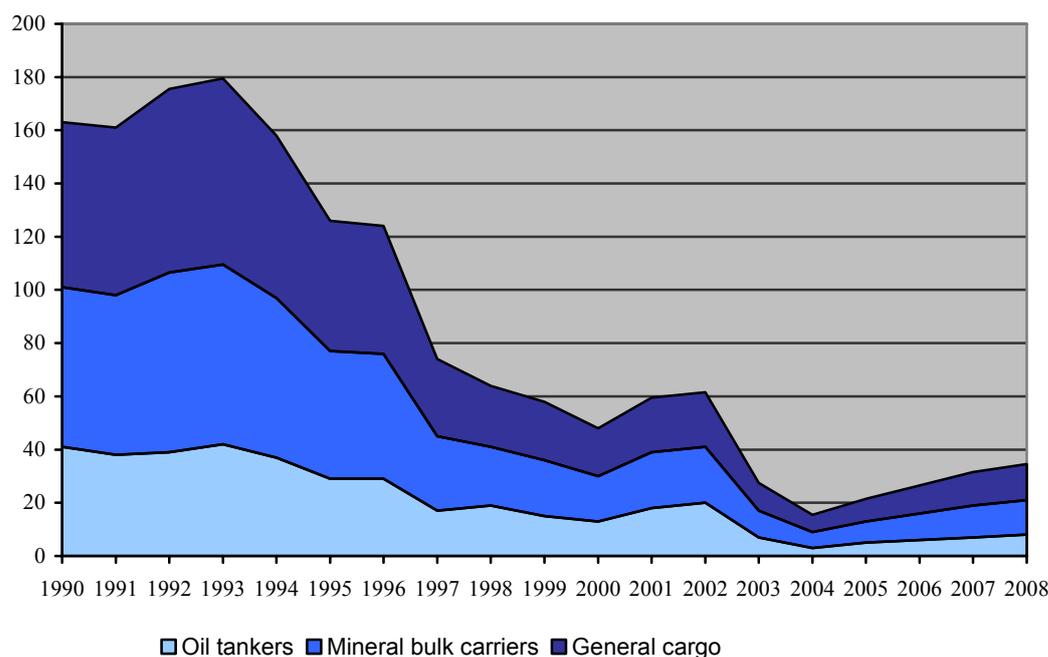


Figure no. 1 Surplus tonnage tendency depending on the ship type, 1990 - 2008

Comparison between the cargo traffic and fleet ownership

The correlation between the cargo volume generated by different groups of countries and their fleet ownership is summarized in Table no. 3. The countries that have a developed market economy generated 48.7 percent of the world water trade in 2008 compared to 53.7 percent in 1980.

For the same period, the share of fleet tonnage of countries with a developed market economy decreased substantially from 51.3 percent in 1980 to approximately 26.9 percent in 2008. However, in addition to the tonnage under national flags, there is also a tonnage of the ships owned by some countries but registered under foreign flags. The two categories mentioned before bring the share of the countries with a market economy developed to a rate of 60 percent of the world fleet. The volume of developing countries shipping goods has remained at about 40 percent.

Their tonnage owned and registered under national flags increased from 10 percent of world fleet in 1980, to almost 22.7 percent in early 2005. The tonnage owned by the developing countries increased to about one fifth of the total registered tonnage, thus raising the total tonnage owned by developing countries to about 30 percent of world fleet. The volume of

international freight traffic generated by the Central and Eastern European countries remained at around 3 percent in 2005 - unchanged compared with the levels in previous years but significantly lower than the rate of 4.7 percent in 1980.

The position of these countries fleets also decreased from 5,5% to about 2% in 2008. The socialist countries from Asia registered an increase of the international trade share to 8.9% in 2008 whereas they improved the volume of world tonnage from 1.6 percent in 1980 to 3.9 percent in 2008. Moreover, these countries have a smaller share of their fleet registered in open registries.

Comparison between the cargo traffic and fleet ownership on groups of countries

Table no. 3

Country group	Year	Total goods loaded and unloaded (million tonnes)	Percentage of total world	Commercial fleet (million tonnes)	Percentage of total world
Countries with developed market economy	1970	2812	54.8	282.2	86.5
	1980	3965	53.7	350.1	51.3
	1990	4529	55.7	219.0	33.3
	2000	6391	52.1	203.2	25.1
	2008	6890	48.7	258.4	26.9
Countries with major open registry	1970	-	-	70.3	21.6
	1980	-	-	212.6	31.1
	1990	-	-	224.6	34.1
	2000	-	-	384.7	47.6
	2008	-	-	431.9	45.0
Countries with market economy development	1970	2075	40.4	20.5	6.3
	1980	2926	39.6	68.4	10.0
	1990	3065	37.7	139.7	21.2
	2000	4834	39.4	157.0	19.4
	2008	5577	39.4	218.3	22.7
Countries of Central and Eastern Europe (including the former USSR)	1970	264	4.8	21.7	6.7
	1980	346	4.7	37.8	5.5
	1990	236	2.9	44.3	6.7
	2000	377	3.1	16.3	2.0
	2008	439	3.1	14.4	1.5
Socialist countries of Asia	1970	44	0.9	1.2	0.4
	1980	146	2.0	10.9	1.6
	1990	168	2.1	22.1	3.4
	2000	654	5.3	26.1	3.2
	2008	1254	8.9	37.0	3.9
Total World	1970	5134	100.0	326.1	100.0
	1980	7383	100.0	682.8	100.0
	1990	8133	98.3	658.4	100.0
	2000	12257	100.0	808.4	100.0
	2008	14160	100.0	960.0	100.0

Source: Review of Maritime Transport, 2006-2009

The information regarding the fleet ownership of most countries engaged in trade activities are provided in Table no. 4.

As it can be noted most countries engaged in commercial activities are at the same time major holders (owners) of tonnage, which reflects an aspect of policies that support trade involving the exploitation of maritime transport as an auxiliary to trade. Generally the maritime capabilities, in particular the substantial tonnage ownership, are considered to be essential for supporting and promoting trade in that country.

The table shows the similarities and differences of transport/shipping of the countries with the richest trade activity. The countries with a significant commercial activity such as Japan, China (including Hong Kong's), Republic of Korea, Denmark, Sweden and Norway are among countries with maritime services for alternative trade. Other countries with significant trade activity are major importers or users of shipping services at the same time maintaining an important position regarding the property, and to a lesser extent, a position regarding the national flag. United States, Germany, Britain and France fall into this category. In 2008, the United States generated approximately 12.5 percent of international trade, while holding 10.1 percent of world tonnage, about one quarter of this tonnage being below the national flag. Similarly, France generated 4.0 percent of world trade compared with the position concerning the tonnage property of 1.0 percent, the tonnage under national flag being half of this percentage.

Fleet Property of the top 25 trade activity countries

Table no. 4

Country/Territory	Percentage held of total global value	Percentage held of world fleet in dwt
United States	12.5	10.1
Germany	8.3	7.5
China	6.7	7.1
Japan	5.3	14.0
France	4.5	1.0
Great Britain	4.2	3.9
Holand	3.6	1.2
Italy	3.5	1.7
Canada	3.2	0.7
Belgium	3.1	1.3
Hong Kong (China)	2.8	7.9
Republic of Korea	2.6	3.3
Spain	2.2	0.6
Mexic	2.1	0.1
Singapore	2.0	5.9
Taiwan (China)	1.8	2.5
Russian Federation	1.8	1.9
Malaysia	1.2	1.2
Austria	1.2	1.2
Swisse	1.2	1.2
Sweden	1.1	0.7
Australia	1.1	0.4
Thailand	1.1	0.5
India	1.0	1.5
Brazil	0.9	0.6
Total	78.9	76.9

Source: Review of Maritime Transport, 2006-2009

2. Maritime trade of crude oil and petroleum products

The freight market is not a uniform market having the same tendency of freight increase or decrease in all market sectors. It is constituted of several independent under-markets and that can evolve in different ways. On a short-term the freight that oil tankers, bulk carriers and container carrier ships get may evolve differently, but because on the market perform the activity the same group of freight rentals the market becomes uniform. Also, because the vessels need time to get from one area to another we can speak regional markets that evolve differently on the short term.

On the freight market two main types of transactions can be conducted:

- Freight contracts representing agreements such as voyage charter-through which the seller or the buyer pays a fixed price per tone or per cubic meter to perform the service of transporting goods from one port to another. This variant is recommended to less-experienced sea traders.
- freight contracts representing agreements such as time charters – according to which the seller, buyer or an intermediary, in exchange for a daily rent, takes the responsibility of organizing the shipment. This variant is recommended to experienced traders who are familiar with the market and may thus realize substantial benefits.

In 2008, the ship tankers transport market decreased as a result of oil price increase from \$ 56 in early 2007 to \$ 100, as a result of the geopolitical tensions increase, fear of oil resources depletion, OPEC decisions to decrease production and the increasing oil demand. Let us remember that the price of the oil barrel was almost \$ 11 in 1998, and another record price of oil barrel was \$ 102.81 in April 1980.

The most important factor that maintained tanker ship on the market was the increasing demand for oil. While imports in the United States and Western Europe continued to increase moderately, the demand on the expanding economies markets, particularly China, increased exponentially. It appears that a sustained increase in oil prices over the past few years was limited for the moment, the impact on demand. Another important factor that contributed to the increasing oil price was the decrease of the Russian Federation oil production, the second world oil producer, combined with limiting supplies from OPEC.

In 2007, the Brazilian company Petrobras announced the largest discovery of oil since 2000, called "Tupi" which is supposed to have between 5 and 8 billion barrels of oil. The area is situated in very deep water, and therefore oil extraction costs would be high because the surface is covered with a thick layer of salt.

Estimates for 2009 indicate a continuous increase in world oil demand, supply limitations from OPEC, possible disruption of production in Nigeria, Iraq and Iran, increasing the fleet of tanker vessels and uncertainties related to changing regulations regarding the tanker ships structure by 2010.

The main loading areas are: the Persian Gulf, West Africa, Mediterranean, Caribbean and Singapore, while the main discharge areas are the Far East, South Africa, Northern Europe-Western Mediterranean, Caribbean and the East Coast of America North.

In early 2009 all sectors of tanker vessels transport, were characterized by persistent price volatility. The pressure of these decreases reflect, among other things, a reduced activity mainly due to low demand in winter, the amount of freight in the loading areas of the Persian

Gulf, disruptions in the refining, limitation of cargo transport imposed by OPEC and extend of the of refinery maintenance period.

Suezmax Ship-Tankers Type

A particular feature of Suezmax ship type is the advantage of their size, especially in ports with restrictions regarding dimensions such as those in the United States. The Suezmax ship type requires a smaller draft reduction compared with those of large vessels and therefore may carry a greater load when the destination ports present size limits. This type of vessel was especially designed for commercial shipping on certain routes in West Africa – North Western Europe and West Africa - Caribbean / East Coast of North America as well as for crossing the Mediterranean Sea. The prices charged on these routes decreased in early 2008 and had fluctuated significantly till the end of the year. Since the percentages decreased in the large and very large vessels sector, the transport market values for Suezmax vessels were affected by seasonal variations, dropping in March and April, when the winter season peak demand ended, rising again in May when summer season demand was registered (air conditioning equipment, the driving season in the United States, etc.).

Unlike the transport that involves large and very large ship, the Suezmax transport is unlikely to be seriously affected by the deadline in 2010 that prohibits single hull ships according to IMO. This is because there are few single hull Suezmax ships. Moreover this sector is less influenced by Western markets (the United States and the European Union), where the single hull ship-tankers had been already removed from the commercial circuit. The demand for Suezmax type ships is expected to increase, particularly in West Africa, Black Sea and Mediterranean Sea. The average market rates on the West Africa - Europe routes attained in early 2008 values of WS 130, they reached the minimum in November (WS 78) and at the end of the year were WS 237. On West Africa - Caribbean / East Coast of North America routes, the average annual earnings on same period were of \$ 37,000 / day in 2007 compared to \$ 46,000 per day in 2006 and \$ 64,800 per day in 2004. For the traffic between West Africa - Caribbean / East Coast of North America, the average values varied from WS 105 in August and WS 130 in December.

Excepting the North Sea, where production is declining, the future demand for Suezmax vessel type could increase, particularly due to the oil exports increase from West Africa.

Aframax ship types and ship-tankers with tonnage between 20,000 and 30,000 tones dwt (handy-size)

Aframax Ship type was especially designed for commercial traffic on the following routes:

- ✚ NW Europe to other destinations in the region, and for the traffic in the Caribbean and the East Coast of North America;
- ✚ from Caribbean to other destinations in the area, as well as for destinations on the East Coast of North America;
- ✚ in and from the Mediterranean Sea to other destinations in NW Europe;
- ✚ from Indonesia to Far East destinations.

Handy-size ships are generally designed to Mediterranean trade, to the trade originating in the Mediterranean Sea with destinations in the Caribbean and the East Coast of North America as well as to the Caribbean trade in Gulf of Mexico and the East Coast of North America. The fluctuations noticed in the large ships traffic, Suezmax and Aframax ship types can also be noticed regarding the handy-size vessels.

In 2008, the total charter transport worked out at 28.04 million tons dwt, with records under 2.3 million dwt tons per month. While the November 2007 graphics showed the doubling of activity compared to November 2005, the graphics from June 2008 showed 4 times the level attained June 2005.

Approximately 46% of the activity monitored in 2008 is part of a monitoring plan for 24 years or more.

32% of the monitoring activity is dedicated to large and very large tanker ships. 12% of the monitoring activity is dedicated to ships between 10,000 and 50,000 tonnes dwt. The activity monitored in the first half of 2008 kept its pace. Levels varied over the year. For example, for a 5year-old 280,000 dwt tons vessel, the activity graph for a year recorded values from \$ 56,500 / day in December 2005 to \$ 55,000 per day in January 2006, fluctuating then in the following months and reaching a maximum rate of \$ 64,500 per day in September and completing the year with values of \$ 54,400 per day.

Commercial transport vessels with a bulk carrier

Down through the year 2008 market dried enjoyed a growth in trade with bulk carrier using the vessels for the various sizes. Increased steel production worldwide, especially in China, has increased the demand for Capesize vessel type, which in turn stimulated the growth of trade in iron ore. Demand for Panamax type vessel was supported increase shipments of grain and coal that his line was stimulated by increased production of steel and energy demand from China and India. Request for Handymax vessel type was caused of trade in steel products, China became the largest manufacturer and the United States and European Union - the largest importers of products of the steel industry. Other industries that have stimulated the demand for type Handymax vessels have been trading with soybean seed oil bauxite and aluminum. Production of smaller ships, like the Handy-type size, was also boosted steel industry being solicited for transporting raw materials like iron and coke, and for transportation of agricultural products such as rice. Reflecting the increasing demand for transport in bulk at the end of 2007, demand for bulk carriers has increased, so total worldwide fleet of bulk carriers increased by 8%, from 25.3 million tonnes dwt, reaching 349.5 million dwt tonnes.

Market transport bulk dry goods

At the end of 2008, the transport dry bulk goods to improved compared with early. Baltic Index doubled, from its lowest value, 2 081 in January to record the December 4 397. Index Baltic environment in 2008 was 3 239 - about 0.4% more lowest average of 2007. Ships of Capesize and Panamax have been performing high overcame with previous results of 123.5%.

Monthly indices of ships with both regular and those with irregular flights have increased from substantial throughout the year. Graphs of the temporal vessels with racing graphics and irregular vessels with regular increases were registered in 2008 compared with the last two years (see Table no. 5).

Indices transport bulk dry goods, 2005 - 2008

Table no. 5

	Ships with regular				Ships with non-racing			
	2005	2006	2007	2008	2005	2006	2007	2008
January	505	302	491	812	677	294	632	1 018
February	481	298	480	657	715	292	577	908

	Ships with regular				Ships with non-racing			
	2005	2006	2007	2008	2005	2006	2007	2008
March	530	327	550	795	565	321	644	1 221
April	507	326.0	576	1 055	624	325	707	1 080
May	440	323.0	671	1 009	552	304	712	1 544
June	373	331.0	626	n/a	412	359	759	1 250
July	313	360	673	n/a	342	421	875	n/a
August	290	417	718	n/a	285	475	920	n/a
September	328	447	828	n/a	352	518	1 078	n/a
October	379	450	985	n/a	391	522	1 044	n/a
November	346	447	1 013	n/a	376	463	1 280	n/a
December	320	484	926	n/a	332	594	1 251	n/a
Average	401	376	711	856	469	407	873	1 170

Source: Review of Maritime Transport, 2006-2009

3. Romanian Shipping Analysis and Perspectives

As it was mentioned before, shipping is one of the basic links of the economic activity of each state and an important factor of economic cooperation worldwide, being at the same time a substantial source of income for the states that have significant shipping capabilities. Thus due to its own specific character as a link between producers and consumers, the sea transport activity represents a huge movement of goods on the world's oceans and seas, whose surface moves daily between 25 000 - 30 000 vessels, carrying approximately 75% of international transport of goods, this means of transport being considered the most effective and cheapest on long-distance for large amounts of material goods.

Romania as a country that has access to the Lower Danube and the Black Sea, has a long tradition of maritime and river transport. Thus, the navigation on the Danube River was officially put into practice in 1890 by setting up the department of Romanian Service River Navigation, which transported goods and passengers on the Danube having a fleet made up of 4 tugs, 12 lighters and "Ștefan cel Mare" passenger vessel that was able to carry a quantity of 7 000 tones / year. The period before the Second World War can be considered as a boom period for the Romanian transport fleet, being able to carry over 60 600 tones / year, although the use of this means of transport had in 1938 only 2.1% of total means of transport used, the largest weight being held by the railway carriage, which had 97.7% of all transports.

During the Second World War, the transport situation in Romania worsened due to the destruction of 50% of the locomotives total, 32% of the wagons total, 1 250 bridges and footbridge, and the sailing on the Danube became almost impossible because of the destroyed vessels. After the Second World War ended, the need to restore the national economy that was destroyed by war, imposed particularly the restoration of the whole transport system, both on river and sea. This activity was conducted in two main directions: building and repairing ships and repairing, developing and upgrading the river and sea ports.

The capacity increase of the sea and river transport was registered in the context of developing and modernizing the shipyards from Galati, Constanta, Braila, Oltenița and Drobeta Turnu Severin, which began production of both vessels having a capacity between 2 000 and 10 000 dwt for maritime navigation, and dams and tugs used in river navigation. Thus, the maritime transport, which has approx. 250 ships, succeeded in postwar period to increase its contribution to the total volume of transported goods of 27 596 000 tones in 1990 compared to the total

volume transported in 1938 to around 60 600 tones and the river transport from 1 326 000 tones in 1938 to 12 044 000 tones in 1990.

The specific aspects that the Romanian commercial fleet has faced since 1990 can be considered to be the following:

- ✚ excessive stoppages for repairs and upgrades due to the reduced capacity in this area of the shipyards, also caused by the chronic lack of funds;
- ✚ unsatisfactory reliability of the Romanian equipment;
- ✚ reduction of the tonnage carried by sea;
- ✚ lack of state monopoly in foreign trade as well as that accomplished by the national fleet in conducting the Romanian export and import;
- ✚ lack of legislation in this area complying with the economic stage as well as the commercial fleet requirements;
- ✚ lack of strategies in the field;
- ✚ the impact of the commercial fleet decentralization.

Before 1990 there was an overrated fleet that was operated solely on the principle of minimum costs and whose foreign income was directed exclusively to pay external debt, thus leading to accumulating an external debt to the main owner IEFM Navrom Constanta of U.S. \$ 29 million. However, Romania held the 4th active fleet top position in Europe and 12th top position worldwide. At that time, IEFM Navrom Constanta had 290 ships in operation; ICE Navlomar had 10 cargos and a tanker. A joint venture - Roliship – also performed its activity, a form of cooperation between Navrom Constanta and a company from Libya, which had 2 vessels.

Certain measures were taken after 1990, without a clear strategy, which had adverse effects. Thus, IEFM Navrom Constanta divided into 3 companies, namely:

1. Navrom CNM, who specialized in general vessels, took over 118 vessels with 730 900 dwt;
2. CNM Romline, which took over the line vessels and Ro-Ro - 85 ships with 656 850 dwt;
3. CNM Petromin that took over the oil vessels -187 vessels of to 4 620 000 dwt.

Taking into account the current situation and also due to the permanent removal of vessels from the commercial exploitation as a result of defects, inability to carry out repairs and non-granting the navigation category by the international maritime insurance companies, there can be noticed an annual decrease in transport capacity and a general reduction of the Romanian fleet by 2010 to 26.4% of the current capacity, which according to the Strategy Directorate of the Ministry of Transport are:

Perspective of Romanian fleet reduction by 2010

Table no. 6

Period	Removal from service		Entry into service preliminat		Fleet at end of period	
	Number of ships	Capacity thousand tonnes	Number of ships	Capacity thousand tonnes	Number of ships	Capacity thousand tonnes
1994	-	-	-	-	258	6251.71
1995	43	649.61	6	105.50	221	5707.60
1996	19	395.78	18	266.50	220	5578.30
1997	16	243.89	13	111.75	217	5446.20
1998	26	393.16	2	8.00	103	5061.00
2000	14	120.00	-	-	179	4941.00
2001-2005	69	2062.21	-	-	110	2879.00
2006-2010	37	1226.96	-	-	73	1652.00

Source: Review of Maritime Transport, 2006-2009

The main causes that led to this situation in the field of maritime transport that the Romanian commercial fleet is currently facing are in the Ministry of Transport specialists' opinion the following:

1. non-complying with the impact of the economic activity decentralization;
2. general collapse of the Romanian economy and the reduction of the Foreign Trade during 1990 - 1993, which determined a dramatic fall in the amount of traffic through the Romanian ports from 66 million tons in 1989 to 29 million tones in 1993;
3. the state non-involvement in supporting the national maritime interests, although this is a national strategic goal, in this respect being significant HG 740/90, which excludes the shipbuilding financing from the budget to;
4. the phenomena of bureaucracy in restructuring and privatization of shipping companies owned partially or integrally by the state;
5. physical and moral depreciation of the ships in service;
6. accumulated debts by the Romanian shipping companies to external creditors, which leads to Romanian ships arresting and restraining in different ports until the foreign debt is paid, with all the economic and financial effects being left upon the Romanian ship-owners;
7. unfair competition practiced by foreign companies whose ships navigate under flags of convenience (Honduras, Malta, Cyprus, Liberia, Panama, etc.) and without having signed any insurance with the well-known international marine insurance companies, such as "Lloyd Register", "Bureau Veritas" or "Lloyd Germanisher", they charge dumping charges below the tariffs charged on the international market of freight, competing unfairly with the Romanian commercial fleet.

Starting from the previously mentioned aspects regarding the Romanian maritime fleet's current situation and its future prospects, taking into account that the commercial fleet is a good strategic goal of national importance, we consider that it is necessary a greater involvement of the Romanian state to protect our marine fleet trade by applying measures and regulations that support and develop activities that would result in the following:

- ✚ maritime transport capacity increase of the Romanian commercial fleet that would enable the conduct of a higher volume of import and export goods to the benefit of the Romanian economic entities and reducing the transport capacity use of foreign ship-owners;
- ✚ by employing the Romanian commercial shipping fleet would improve the balance of payments by reducing transport costs, currency free to paid foreign ship-owners;
- ✚ foreign trade operations stimulation and the possibility of entering into new foreign markets;
- ✚ new jobs creation both in the maritime shipping companies and shipyards in the ship building and ship repair;

Romanian commercial maritime fleet as national strategic objective and its employment when necessary would be ultimately an attribute of the Romanian state sovereignty and independence.

In our opinion, the following measures should be applied in order to accomplish the objectives mentioned above:

- ✚ Romanian commercial maritime fleet restructuring and reorganization by greater involvement of the state on a park vessels minimum which would constitute the strategic core of the state and which would achieve the Romanian independence regarding the raw materials necessary to the national economy;
- ✚ Maintaining the traditional lines of navigation and provide strategic transport if required.

In this respect the setting up of a state-owned maritime trade shipping company is required, either as a joint venture or a national strategic interest company benefiting of the state capital, endowed with new ships, that meet the world level requirements, staffed with a competent management team and highly qualified personnel, which should become a Romanian commercial shipping leader due to the facilities and professional competence. The creation of such navigation companies of strategic importance could be achieved only in terms of its subsidization by the Romanian state, and which once set up on the organizational principles and an efficient management system, due to the charged transport fares and the

fairness of the transport performance might surpass the foreign shipping companies and the other state-owned or private shipping companies. In order to support the idea of the Romanian state subsidizing a segment of its own commercial shipping fleet and making research in the field, we noticed that such practices have been also applied by other developed countries. Therefore the U.S. Government has developed a grant program for the strategic commercial vessels navigating under the U.S. flag for the next 10 years. The system was called "Maritime Security Program (MSP) and was considered the main program of national maritime security, which begins with the government subsidizing of the modern American ships building, built both in U.S. and the foreign shipyards for U.S. owners, beneficiaries of subsidies, "MPS" being required before signing a contract for the new ship building to communicate within 30 days prior to the shipyard that would build the ship to attend the auction organized for this purpose.

Thus, the investor will receive a subsidy from the U.S. state for each ship of U.S. \$ 2.3 million for the first year, following that in subsequent years during the execution of the ship to receive a grant of U.S. \$ 2.8 million. When the ship is recorded and wears the U.S. flag, will operate under normal commercial shipping, will be of the RO - RO type or a minimum of 80 000 feet or "LASH" ship type, carrying at least 75 barges or generally will be considered a strategic ship by the "Pentagon" that would serve the interests of the army in case of warfare or state of necessity. The general requirement imposed by the Pentagon for commercial maritime navigation, in order to apply for these grants, was that in the above mentioned situations, they provide to the ships, on board equipment, terminals facilities and management services to the Pentagon whenever necessary.

Besides direct methods of subsidizing a shipping company by the state, series of protectionist measures could be taken at least in the first years from the setting up, designed to make the company profitable and competitive. In our opinion these measures would abide the international law and which in Romania's economy current stage would not be contested, measures that are currently applied by other developed countries, consisting of the following:

1. Romanian economic entities stimulation through facilities creation such as competitive transport fares, facilities in granting the licensing of import and export, facilities and giving priority to the operation of such ships in the Romanian ports, etc., to include in the external trade contracts binding transport of goods by vessels belonging to the Romanian commercial shipping belonging to the Romanian state-owned maritime company;

2. Reductions or exemptions from port charges and taxes for a period of 3 - 5 years from its establishment in order to strengthen and achieve an appropriate economic efficiency.

In January 1998, the Ministry of Transport developed the strategy of the maritime fleet restructuring and privatization. Thus, the restructuring and privatization will be accomplished in two stages, as follows:

- **In the first stage**, the following companies Navrom, Romline and Petromin will form:

1. Maritime Transport National Company – Romanian Maritime Service plc
2. National Shipping Containers - Romcont plc
3. Agency of Navigating Personnel - Pernav LTD.

Romanian Maritime Service will take over from Navrom 15-25 cargos of 15 years maximum seniority and ships under construction, from Romline 15-20 cargos and the Petromin oil and bulk carriers. Romcont plc will take 6 vessels from Romline Ro - Ro, 2-4 versatile cargos and 2 port-containers cell.

Pernav LTD will take over the staff and specific facilities of the service personnel from the 3 companies and will intermediate crew employment for any shipping company in the country.

- **The second stage** aims at achieving the transition of the other 130 vessels to private property, including the privatization through liquidation of the 3 companies. This phase has four sub-stages, namely:

1. Ship selling as an asset sale to pay in full or in installments by public auction;
2. Ship selling as an asset sale or termination of leasing contracts with the irrevocable option to purchase for them, with current holders of charter contracts "bare-boat";

3. Division of companies on "bare-boat" structures and offering the remaining companies holding the "bare-boat" contract for privatizing through direct negotiation, if there are requests expressed;

4. Privatization of Navrom, Romline and Petromin companies by providing their full sale or liquidation and sale of all ships through the tender price by reducing the value of the ship until the value for dismantling ship.

Therefore, unless the bases of a program are set to endow the maritime fleet with new capacity, we will no longer be able to speak about the Romanian maritime fleet in 2010.

4. Conclusions

Today over two thirds of the total capacity of goods forming the subject of world trade takes place on inland sea, the sea and the default transport goods by sea is the most advantageous conditions and in the international trade, the annual traffic of goods and values of billions of tons, they reflect the beneficial to the economies of countries participating in these relations of producers and consumers of these goods, the owners of the ship owners and port organizations that provide services related to port services operations loading and unloading of ships. Join in the economic and social progress of mankind generally, increasing the volume of shipments by sea and the adjacent port services, Romania has made substantial progress both in increasing the capacity of shipping internationally, and by extension and development of seaports and river.

On overall trends in recent years, the average age of all types of vessels has decreased over the past 10 years, except the universal cargo remained practically unchanged. Average age of ships tankers decreased by 32.7%, the age of bulk carriers - with 11.3% and the container port - with 23.8%. This statistical trend reversed last decade, the average age of vessels and tankers to bulk carriers increased. Ago with 20 years average age of tanks was higher than that of bulk carriers (12.1 years compared to 10.7 years), while tanker ships today are less than the bulk carriers (10 years compared with 12 9 years). Analyzing the evolution of the number of vessels operating on the transport of goods, there is a decrease in the number of vessels involved in the transport of goods and also a decrease in the quantity of goods transported, with repercussions on the volume of foreign trade.

In conclusion, given the fact that shipping takes place in the current context of economic and social framework in continuous transformation, both nationally in terms of economies in transition to full market economy, with all the inherent difficulties, and at world in a continuous process of movement of shipping markets, changes in areas of influence, conflicts of inter-or interstate, commercial maritime fleet Romanian facing many difficulties, should be required to obtain a constant and substantial support from the state Romanian, both on the development, maintenance and operation in conditions of maximum efficiency, the strategic goal of national importance that Romania may ensure the independence and sovereignty and integrity of Romanian commercial shipping in international maritime transport as important link in the international division of labor what action was promoted and fostered by the European Economic Community, which the "White Paper, published in 1994, the need to open the European integration of transport of countries of Central and Eastern Europe.

References

1. *Alexa Constantin - Transporturi și Expediții Internaționale, Editura ASE, București, 2001*
2. *Caraiani Gheorghe - Logistica transporturilor, Editura Universitară, București, 2008*
3. *Pușcaci Florin-Dan, Muntean Mihaela-Carmen - Expediții și tehnici vamale, Editura Didactică și Pedagogică, București 2005*
4. *Review of Maritime Transport, 2006-2009*
5. www.unctad.org
6. www.wto.org

Application of Second Order Cybernetics in the Analysis of Financial Markets Turbulence

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Abstract

Dynamical systems are parts of the world, which can be seen as self-contained entities, with some temporal behavior, modeled with abstract mathematical systems. Such dynamical systems, defined by their [states](#) and [dynamics](#), are the economic systems, and especially the financial ones. The behavior of these systems can be changed abruptly at certain critical values of underlying parameters. Close to a critical threshold the system becomes most sensitive, so tiny perturbations may trigger drastic changes. That's why, in order to control a system we have to find such values of the parameters, that the state of the system became safe from being close to a critical threshold.

Keywords: nonlinear dynamics, turbulence, bifurcation, financial system

JEL Code: C02, C62, D53

1. Introduction

Nowadays, more and more researchers try to analyze the political, economical and social behavior of humans in its interaction with the environment, using as an instrument the thermodynamic model, considered to be qualitative and thus much closer to human nature than the mechanical model, said to be more quantitative. Thermodynamics is a part of physics which deals with the study of states of equilibrium of physical and chemical systems and with the processes that lead to reaching those states.

Romanian born scientist, Nicholas Georgescu Roegen, considered to be the founder of bioeconomy, based his studies on the evolution of economic development of human breed linked to the laws of nature and especially the Law of Entropy (the second principle of thermodynamics) which the Romanian scientist named „the most economic among the laws of physics” (1971, „The Entropy Law and the Economic Process”).

The physics of social and economical systems has made some major breakthroughs in the past decade. Through the contributions made by researchers such as Ilya Prigogine, the environment is no longer analyzed in a linear manner, but by separating reality in distinct systems:

- systems at equilibrium (dead systems), with maximum entropy;
- almost at equilibrium systems (not alive systems), where the entropy is big but not maximum;
- far from equilibrium systems (alive systems) with a low entropy.

2. Second-order cybernetics

During the '80, a new „synergetic” science appeared, its founder being considered to be Herman Haken. This science is based on the so called „principle of slavery”, according to which certain elements or subsystems become dominant and impose certain restrictions and limits to other components in what regards de functioning or even their objective. The synergetics set up the link between thermodynamics and the theory of chaotic systems, which became very powerful during the '70s - '80s.

During the 90s another term is used that of econophysics, to highlight the historic interdisciplinary between physics and economics. This link between the two sciences also derived from the interaction between physicists and economists. Thus in the work of N. F. Canard (1801), demand and supply were described like the opposed forces from the classical mechanics. The concept of general equilibrium of economic theory was developed by Léon Walras under the influence of the physicist Louis Poincot, and the creator of applied mathematics in economics, Irving Fisher, was one of Josiah Willard Gibbs students`, the creator of statistical mechanics. Applying some concepts like that of law of repartition or distribution, correlation, scaling, unpredictability of chronological series and specific random processes typical to financial markets, became possible only after the physicists obtained remarkable results in statistical mechanics through the contribution of statistical investigation and mathematical formalization. The oldest example of appropriation of a law or mathematical repartition in the repartition of prosperity in an economy belongs to an Italian statistician and mathematician, Vilfredo Pareto. The progresses of financial mathematics achieved by Louis Bachelier in its PH D paper named *Théorie de la speculation*, in 1900, which quantifies the probability of having a price modified, and the differences between the price logarithms are distributed according to a Gauss curve, all this anticipating the researches made by Albert Einstein or Norbert Wiener.

The research of econophysics dealt with the distribution of profits in the financial market, with the time correlation in the series of financial data, the analogies and the differences between price dynamics in the financial market and the physical processes, the turbulence, the presence of a powerful correlation in the price modification due to the reconsideration of contentions or opinions, by the distribution of income and wealth by the studies on statistical properties of growth rates.

Cybernetics evolved from the first order cybernetics (of N. Wiener), for whom a system represented a passive object, which can be observed and analyzed, to the second order cybernetics which promoted the idea of interaction between the observed system and the observer itself, and the modeling according to this interaction between the system and its observer. The observer can also be considered a cybernetic system, which tries to accomplish a model of another cybernetic system. H. Von Foerster uses the phrase „*the cybernetics of cybernetics*”, to name the newly enounced cybernetics based on these ideas. But the relationship between system and observer brought into discussion a great complexity, and the mathematical methods were proven extremely limited.

It is today unanimously accepted that cybernetics is not a sole science, but a cumulus of scientific interdependent disciplines whose common study goal are the complex systems: synergetic, chaos theory, bifurcation theory, catastrophe theory, etc. All these theories have a great applicability also in the field of economics, the phenomenon and economic processes being extremely complex, but especially in the study of financial systems (capital markets, monetary markets, and exchange markets, banks, so on).

As realistic phenomenon, it is unanimously accepted today that even the economic ones are non linear. This is why a major importance in the analysis of economic processes is owed to the theory of nonlinear dynamic systems, which studies the modality of crossing from a stability level to another, by modifying certain control parameters. Sometimes these disturbances of parameters can be ignored, sometimes crossing over an intermediate threshold, can lead to certain turbulence fits. These events are often occurrences on real financial and monetary markets that can evolve from stability to instability from order to chaos. Although symmetry and equilibrium, order and stability, linearity and determinism are beautiful theoretical concepts, when the complex dynamic systems are analyzed all these become useless.

3. System modeling based on bifurcation theory

For many problems that occur on financial and currency markets, the differential equation that is modeling the behavior of a dynamic system depends on more parameters, which have ramifications for certain values. One of the classical example of ramifications is the bifurcation that takes place, for instance in the case of controlled depreciation policy of a certain currency, with the purpose of avoiding a currency crisis; this action may be seen as a positive fact, or as a negative fact meant to accelerate the process of triggering a speculative attack that can destroy the strategy of maintaining a constant exchange rate after the governmental depreciation.

The differential equation of this kind of process can be written as follows:

$$\dot{x} = f(x, \lambda), \quad x \in \mathbb{R}^n \quad (1)$$

The critical points of this differential equation are given by

$$f(x, \lambda) = 0 \quad (2)$$

where x is the vector of components x_1, x_2, \dots, x_m , and λ is the parameter or parameters $\lambda_1, \lambda_2, \dots, \lambda_p$.

If the control parameters λ_i have a fixed value, the portrait in the space of the phases is well defined. If the values of the parameters λ_i change, than the phase portrait changes. To a small variation in the values of λ_i corresponds small changes in the phase portrait. There are cases in which the mentioned change is sudden and the state of the system becomes completely different from the initial state. We can say that in the evolution of the system a bifurcation appeared.

When a critical value of a control parameter is bypassed, $\lambda > \lambda_c$ the system can change its stationary state from a stable equilibrium point to two (or more) stable equilibrium points, in other words the system passes from a stationary state to an oscillatory state.

This phenomenon, by which, following the change of control parameters a sudden crossing takes place to new possible states of equilibrium is called bifurcation phenomenon.

In a one dimension case, local bifurcation which appear in the neighborhood of equilibrium states (x_e) can be studied, taking into consideration the variation of a single control parameter (λ). Determining the stationary points according to the control parameter is made according to the equation:

$$\frac{\partial x}{\partial t} = f(x, \lambda) = 0 \Rightarrow x_e = x_e(\lambda) \quad (3)$$

There are a few generic types of so-called co-dimension-one bifurcations (the term *co dimension* counts the number of control parameters for which fine tuning is necessary to get such a bifurcation):

3.1. Saddle-node bifurcation (fold), for which:

$$f = \lambda - x^2, \text{ which leads to fixed points: } x_{e1} = \sqrt{\lambda}, x_{e2} = -\sqrt{\lambda}$$

The bifurcation diagram has branches only for $\lambda \geq 0$. For $\lambda < 0$ the equation (3) does not have a real root, and for $\lambda = 0$ has only one real root. Thus, if $\lambda < 0$, there are no real values for the stationary points, so a stationary state of the system is not possible. If $\lambda > 0$, the system suddenly has two stationary states. The exact type of stability in the neighborhood of these fixed points is found in the analysis of the values of the associated jacobian:

$$\left(\frac{\partial f}{\partial x}\right)_{x_e} = -2x_e \tag{4}$$

In this case, the matrix of Jacobi is reduced to one element, that is the first derivative respect to x , which is $-2x$, and which, for $x = \sqrt{\lambda}$ takes the value $-2\sqrt{\lambda} < 0$, and for $x = -\sqrt{\lambda}$ takes the value $2\sqrt{\lambda} > 0$, which means that the branch $x = \sqrt{\lambda}$ is stable, and the branch $x = -\sqrt{\lambda}$ is unstable. So, we obtain stable nodes for the solution x_{e1} and unstable nodes for the solution x_{e2} .

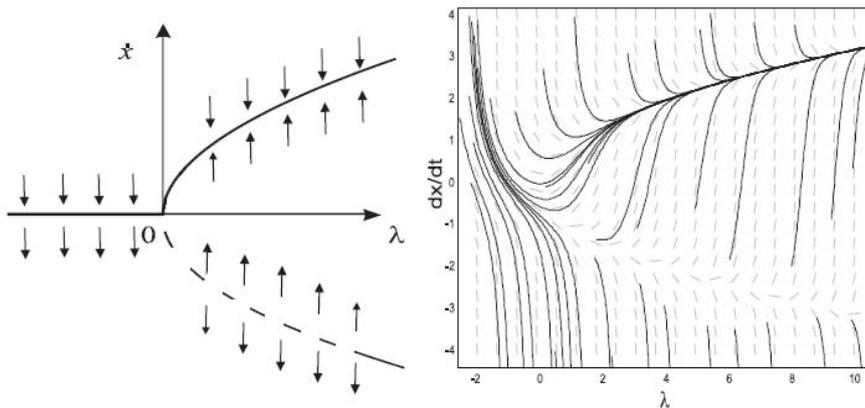


Figure 1. Saddle-node bifurcation

(Source: http://newton.phys.uaic.ro/data/pdf/Mecanica_clasica.pdf)

Figure 1 is shown a saddle-node bifurcation. To the left is shown the dependency $f=f(\lambda)$. The arrows mark the approaching or averting of trajectories from fixed points according to the values of the control parameter and it marks the areas of stability. We notice that the branch $x = \sqrt{\lambda}$ is stable, and the branch $x = -\sqrt{\lambda}$ is unstable (in the diagram the stable branch is represented with a continuous line and the unstable with an abrupt line).

To the right it is shown the speed vectors field where some trajectories are shown, starting from different initial conditions. It can be observed that the time evolution for the values $\lambda < 0$, lead to a rapid avert from stationary states, no matter the initial conditions. For the values $\lambda > 0$ the stationary states from the stable branch attract all the trajectories coming from nearby (above or below it), regardless of initial conditions.

3.2. Transcritical bifurcation:

Appears if:

$$f = \lambda x - x^2 \quad (5)$$

And the critical points are given by the real solution of algebraic equation:

$$\lambda x - x^2 = 0 \Rightarrow x_{e1} = 0 \text{ and } x_{e2} = \lambda \quad (6)$$

Thus two stationary states for any value of parameter $\lambda \neq 0$ are possible and only one stationary state if $\lambda = 0$. By analyzing the values of the associated jacobian:

$$\left(\frac{\partial f}{\partial x}\right)_{x_e} = \lambda - 2x_e \quad (7)$$

Results that for $x_{e1} = 0$ the first derivative respect to x becomes λ , and for $x_{e2} = \lambda$ becomes $-\lambda$, which means that $x_{e1} = 0$ is stable for $\lambda < 0$ and unstable for $\lambda > 0$, and the branch $x_{e2} = \lambda$ is stable for $\lambda > 0$ and unstable for $\lambda < 0$. The bifurcation diagram from figure 2. shows the characteristics of transcritical fork due to the fact that stable branches on one side of the bifurcation point become unstable on the other side and reverse.

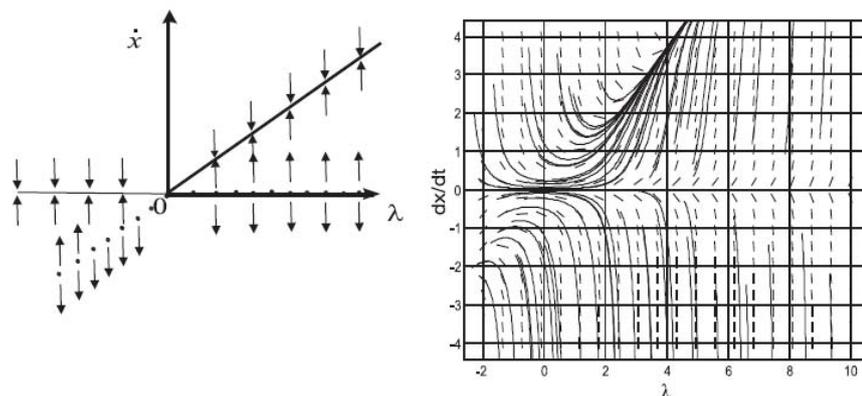


Figure 2. Transcritical bifurcation

(Source: http://newton.phys.uaic.ro/data/pdf/Mecanica_clasica.pdf)

3.3. Pitchfork bifurcation:

Appears when the function f from the dynamic equation $\dot{x} = f(x, \lambda)$ is odd¹³², that is $f(x, \lambda) = -f(-x, \lambda)$. Usually, such a system has a symmetric fixed point (or limit cycle). Pitchfork bifurcations are the generic bifurcations when such a symmetric solution changes its stability.

3.3.a. Supercritical fork:

In this case the differential equation is of this form:

$$\dot{x} = \lambda x - x^3 \quad (8)$$

and has as critical points the real roots of the algebraic equation

$$\lambda x - x^3 = 0 \quad (9)$$

¹³² Gh. Oprescu – „Economic Dynamics: from the linear dynamic to bifurcation, strange attractors and chaos”, Ed. ASE, 2004

which are $x_{e1} = 0$ for any λ , and for $\lambda > 0$, $x_{e1} = 0$, $x_{e2} = \sqrt{\lambda}$, $x_{e3} = -\sqrt{\lambda}$. By analyzing the values of the associated jacobian:

$$\left(\frac{\partial f}{\partial x}\right)_{x_e} = \lambda - 3x_e^2 \quad (10)$$

derived reported to x of the expression $\lambda x - x^3$ becomes λ for $x_{e1} = 0$ (positive if $\lambda > 0$ and negative if $\lambda < 0$) and -2λ for the other two solutions (so negative). The bifurcation diagram is shown in diagram 3.

The particularity of it consists in the fact that it has stable branches on one side and the other, of the bifurcation point 0. From the figure 3 it can be observed that the axis $x = 0$ is stable for $\lambda < 0$ and unstable for $\lambda > 0$, and the two branches $x = \sqrt{\lambda}$ and $x = -\sqrt{\lambda}$ are both stable.

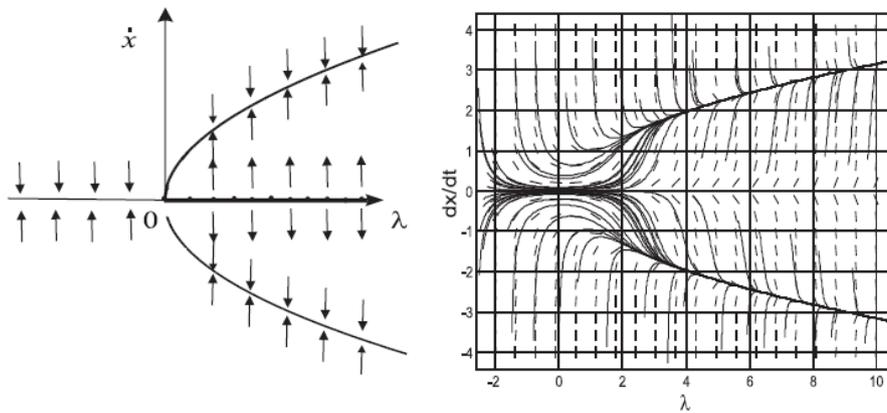


Figure 3. Supercritical bifurcation

(Source: http://newton.phys.uaic.ro/data/pdf/Mecanica_clasica.pdf)

3.3.b. Subcritical fork:

The differential equation in this case is:

$$\dot{x} = \lambda x + x^3, \quad x \in \mathbb{R} \quad (11)$$

and it has its critical points given by the real solution of algebraic equation

$$\lambda x + x^3 = 0 \quad (12)$$

respectively by the branch $x_{e1} = 0$ for any λ , and $x_{e1} = 0$, $x_{e2} = \sqrt{-\lambda}$, $x_{e3} = -\sqrt{-\lambda}$ for $\lambda < 0$.

In this case also, Jacobis' matrix is reduced to the first derivative respect to x of the function $\lambda x + x^3$, respectively to $\lambda + 3x^2$. For $x_{e1} = 0$ the first derivative respect to x is equal to λ , positive for $\lambda > 0$ and negative for $\lambda < 0$. For the other two solutions, $x_{e2} = \sqrt{-\lambda}$ and $x_{e3} = -\sqrt{-\lambda}$, is equal to -2λ . These branches exist only for $\lambda < 0$ and thus the first derivative is positive.

The properties of stability are exactly reversed towards the supercritical fork¹³³. From the diagram of the bifurcation shown in figure 4. we can see that the branch $x_1 = 0$ is stable for $\lambda < 0$ and unstable for $\lambda > 0$, and the branches $x_2 = \sqrt{-\lambda}$ and $x_3 = -\sqrt{-\lambda}$ are both unstable.

¹³³ Classical mechanics: systems of particles and Hamiltonian dynamics, Walter Greiner, Springer, 2003

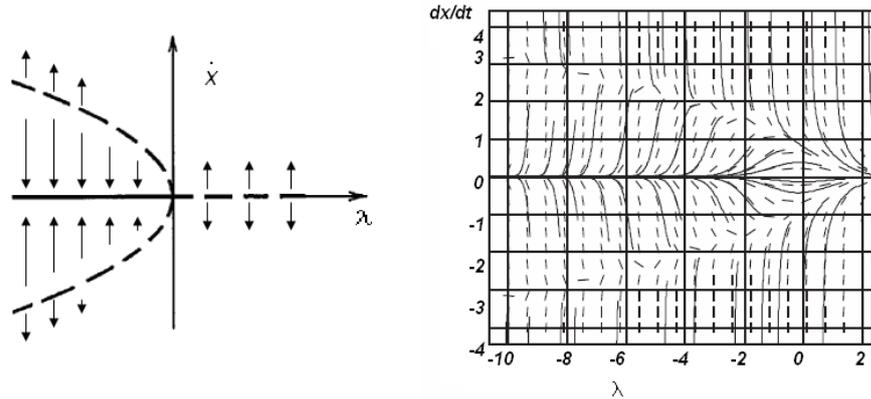


Figure 4. Subcritical bifurcation

The stable branches have been represented with a continuous line and the unstable branches with an abrupt line. The subcritical bifurcation is characterized by the fact that it has a stable branch only on one side of the bifurcation point 0.

3.4. Hopf Bifurcation

Hopf Bifurcation is probably the most studied type of bifurcation in the economical systems. This type of bifurcation appears in bidimensional systems, where the trajectories cross from one node in a stable limit cycle and vice versa.

These have been studied by Hopf in 1942, which came out with a theorem regarding the possibility of appearing and disappearing of a periodic solution of the differential equation $\dot{x} = f(x, \lambda)$, $x \in \mathbb{R}^2$ for a certain value of the parameter λ .

Theorem: If the differential equation

$$\dot{x} = f(x, \lambda), x \in \mathbb{R}^2 \quad (13)$$

admits an equilibrium point $x_e = x_e(\lambda)$ and if the matrix

$$\left(\frac{\partial f}{\partial x} \right)_{x=x_e(\lambda)} \quad (14)$$

has complex eigenvalues of the form $\alpha(\lambda) + i\beta(\lambda)$ with $\alpha(\lambda) > 0$ for $\lambda > 0$, $\alpha(\lambda) = 0$ for $\lambda = 0$, $\alpha(\lambda) < 0$ for $\lambda < 0$, $\beta(0) \neq 0$ and

$$\left. \frac{\partial \alpha(\lambda)}{\partial \lambda} \right|_{\lambda=0} > 0 \quad (15)$$

than for values $\lambda > 0$ small enough, there is a periodic solution for the differential equation (13).

An example of such a bidimensional system with a parameter can be:

$$\begin{aligned} \dot{x} &= -y + x(\lambda - (x^2 + y^2)) \\ \dot{y} &= x + y(\lambda - (x^2 + y^2)) \end{aligned} \quad (16)$$

The equilibrium of the system (16) is reached when $\dot{x} = \dot{y} = 0$, that is when $x_e = y_e = 0$. By analyzing the eigenvalues of the jacobian around the stationary state (0,0) we come up with:

$$J = \left(\begin{array}{cc} \lambda - 3x^2 - y^2 & -1 - 2xy \\ 1 - 2xy & \lambda - 3y^2 - x^2 \end{array} \right) \Bigg|_{(0,0)} = \left(\begin{array}{cc} \lambda & -1 \\ 1 & \lambda \end{array} \right) \quad (17)$$

Thus, in the neighborhood of this point:

$$\det J = \lambda^2 + 1$$

$$TrJ = 2\lambda$$
(18)

resulting that the solutions of the secular equation $\mu^2 - TrJ \mu + detJ=0$
 $\Rightarrow \mu^2 - 2\lambda\mu + \lambda^2 + 1 = 0$ are:

$$\mu_{1,2} = \lambda \pm i$$
(19)

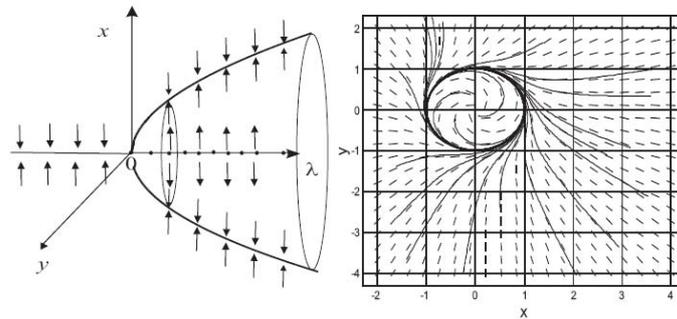


Figure 5. Hopf bifurcation

(Source: http://newton.phys.uaic.ro/data/pdf/Mecanica_clasica.pdf)

Thus, for $\lambda < 0$ the system has a stable state which is a stable spiral, and for $\lambda > 0$ an unstable spiral which collapses for $\lambda = 0$. From the stationary attractor $(0,0)$ the system converges (for $\lambda > 0$) towards a periodic solution described by a limit cycle, with a radius increasing in time (Figure 5). Also like in the case of pitchfork type bifurcation, this type of bifurcation, which makes a crossing from a fixed stable point to a limit cycle, has two forms: supercritical Hopf bifurcation and a subcritical form.

Conclusions

All the theories of complexity: synergetic, chaos theory, bifurcation theory, catastrophe theory etc. have a great applicability also in the field of economics, the economic phenomenon and processes being extremely complex. Although known to engineers, bifurcation theory has only recently been seen in the economics literature. Knowledge of the nature of bifurcations is likely to become important in understanding the dynamics of modern macro econometric models. Bifurcation analysis refers to the existence of fundamentally different dynamic solution properties at nearby values of parameters.

References

1. Oprescu Gh., *Economic Dynamics: from the linear dynamic to bifurcation, strange attractors and chaos*, Ed. ASE, 2004
2. Luca D., Stan C., *Classic Mechanics*, 2007 (http://newton.phys.uaic.ro/data/pdf/Mecanica_clasica.pdf)
3. W. Greiner *Classical mechanics: systems of particles and Hamiltonian dynamics*, Springer, 2003
4. Roşoreanu C. *Bifurcațiile sistemelor dinamice continue. Aplicații în economie și biologie*, Ed. Universitaria, Craiova, 2006.
5. Kuznetsov Yu., *Elements of applied bifurcation theory*, Springer, New York, 2004.
6. Devaney, R. L., *An introduction to chaotic dynamical systems*, Addison-Wesley Publishing Company, second edition, 1989
7. Peters E., *Chaos and Order in the Capital Markets*, Wiley, 1996
8. Chow S.N., Li C., Wang D., *Normal forms and bifurcations of planar vector fields*, Cambridge Univ. Press, Cambridge, 1994.
9. Roşoreanu C., Georgescu A., Giurgiţeanu N., *The FitzHugh-Nagumo model: bifurcation and dynamics*, Springer, 2000
10. Dumortier F., Llibre J., Artès J., *Qualitative theory of planar differential systems*, Springer, 2006

Edugal a portal for e-learning

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Abstract

The paper presents an ie-Learning portal development and its applications of the internet-based CSS and PHP education system. The solution is based on the application of the free, open-source: Apache, MySQL and PHP - based software package. E-learning has been defined as the use of newmultimedia technologies and the Internet to improve the quality of learning. Elearning is based an a reliable technology but is pedagogy-oriented.

Keywords: e-Learning, portal, internet-based, CSS, PHP, Apache, MySQL

1. Introduction

As Europe enters into the emerging global information society, new opportunities are arising for cost-effective solutions to education. The convergence of information and communication technologies is enabling the creation and implementation of e-Learning systems. The eLearning development in Europe is a further step towards realising the vision of technology serving lifelong learning. It focuses on a set of actions in high priority areas, chosen for their strategic relevance to the modernisation of Europe's education and training systems. E-learning has been defined as the use of new multimedia technologies and the Internet to improve the quality of learning. According to this definition, e-learning stimulates remote exchanges and collaboration and empowers the learner in every situation. The internet gives easy access to resources and services. E-Learning is based an a reliable technology but is pedagogy-oriented. E-learning portal includes web services compositions that are modular web applications, which can be independently deployed and invoked on the web. E-learning services typically include course management, assessment tools, asynchronous and synchronous communications, collaboration, probably billing and other related modules. We utilize the middleware to realize requirement-driven prototypes for elearning services. The middleware provides e-learning services collection, services selection and services composition. In addition, it supports dynamic integration between services via web portal. With the successful prototyping development for learning management system, instructor can understand and identify the services requirement in the virtual campus. The LMS prototypes provide the instructor a testing space to experience in the configured e-learning environment. Thus, the instructor can better understand the actual needs in the e-learning services, and articulate other possible solutions to their problems. The prototypes have shorten the development timeframe and thus saved significantly in the cost for LMS customisation.

2. E-learning Skill Categories

The process of creating an E-learning portal is a complex task. The following sections describe the skill categories required to create an online E-learning course. This developing requires the ability to conceive complex human interactions and execute them in available technologies. Creating an E-learning application takes a wide range of talents. The skill categories required to create an online E-learning course are:

- Visual design – developing an E-learning course may require a visual design engineer to design all of the page content.
- Multimedia development - developing an E-learning course will need a multimedia engineer to create audio and video components, animations and integrate all these multimedia elements.
- Courseware development – this task involves creating the components that present information and interact with learners.
- Instructional design - is critically important for E-learning (that will require the same attention to ease-of-use).
- Technology integration - creating E-learning usually requires combining several technologies.
- Project management - developing an E-learning course require proper monitoring and control.

Eudugal is a e-Learning portal who was developed to support good teaching and learning, not to replace it. The portal is open source and modular, it enables the manager to add and modify tools, change the moduls, adapt databases. It's an excellent application for the internet-based XHTML, CSS and PHP education. All the software required can be downloaded free of charge. The Portal use only open formats and languages and allows teachers to create and admin course websites through a browser. You can:

- Publish documents in any format (Word, PDF, XHTML, Video),
- Admin the Portal,
- Manage modules,
- Create student groups,
- Manage statistics,
- Compose exercises and tests.

The portal integrates several modules, created with open source technologies to meet exact requirements.

- Content Manager provide the facility to change Portal Content within a wide range of web page templates and with a built in workflow to ensure authority to publish information. I used Joomla for this task. Joomla is the most popular open source CMS currently available as evidenced by a vibrant and growing community of friendly users and talented developers. Joomla's roots go back to 2000 and, with over 200,000 community users and contributors, the future looks bright for the award-winning Joomla Project. Many companies and organizations have requirements that go beyond what is available in the basic Joomla package. In those cases, Joomla's powerful application framework makes it easy for developers to create sophisticated add-ons that extend the power of Joomla into virtually unlimited directions. The core Joomla framework enables developers to quickly and easily build:
 - Inventory control systems,
 - Data reporting tools,
 - Application bridges,
 - Custom product catalogs,
 - Integrated e-commerce systems,
 - Complex business directories ,
 - Reservation systems ,
 - Communication tools.

Since Joomla is based on PHP and MySQL, you're building powerful applications on an open portal anyone can use, share, and support.

- Event Manager to provide on-line booking of events including training, conferences and meetings together with workflow to provide the full management of events including automatic surveys at the end.
- Learning Management System to provide a portal for on-line learning and feedback with on-line course material provided.
- Site Manager to provide administration of the portal including security and access controls.
- Datamine to provide system users with the ability to generate reports from databases to monitor performance and use trends.

Based upon our research and consultation with various technologies, two solutions seems to meet our needs to build a website on Joomla or Drupal. Both are based on PHP, Apache and mySQL and allows for deep customization through the use of custom add-on modules using a well-documented and feature-rich API. Numerous pre-built add-on modules that support some of the functionality I am looking to utilize are already available and will serve our needs either as-is or with some customization. The ability to hide/show blocks and other items on an end-user basis can be used for portal customization. Additional custom modules and PHP pages will be needed, of course.

Fig. 1 shows the initial page of the self-registering web portal:

E-Learning

Facultatea de Științe Economice
Galați

Bine ai venit [logout] 29.08.2008

Alegeti materia dorită

Utilizator:

Parola:

Submit

Dacă nu aveți user și parolă vă rugăm să contactați administratorul acestui site pentru a vă furniza una.

Copyright@Cristina Enache - 2008

Fig. 1. The initial page of the self-registering web portal.

To change your password, at the, click on the “Settings” button. You can find the “Settings” button at the top most menu, besides the “Help” and “Logout” buttons. If you are logging in for the first time, you will get a message to update your personal information before using this system. You will get the “User Setting and Information”. Here you can change your personal information and update your profile. Click on the “OK” button and fill-in the required fields (*). The rest of the fields under STEP 2 are optional. When you are done, click on the save button.

When you are done, scroll down and click on the button. Please take note that, the “Postcode” field accepts numbers only. If you key-in numbers and alphabets or other symbols, when you click on the “Modify” button, you will get an error message. Re-enter numbers only for the postcode field and click on the “Modify” button to update your profile. The Edugal portal is the personalised homepage accessed after logging into eLearning. It lists all the courses the

user has access to as well as links to bookmarks, the global calendar entries, the user's grades, announcements and various bookmarks. In the top region of the portal area there are also links to your account settings, help and log out.

If you have successfully updated your profile, you will get the following page, as shown in Fig. 2. below. At this point the system will present the main page with xHTML, CSS and PHP e-Learning modules.

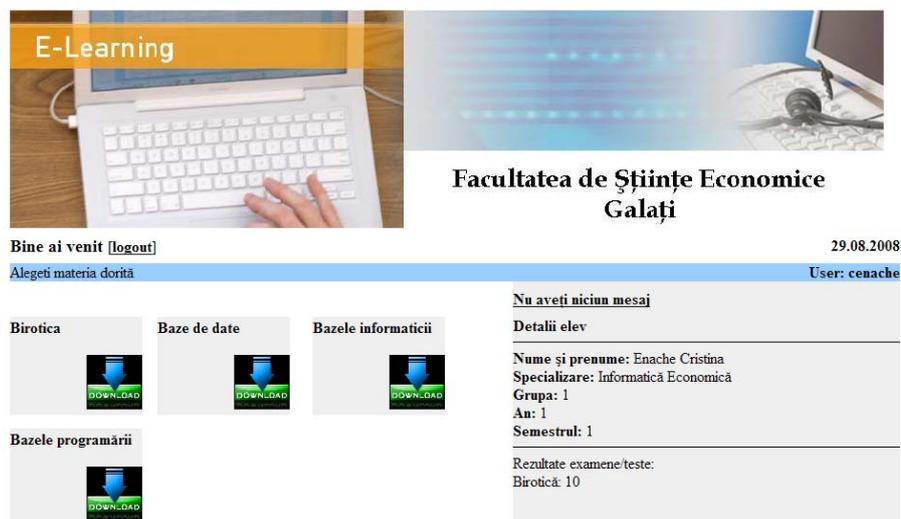


Fig. 2. - xHTML, CSS and PHP e-Learning modules

The system will now display the courses available for the student page. You can use these course module parts with content (Fig. 3). This section provides a comprehensive mechanism for organizing files that you would like to make available to the students.



Fig. 3. - Content of the e-Learning course

The logo bar appears at the top of the My eLearning screen and contains the following:

- a Settings link that allows the user to configure their eLearning user account settings. Note: This link is only accessible on the homepage.
- a Help link that allows you to access other resources, including eLearning Support and documentation,
- a Log Out link that allows you to log out of eLearning.

Navigation in the course

Eudugal portal uses simple semiotics and shallow information structures to make the student experience of navigating and accessing your course content quick and easy. You will find multiple ways to access the online tools, such as Discussion/Dialogue topics, Assignments and Course Materials, via the Tool Bar or the Course content icons.

Tool Bar

The tool bar appears at the top of the eLearning screen, and contains links to the tools made available in the online course. An example tool bar and a description of the tools is shown below.

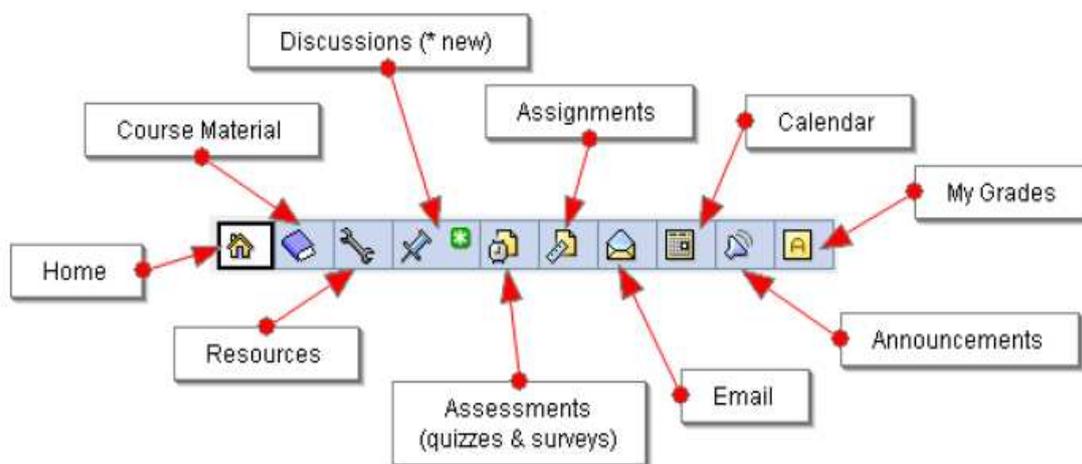


Fig. 4. - Tool Bar

Course Content Icons

The icons used throughout the course content pages are called the Course Content Icons. Many of these will link to the same tools as the icons from the tool bar.

	<i>Introductory activities</i> is used to encourages students to participate in the online dialogues.
	<i>Teleconferences</i> it allows students to manually sign up to participate in an available teleconference.
	<i>Course Materials</i> contains electronic PDF files.
	<i>Resources</i> contain electronic resource files relevant to the course. Your course leader may post files here that are relevant to the topics of the course, including PDF, Word and HTML.

When navigating in a course content area use your Action Menu to navigate rather than your browser navigation buttons. The browser buttons navigate you through your Internet path and can take you right out of your course, while the Action Menu buttons move you through the eLearning course content.

The screenshot below describes the functions of the buttons on the action menu.

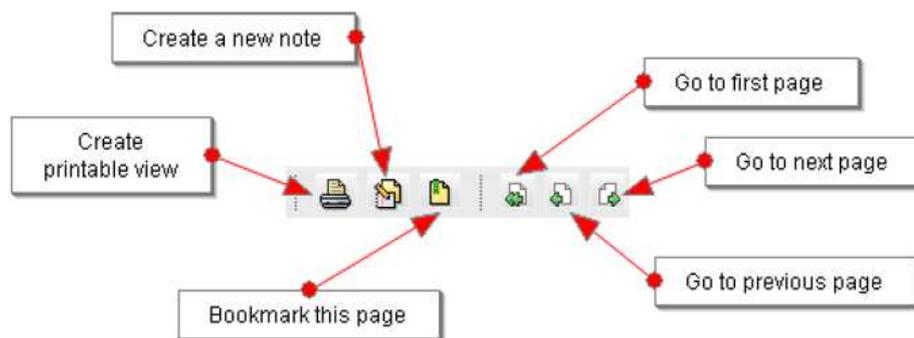


Fig. 5. – Action Menu

Mail Tool

The mail tool is essential for private communication within a course. In this portal students are able to send, read and search for messages in the Mail tool. The mail tool is similar to email. The outgoing messages are stored in the outbox and the incoming messages are stored in the inbox. The structure of the Mail tool is very similar to that of the Discussions tool. The Mail tool is restricted to each course and only course participants can use it. The only link it has to external email is that the user may forward messages they receive in the Mail tool to their external email address.

Conclusions

The paper presents an e-Learning portal development and its applications of the internet-based xHTML, CSS and PHP education system. The solution is based on the application of the free, open-source. Using this Web-portal it's possible: publish documents in any format (Word, PDF, xHTML, Video), admin the Portal, manage modules, create student groups, manage statistics, and compose exercises and tests. Application of the e-Learning portal using open-source environment shows the validity of the proposed method.

References

- [1] Ana Maria Lăculeanu, *Instruirea bazată pe Web*, Conferința Națională Universitatea Virtuală în România, București 2003
- [2] Darren Smith, *Using your moodle*, http://wbt.unitbv.ro/web/moodle/file.php/1/Resurse_publice/Using-Your-Moodle.pdf
- [3] Cristina Niculescu, *Noi tipuri de sisteme educaționale pentru SI-SC*, Societatea Informațională - Societatea Cunoașterii, Editura Expert, București, 2001.
- [4] Dragoș Noveanu, *Problematica softului educațional*, <http://www.kappa.ro/idgro/cworld>.
- [5] Diana Ștefănescu, Emilia Pecheanu, Adrian Istrate, *Sistemul Ariadne - cadru pentru dezvoltarea, gestionarea și utilizarea materialelor instrucționale*, <http://www.bsufonline.org/lite/tehnologie&educatie/02200302.pdf>.
- [6] coord. Lucian Oprea, *Proiectul Sloop*, Universitatea Dunărea de Jos, Departamentul pentru Învățământ la Distanță și cu Frecvență Redusă, Galați, 2007.
- [7] ActiveBPEL (2006), Retrieved December 20, 2005 from <http://www.activebpel.org/>.
- [8] Business Process Execution Language for Web Services, June 30, 2004, from: <http://www6.software.ibm.com/software/developer/library/ws-bpel.pdf>.
- [9] Fjuk A. & Berge O. (2006) *Understanding the roles of online meetings in a net-based course*. *Journal of Computer Assisted Learning* 22, 13–23.

The Sphere of the Influences Regarding the Weights for the Sales of Alimentary Wares, Respectively Nonalimentary Wares, over the Dynamical of the Informational Energy, in Romania

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Abstrat: The statistics analyses concerning the commerce from Romania cans to be reflected through by means of the informational energy who is adjusted and influenced by the weights of the sales for the alimentary wares, respectively nonalimentary wares.

Key words: informational energy; road of the factors; dynamical; influences; factors.

JEL Code: C1, C12, C2.

1. Introduction

In this research, we calculate the contributions of the influences represented by the weights of the sales for the alimentary wares, respectively nonalimentary wares, over the dynamical of the informational energy in 2006 face to 1996, with the help of the method „road of the factors”.

2. Content

Thus, we can to observe the evolution of the commerce on the groups of wares from Romania, in the period 1996 – 2006, who is represented in the table number 1. By means of the weights for the dates presented, we calculate the values of the informational energy who are adjusted and who serve at the measurement of them degree for concentration.

Table no. 1 The evolution of the commerce on the groups of wares and the average values on years of the Euro currency in Romania, the period 1996 – 2006.

Years	Sales of wares (millions lei)			The average values on years EUR (ROL)	Sales of wares (thousands EUR)		
	Alimentary wares (millions lei)	Nonalimentary wares (millions lei)	Total (millions lei)		Alimentary wares (thousands EUR)	Nonalimentary nonwares (thousands EUR)	Total (thousands EUR)
1996	1.214,4	1.699,0	2.913,4	3.862,90	314	440	754
1997	2.872,2	3.930,9	6.803,1	8.090,92	355	486	841
1998	5.164,0	7.387,3	12.551,3	9.989,25	517	739	1.256
1999	6.793,6	9.220,0	16.013,6	16.295,57	417	566	983
2000	9.528,3	11.828,6	21.356,9	19.955,75	477	593	1.070
2001	13.010,5	15.717,3	28.727,8	26.026,89	500	604	1.104

Years	Sales of wares (millions lei)			The average values on years EUR (ROL)	Sales of wares (thousands EUR)		
	Alimentary wares (millions lei)	Nonalimentary wares (millions lei)	Total (millions lei)		Alimentary wares (thousands EUR)	Nonalimentary nonwares (thousands EUR)	Total (thousands EUR)
2002	16.021,7	20.247,8	36.269,5	31.255,25	513	648	1.161
2003	20.892,5	25.123,7	46.016,2	37.555,87	556	669	1.225
2004	25.125,7	32.021,8	57.147,5	40.532,11	620	790	1.410
2005	33.442,8	38.061,5	71.504,3	36.234,38	923	1.050	1.973
2006	37.178,5	47.014,3	84.192,8	35.245,00	1.055	1.334	2.389

The source: dates debated from the Annuals of Statistics for Romania 2006 and 2007, chapter 19.1., I.N.S.S.E., Bucharest.

If we apply the method „road of the factors”, we can to decomposed the dynamical of the indicator:

$$E_{iaj} = \frac{\sum_{i=1}^2 f_i^2 - \frac{1}{2}}{1 - \frac{1}{2}} = 2f_1^2 + 2f_2^2 - 1$$

where: E_{iaj} = informational energy who is adjusted;
 f_1 = the weight of the sales for the alimentary wares;
 f_2 = the weight of the sales for the nonalimentary wares.

Also, if we note $f_1 = x$ and $f_2 = y$, then the indicator informational energy who is adjusted has the next formula:

$$E_{iaj} = 2x^2 + 2y^2 - 1 = \varphi(x, y)$$

Consequently, $x(0) = 0,416$; $y(0) = 0,584$; $x(1) = 0,442$; $y(1) = 0,558$.

where: „1” is the reported year 2006 and „0” represents the year of base 1996.

So, with the help on the dates from the table no. 1, we can calculated the values of the weights from the sales of alimentary wares, respectively nonalimentary wares, in the period 1996-2006, as well as the values of the informational energy who is adjusted, in the same period of time, according to the next table:

Table no. 2 The weight of the sales for the wares in the trade of Romania, as well as the development of the informational energy who is adjusted, in the period 1996 – 2006

Years	The weight of the sales				f_1^2	f_2^2	The informational energy $E_i = \sum_{i=1}^2 f_i^2$	The informational energy who is adjusted	
	Alimentary wares (f_1)		Nonalimentary wares (f_2)						$(\%)^2$
		(%)		(%)					
1996	0,416	41,6	0,584	58,4	0,173056	0,341056	0,514112	0,028224	282,24
1997	0,422	42,2	0,578	57,8	0,178084	0,334084	0,512168	0,024336	243,36
1998	0,412	41,2	0,588	58,8	0,169744	0,345744	0,515488	0,030976	309,76
1999	0,424	42,4	0,576	57,6	0,179776	0,331776	0,511552	0,023104	231,04
2000	0,446	44,6	0,554	55,4	0,198916	0,306916	0,505832	0,011664	116,64
2001	0,453	45,3	0,547	54,7	0,205209	0,299209	0,504418	0,008836	88,36
2002	0,442	44,2	0,558	55,8	0,195364	0,311364	0,506728	0,013456	134,56
2003	0,454	45,4	0,546	54,6	0,206116	0,298116	0,504232	0,008464	84,64
2004	0,440	44,0	0,560	56,0	0,193600	0,313600	0,507200	0,014400	144,00
2005	0,468	46,8	0,532	53,2	0,219024	0,283024	0,502048	0,004096	40,96
2006	0,442	44,2	0,558	55,8	0,195364	0,311364	0,506728	0,013456	134,56

In the case of the **geometrical decomposition** for the dynamical of the indicator E_{iaj} through the method „road of the factors”, we obtain the next factoryal indexes:

$$I_{1/0}^{\varphi(x/y)} = e^{\int_{(P_0/P_1)} \frac{\varphi'_x(x,y)}{\varphi(x,y)} dx} \quad ; \quad I_{1/0}^{\varphi(y/x)} = e^{\int_{(P_0/P_1)} \frac{\varphi'_y(x,y)}{\varphi(x,y)} dy}$$

Yet,

$$\varphi'_x(x,y) = 4x \quad \text{and} \quad \varphi'_y(x,y) = 4y$$

Then:

$$I_{1/0}^{\varphi(x/y)} = e^{\int_{(P_0/P_1)} \frac{4x}{2x^2+2y^2-1} dx} \quad ; \quad I_{1/0}^{\varphi(y/x)} = e^{\int_{(P_0/P_1)} \frac{4y}{2x^2+2y^2-1} dy}$$

In the same time, for to calculate the factoryal indexes we must to establish the type of function reflected by the road from each factor, X , respectively Y , between P_0 and P_1 . In this sense, if we apply the method of the coefficients for to study the variation, the real method of selection for the best model of tendency and we consider the year from the middle of the series for each factor, as origin of calculation, while through the achievement of the substitution

$\sum_{i=-m}^m t_i = 0$, we obtain the next parametres:

• **IN THE CASE OF THE FACTOR X:**

- if we formulate the null hypothesis H_0^* : who mentions the assumption of the existence for the model of tendency of the factor X right the function $x_i = a + b \cdot t_i$, then the parametres a and b of the adjusted function of the premier degree, can to be calculated by means of the next system:

$$\begin{cases} n \cdot a = \sum_{i=-m}^m x_i \\ b \cdot \sum_{i=-m}^m t_i^2 = \sum_{i=-m}^m t_i \cdot x_i \end{cases}$$

Therefore,

$$a = \frac{\sum_{i=-m}^m x_i}{n} \quad \text{and} \quad b = \frac{\sum_{i=-m}^m t_i \cdot x_i}{\sum_{i=-m}^m t_i^2}$$

If we calculate the statistical dates for to adjust the liniar function, we obtain for the parametres a and b the values:

$$a = \frac{4,819}{11} = 0,438090909 \quad \text{and} \quad b = \frac{0,454}{110} = 0,004127272$$

Hence, the coefficient of variation for the adjusted function of the premier degree is:

$$v_I = \left[\frac{\sum_{i=-m}^m |x_i - x'_i|}{n} : \frac{\sum_{i=-m}^m x_i}{n} \right] \cdot 100 = \frac{\sum_{i=-m}^m |x_i - x'_i|}{\sum_{i=-m}^m x_i} \cdot 100 = \frac{0,096}{4,819} \cdot 100 = 1,99\%$$

- in the situation of the alternative hypothesis H_1^* : who specifies the assumption of the existence for the the model of tendency of the factor X right the parabolical function $x_i = a + b \cdot t_i + ct_i^2$, the parametres a , b și c of the adjusted function of the second degree, can to be calculated by means of the system:

$$\begin{cases} n \cdot a + c \sum_{i=-m}^m t_i^2 = \sum_{i=-m}^m x_i \\ b \cdot \sum_{i=-m}^m t_i^2 = \sum_{i=-m}^m t_i \cdot x_i \\ a \cdot \sum_{i=-m}^m t_i^2 + c \sum_{i=-m}^m t_i^4 = \sum_{i=-m}^m t_i^2 \cdot x_i \end{cases}$$

Consequently,

$$a = \frac{\sum_{i=-m}^m t_i^4 \cdot \sum_{i=-m}^m x_i - \sum_{i=-m}^m t_i^2 \cdot \sum_{i=-m}^m t_i^2 \cdot x_i}{n \cdot \sum_{i=-m}^m t_i^4 - (\sum_{i=-m}^m t_i^2)^2}; \quad b = \frac{\sum_{i=-m}^m t_i \cdot x_i}{\sum_{i=-m}^m t_i^2}; \quad c = \frac{n \cdot \sum_{i=-m}^m t_i^2 \cdot x_i - \sum_{i=-m}^m t_i^2 \cdot \sum_{i=-m}^m x_i}{n \cdot \sum_{i=-m}^m t_i^4 - (\sum_{i=-m}^m t_i^2)^2}$$

In this way, if we calculate the statistical dates for to adjust the second function, we obtain for the parametres a , b and c the next values:

$$a = \frac{1.958 \cdot 4,819 - 110 \cdot 47,758}{11 \cdot 1.958 - (110)^2} = 0,4431; \quad b = \frac{0,454}{110} = 0,0041;$$

$$c = \frac{11 \cdot 47,758 - 110 \cdot 4,819}{11 \cdot 1.958 - (110)^2} = -0,0005$$

So, the coefficient of variation for the adjusted function of the second degree has the value:

$$v_{II} = \left[\frac{\sum_{i=-m}^m |x_i - x_{II}^i|}{n} : \frac{\sum_{i=-m}^m x_i}{n} \right] \cdot 100 = \frac{\sum_{i=-m}^m |x_i - x_{II}^i|}{\sum_{i=-m}^m x_i} \cdot 100 = \frac{0,097}{4,819} \cdot 100 = 2,01\%$$

- in the case of the alternative hypothesis H_2^* : who describes the supposition the assumption of the existence for the the model of tendency of the factor X right the exponential function $x_{t_i} = ab^{t_i}$, then the parametres a and b of the adjusted exponential function, can to be calculated by means of the next system:

$$\begin{cases} n \cdot \lg a = \sum_{i=-m}^m \lg x_i \\ \lg b \cdot \sum_{i=-m}^m t_i^2 = \sum_{i=-m}^m t_i \cdot \lg x_i \end{cases}$$

Thus, $\lg a = \frac{\sum_{i=-m}^m \lg x_i}{n}$ and $\lg b = \frac{\sum_{i=-m}^m t_i \cdot \lg x_i}{\sum_{i=-m}^m t_i^2}$

Consequently, if we calculate the statistical dates for to adjust the exponential function, we obtain for the parametres a and b the values:

$$\lg a = \frac{-3,94629916}{11} = -0,358754469$$

$$\lg b = \frac{0,452512085}{110} = 0,004113746$$

Accordingly, the coefficient of variation for the adjusted exponential function has the next value:

$$v_{\text{exp}} = \left[\frac{\sum_{i=-m}^m |x_i - x_{t_i}^{\text{exp}}|}{n} : \frac{\sum_{i=-m}^m x_i}{n} \right] \cdot 100 = \frac{\sum_{i=-m}^m |x_i - x_{t_i}^{\text{exp}}|}{\sum_{i=-m}^m x_i} \cdot 100 = \frac{0,098}{4,819} \cdot 100 = 2,03\%$$

We observe that: $v_I = 1,99\% = v_{II} = 2,01\% < v_{\text{exp.}} = 2,03\%$

Therefore, **the road follows by the factor X, the weight of the sales for the alimentary wares, from P_0 at P_I , is a liniary model** of shape $x_{t_i} = a + b \cdot t_i$, with another words it's confirmed the nulle hypothesis H_0^* .

• **IN THE CASE OF THE FACTOR Y:**

- in the situation of the nulle hypothesis H_0^{**} : who supposes that the model of tendency of the factor Y is the liniary function $y_{t_i} = a + b \cdot t_i$, then the parametres a and b of the adjusted function for premier degree, can to be calculated by the help of the next formulas:

$$a = \frac{\sum_{i=-m}^m y_i}{n} \quad \text{and} \quad b = \frac{\sum_{i=-m}^m t_i \cdot y_i}{\sum_{i=-m}^m t_i^2}$$

If we calculate the statistical dates for to adjust the liniar function, we obtain for the parametres a and b the values:

$$a = \frac{6,181}{11} = 0,56190909 \quad \text{and} \quad b = \frac{-0,454}{110} = -0,004127272$$

Hence, the coefficient of variation for the adjusted function of the premier degree is:

$$v_I = \left[\frac{\sum_{i=-m}^m |y_i - y_{t_i}^I|}{n} : \frac{\sum_{i=-m}^m y_i}{n} \right] \cdot 100 = \frac{\sum_{i=-m}^m |y_i - y_{t_i}^I|}{\sum_{i=-m}^m y_i} \cdot 100 = \frac{0,096}{6,181} \cdot 100 = 1,55\%$$

- in the situation of the alternative hypothesis H_1^{**} : who specifies the existence with the view at the model of tendency of the factor Y right the parabolical function $y_{t_i} = a + b \cdot t_i + ct_i^2$, the parametres a , b și c of the adjusted function of the second degree, can to be calculated by means of the formulas:

$$a = \frac{\sum_{i=-m}^m t_i^4 \cdot \sum_{i=-m}^m y_i - \sum_{i=-m}^m t_i^2 \cdot \sum_{i=-m}^m t_i^2 \cdot y_i}{n \cdot \sum_{i=-m}^m t_i^4 - (\sum_{i=-m}^m t_i^2)^2}; \quad b = \frac{\sum_{i=-m}^m t_i \cdot y_i}{\sum_{i=-m}^m t_i^2}; \quad c = \frac{n \cdot \sum_{i=-m}^m t_i^2 \cdot y_i - \sum_{i=-m}^m t_i^2 \cdot \sum_{i=-m}^m y_i}{n \cdot \sum_{i=-m}^m t_i^4 - (\sum_{i=-m}^m t_i^2)^2}$$

If we calculate the statistical dates for to adjust the second function, we obtain for the parametres a , b and c the next values:

$$a = \frac{1.958 \cdot 6,181 - 110 \cdot 62,242}{11 \cdot 1.958 - (110)^2} = 0,5569; \quad b = \frac{-0,454}{110} = -0,0041;$$

$$c = \frac{11 \cdot 62,242 - 110 \cdot 6,181}{11 \cdot 1.958 - (110)^2} = 0,0005$$

Accordingly, the coefficient of variation for the adjusted function of the second degree has the value:

$$v_{II} = \left[\frac{\sum_{i=-m}^m |y_i - y_{iII}^{\prime\prime}|}{n} : \frac{\sum_{i=-m}^m y_i}{n} \right] \cdot 100 = \frac{\sum_{i=-m}^m |y_i - y_{iII}^{\prime\prime}|}{\sum_{i=-m}^m y_i} \cdot 100 = \frac{0,097}{6,181} \cdot 100 = 1,57\%$$

- in the case of the alternative hypothesis H_2^{**} : who describes the supposition the assumption of the existence for the the model of tendency of the factor Y right the exponential function $y_i = ab^t$, then the parametres a and b of the adjusted exponential function, can to be calculated by means of the next formulas:

$$\lg a = \frac{\sum_{i=-m}^m \lg y_i}{n} \quad \text{and} \quad \lg b = \frac{\sum_{i=-m}^m t_i \cdot \lg y_i}{\sum_{i=-m}^m t_i^2}$$

Also, if we calculate the statistical dates for to adjust the exponential function, we obtain the next values:

$$\lg a = \frac{-2,755801709}{11} = -0,25052 \quad \text{and} \quad \lg b = \frac{-0,349861211}{110} = -0,00318$$

So, in the case of the exponential function who is adjusted, the coefficient of variation is:

$$v_{\text{exp}} = \left[\frac{\sum_{i=-m}^m |y_i - y_{i\text{exp}}^{\text{exp}}|}{n} : \frac{\sum_{i=-m}^m y_i}{n} \right] \cdot 100 = \frac{\sum_{i=-m}^m |y_i - y_{i\text{exp}}^{\text{exp}}|}{\sum_{i=-m}^m y_i} \cdot 100 = \frac{0,098}{6,181} \cdot 100 = 1,59\%$$

We observe that: $v_I = 1,55\% = v_{II} = 1,57\% < v_{\text{exp}} = 1,59\%$

In conclusion, **the road follows by the factor Y , the weight of the sales for the alimentary wares, from to P_0 at P_1 , is a liniary model** of shape $y_{t_i} = a + b \cdot t_i$, with another words it's confirmed the nulle hypothesis H_0^{**} .

Because the factor X varies after a liniary function $x_{t_i} = A + B \cdot t_i$, then in the situation of the **geometrical decomposition** of the dynamical for the informational energy who is adjusted, in 2006 face to 1996, under the influences represented by the weights of the sales for the alimentary wares, respectively nonalimentary wares, in the commerce from Romania, that effect of the conditions:

$$x(0) = A \text{ și } x(1) = A + B = x(0) + B \Rightarrow B = x(1) - x(0) = \Delta_{1/0}^x$$

we obtaine:
$$x = x(0) + \Delta_{1/0}^x \cdot t \Rightarrow dx = \Delta_{1/0}^x \cdot dt$$

If we demonstrate in analogous mode, we have:

$$y = y(0) + \Delta_{1/0}^y \cdot t \Rightarrow dy = \Delta_{1/0}^y \cdot dt$$

Consequently, if we hold account that $x+y=I$, we have:

$$\begin{aligned} \int_{(P_0, P_1)} \frac{4x}{2x^2 + 2y^2 - 1} dx &= \int_{x(0)}^{x(1)} \frac{4x}{(2x-1)^2} dx = 4 \int_0^1 \frac{[x(0) + \Delta_{1/0}^x \cdot t] \cdot \Delta_{1/0}^x}{[2x(0) + 2\Delta_{1/0}^x \cdot t - 1]^2} dt = \\ &= 4x(0) \cdot \Delta_{1/0}^x \int_0^1 \frac{dt}{[2\Delta_{1/0}^x \cdot t + 2x(0) - 1]^2} + 4(\Delta_{1/0}^x)^2 \int_0^1 \frac{t}{[2\Delta_{1/0}^x \cdot t + 2x(0) - 1]^2} dt = \\ &= 4x(0) \cdot \Delta_{1/0}^x \int_0^1 \frac{dt}{4(\Delta_{1/0}^x)^2 \left[t + \frac{2x(0)-1}{2\Delta_{1/0}^x} \right]^2} + 4(\Delta_{1/0}^x)^2 \int_0^1 \frac{t}{4(\Delta_{1/0}^x)^2 \cdot t^2 + 4[2x(0)-1] \cdot \Delta_{1/0}^x \cdot t + [2x(0)-1]^2} dt = \\ &= \frac{x(0)}{\Delta_{1/0}^x} \int_0^1 \frac{dt}{\left[t + \frac{2x(0)-1}{2\Delta_{1/0}^x} \right]^2} + \frac{1}{2} \int_0^1 \frac{4(\Delta_{1/0}^x)^2 \cdot 2t + 4[2x(0)-1] \cdot \Delta_{1/0}^x}{4(\Delta_{1/0}^x)^2 t^2 + 4[2x(0)-1] \cdot \Delta_{1/0}^x \cdot t + [2x(0)-1]^2} dt - \frac{1}{2} \int_0^1 \frac{4[2x(0)-1] \cdot \Delta_{1/0}^x}{[2\Delta_{1/0}^x \cdot t + 2x(0)-1]^2} dt = \\ &= \frac{x(0)}{\Delta_{1/0}^x} \left[-\frac{1}{t + \frac{2x(0)-1}{2\Delta_{1/0}^x}} \right] \Bigg|_0^1 + \frac{1}{2} \ln \left[4(\Delta_{1/0}^x)^2 t^2 + 4[2x(0)-1] \cdot \Delta_{1/0}^x \cdot t + [2x(0)-1]^2 \right] \Bigg|_0^1 - \\ &- 2[2x(0)-1] \Delta_{1/0}^x \int_0^1 \frac{dt}{4(\Delta_{1/0}^x)^2 \left[t + \frac{2x(0)-1}{2\Delta_{1/0}^x} \right]^2} = -\frac{x(0)}{\Delta_{1/0}^x} \left[\frac{1}{1 + \frac{2x(0)-1}{2\Delta_{1/0}^x}} - \frac{1}{\frac{2x(0)-1}{2\Delta_{1/0}^x}} \right] + \frac{1}{2} \ln \left[\frac{2\Delta_{1/0}^x + [2x(0)-1]}{2x(0)-1} \right]^2 - \end{aligned}$$

$$\begin{aligned}
 & -\frac{2x(0)-1}{2\Delta_{1/0}^x} \left[\frac{1}{t + \frac{2x(0)-1}{2\Delta_{1/0}^x}} \right] = \frac{4x(0)\Delta_{1/0}^x}{[2x(1)-1][2x(0)-1]} + \ln \frac{2x(1)-1}{2x(0)-1} + \frac{2x(0)-1}{2\Delta_{1/0}^x} \left[\frac{1}{1 + \frac{2x(0)-1}{2\Delta_{1/0}^x}} - \frac{1}{\frac{2x(0)-1}{2\Delta_{1/0}^x}} \right] = \\
 & = \frac{4x(0) \cdot \Delta_{1/0}^x}{[2x(1)-1][2x(0)-1]} + \ln \frac{2x(1)-1}{2x(0)-1} - \frac{2[2x(0)-1] \cdot \Delta_{1/0}^x}{[2x(1)-1][2x(0)-1]} = \frac{2\Delta_{1/0}^x}{[2x(1)-1][2x(0)-1]} + \ln \frac{2x(1)-1}{2x(0)-1} = \\
 & = \frac{2 \cdot (0,442 - 0,416)}{(2 \cdot 0,442 - 1)(2 \cdot 0,416 - 1)} + \ln \frac{2 \cdot 0,442 - 1}{2 \cdot 0,416 - 1} = 2,668308703 + (-0,370373789) = 2,297934914
 \end{aligned}$$

Hence, $I_{1/0}^{\varphi(x/y)} = e^{\int_{(P_0, P_1)} \frac{4x}{2x^2+2y^2-1} dx} = e^{2,297934914} = 9,953606163 \cong 9,9536$ sau 995,36 %

Also, if we demonstrate in analogous mode and we hold account that $x+y=1$, we obtaine:

$$\begin{aligned}
 \int_{(P_0, P_1)} \frac{4y}{2x^2 + 2y^2 - 1} dy &= \int_{y(0)}^{y(1)} \frac{4y}{(2y-1)^2} dy = 4 \int_0^1 \frac{[y(0) + \Delta_{1/0}^y \cdot t] \cdot \Delta_{1/0}^y}{[2y(0) + 2\Delta_{1/0}^y \cdot t - 1]^2} dt = \frac{2\Delta_{1/0}^y}{[2y(1)-1][2y(0)-1]} + \ln \frac{2y(1)-1}{2y(0)-1} = \\
 & = \frac{2 \cdot (0,558 - 0,584)}{(2 \cdot 0,558 - 1)(2 \cdot 0,584 - 1)} + \ln \frac{2 \cdot 0,558 - 1}{2 \cdot 0,584 - 1} = -2,668308703 + (-0,370373789) = -3,038682492
 \end{aligned}$$

As effect, $I_{1/0}^{\varphi(y/x)} = e^{\int_{(P_0, P_1)} \frac{4y}{2x^2+2y^2-1} dy} = e^{-3,038682492} = 0,047897953 \cong 0,0479$ sau 4,79 %

Consequently, because the road reflected by each factor X and Y represente an **liniary model of shape**, the value of the informational energy, who is adjusted, grew up in 2006 face to 1996, in the commerce from Romania, under the influence represented by the weight of the sales for the alimentary wares, with 895,36 %, while under the influence represented by the weight of the sales for the nonalimentary wares, the size of the informational energy who is also adjusted, diminished with 95,21 % in the same time.

- The case of the arithmetical decomposition:

- the influence in absolute sizes, regarding the weight of the sales for the alimentary wares over the dynamical of the informational energy who is adjusted, in Romania, in 2006 face to 1996, is:

$$\Delta_{1/0}^{\varphi(x/y)} = \int_{(P_0, P_1)} \varphi'_x dx = 4 \int_{(P_0, P_1)} x dx$$

- the influence in absolute sizes, concerning the weight of the sales for the nonalimentary wares over the dynamical of the informational energy who is adjusted, in Romania, in 2006 face to 1996, is:

$$\Delta_{1/0}^{\varphi(y/x)} = \int_{(P_0, P_1)} \varphi'_y dx = 4 \int_{(P_0, P_1)} y dy$$

Because the road of the factors X and Y is a liniary model of tendency, we have:

$$\begin{aligned} \Delta_{1/0}^{\varphi(x/y)} &= \int_{(P_0P_1)} \varphi'_x dx = 4 \int_{(P_0P_1)} x dx = 4 \int_{x(0)}^{x(1)} x dx = 4 \int_0^1 [x(0) + \Delta_{1/0}^x \cdot t] \cdot \Delta_{1/0}^x dt = 4x(0) \cdot \Delta_{1/0}^x \int_0^1 dt + 4(\Delta_{1/0}^x)^2 \int_0^1 t dt = \\ &= 4x(0) \cdot \Delta_{1/0}^x \cdot t + 4(\Delta_{1/0}^x)^2 \cdot \frac{t^2}{2} = 4x(0) \cdot \Delta_{1/0}^x + 2(\Delta_{1/0}^x)^2 = 2 \cdot \Delta_{1/0}^x \cdot [2x(0) + \Delta_{1/0}^x] = \\ &= 2 \cdot (0,442 - 0,416) \cdot [2 \cdot 0,416 + (0,442 - 0,416)] = 0,044616 \end{aligned}$$

If we demonstrated in analogous mode, we obtaine:

$$\Delta_{1/0}^{\varphi(y/x)} = 4 \int_{(P_0P_1)} y dy = 2 \cdot \Delta_{1/0}^y \cdot [2y(0) + \Delta_{1/0}^y] = 2 \cdot (0,558 - 0,584) \cdot [2 \cdot 0,584 + (0,558 - 0,584)] = -0,059384$$

In conclusion, because the factors X and Y vary liniary in time, the influences in absolute sizes represented by the weights of the sales for the alimentary wares, respectively nonalimentary wares, in the commerce from Romania, over the dynamical of the informational energy, who is adjusted, in 2006 face to 1996, determined a growth with 0,044616, respectively a subtraction with - 0,059384. So, the opinions of Şaifulin and Seremet are really.

If we hold account for opinion of Ioan Florea, through which the separeted road of the factors X and Y from P_0 to P_1 evolves after an arc of circle, by example a model of exponential tendency, then we have the next forms of the geometrycal decomposition and aritmetycal decomposition, through the „method road of the factors”, for the dynamic of the informational energy who is adjusted (E_{iaj}) in 2006 face to 1996, under the influence regarding the weight of the sales for the alimentary wares, respectively nonalimentary wares, in the commerce from Romania:

- The case of the geometrycal decomposition:

- the influence in relative sizes, regarding the weight of the sales for the alimentary wares over the dynamical of the informational energy who is adjusted, in Romania, in the year 2006 face to the year 1996, is:

$$I_{1/0}^{\varphi(x/y)} = e^{(P_0P_1)} \int \frac{4x}{2x^2+2y^2-1} dx$$

- the influence in relative sizes, concerning the weight of the sales for the nonalimentary wares over the dynamical of the adjusted informational energy, in Romania, in 2006 face to 1996, is:

$$I_{1/0}^{\varphi(y/x)} = e^{(P_0P_1)} \int \frac{4y}{2x^2+2y^2-1} dy$$

Thus, in the hypothesis through which the factor X varies after an exponential function $x_{t_i} = ab^{t_i}$, then:

$$x(0) = a \quad \text{and} \quad x(1) = a \cdot b = x(0) \cdot b, \quad \text{namely} \quad b = i_{1/0}^x.$$

Hence,

$$x = x(0) \cdot (i_{1/0}^x)^t$$

On the other share,

$$\ln x = \ln a + t \ln b \Rightarrow \frac{1}{x} \cdot dx = \ln b \cdot dt$$

Accordingly,

$$dx = x(0) \cdot (i_{1/0}^x)^t \cdot \ln i_{1/0}^x \cdot dt.$$

In analogous mode, $y = y(0) \cdot (i_{1/0}^y)^t$ and $dy = y(0) \cdot (i_{1/0}^y)^t \cdot \ln i_{1/0}^y \cdot dt$

In continuation we calculate the next integral, if we hold account that $x + y = I$:

$$\int_{(P_0P_1)} \frac{4x}{2x^2 + 2y^2 - 1} dx = 4 \int_{x(0)}^{x(1)} \frac{x}{2x^2 + 2(1-x)^2 - 1} dx = 4 \int_{x(0)}^{x(1)} \frac{x}{4x^2 - 4x + 1} dx = 4 \int_{x(0)}^{x(1)} \frac{x}{(2x-1)^2} dx =$$

$$= 4 \int_0^1 \frac{x(0) \cdot (i_{1/0}^x)^t \cdot x(0) \cdot (i_{1/0}^x)^t \cdot \ln i_{1/0}^x}{[2x(0) \cdot (i_{1/0}^x)^t - 1]^2} dt = 4x^2(0) \cdot \ln i_{1/0}^x \cdot \int_0^1 \frac{(i_{1/0}^x)^{2t}}{[2x(0) \cdot (i_{1/0}^x)^t - 1]^2} dt$$

We accomplish the substitution: $(i_{1/0}^x)^t = z$ in the conditions in wich:
 $t = 0 \Rightarrow z = 1$

$$\text{while if } t = 1 \Rightarrow z = i_{1/0}^x = \frac{x(1)}{x(0)} = \frac{0,442}{0,416} = 1,0625$$

$$\text{Also: } t \cdot \ln i_{1/0}^x = \ln z \Rightarrow \ln i_{1/0}^x \cdot dt = \frac{1}{z} \cdot dz \Rightarrow dt = \frac{dz}{z \cdot \ln i_{1/0}^x}$$

Then:

$$\begin{aligned} \int_{(P_0, P_1)} \frac{4x}{2x^2 + 2y^2 - 1} dx &= 4x^2(0) \cdot \ln i_{1/0}^x \int_1^{1,0625} \frac{z^2}{[2x(0) \cdot z - 1]^2 \cdot z \cdot \ln i_{1/0}^x} dz = 4x^2(0) \int_1^{1,0625} \frac{z}{[2x(0) \cdot z - 1]^2} dz = \\ &= 4x^2(0) \int_1^{1,0625} \frac{z}{[4x^2(0) \cdot z^2 - 4x(0) \cdot z + 1]} dz = \frac{1}{2} \int_1^{1,0625} \frac{4x^2(0) \cdot 2z - 4x(0)}{[4x^2(0) \cdot z^2 - 4x(0) \cdot z + 1]} dz + \int_1^{1,0625} \frac{2x(0)}{[4x^2(0) \cdot z^2 - 4x(0) \cdot z + 1]} dz = \\ &= \frac{1}{2} \left[\ln[4 \cdot (0,416)^2 \cdot (1,0625)^2 - 4 \cdot (0,416) \cdot (1,0625) + 1] - \ln[4 \cdot (0,416)^2 \cdot 1 - 4 \cdot (0,416) \cdot 1 + 1] \right] + \\ &+ 2x(0) \int_1^{1,0625} \frac{dz}{4x^2(0) \cdot \left[z - \frac{1}{2x(0)} \right]^2} = \frac{1}{2} \ln \frac{0,013456}{0,028224} + \frac{1}{2x(0)} \int_1^{1,0625} \frac{dz}{\left[z - \frac{1}{2x(0)} \right]^2} = \frac{1}{2} \ln 0,476757369 - \frac{1}{2x(0)} \cdot \left[\frac{1}{z - \frac{1}{2x(0)}} \right] \\ &= -0,370373788 - \frac{1}{2 \cdot 0,416} \left(\frac{1}{1,0625 - \frac{1}{2 \cdot 0,416}} - \frac{1}{1 - \frac{1}{2 \cdot 0,416}} \right) = -0,370373788 + 2,668308701 = 2,297934913 \end{aligned}$$

$$\text{Therefore, } I_{1/0}^{\varphi(x/y)} = e^{\int_{(P_0, P_1)} \frac{4x}{2x^2 + 2y^2 - 1} dx} = e^{2,297934913} = 9,953606154 \cong 9,9536 \text{ sau } 995,36 \%$$

In analogous mode, we obtaine:

$$\int_{(P_0, P_1)} \frac{4y}{2x^2 + 2y^2 - 1} dy = 4 \int_{y(0)}^{y(1)} \frac{y}{(2y - 1)^2} dy = 4y^2(0) \ln i_{1/0}^y \int_0^1 \frac{(i_{1/0}^y)^{2t}}{[2y(0) \cdot (i_{1/0}^y)^t - 1]^2} dt$$

If we accomplish the substitution: $(i_{1/0}^y)^t = w$ and we take in attention the situations in wich, if:

$$t = 0 \Rightarrow w = 1 \quad \text{and if } t = 1 \Rightarrow w = i_{1/0}^y = \frac{y(1)}{y(0)} = \frac{0,558}{0,584} = 0,955479452$$

$$\text{On other side, } t \cdot \ln i_{1/0}^y = \ln w \Rightarrow \ln i_{1/0}^y \cdot dt = \frac{1}{w} \cdot dw \Rightarrow dt = \frac{dw}{w \cdot \ln i_{1/0}^y}$$

Consequently,

$$\begin{aligned} \int_{(P_0, P_1)} \frac{4y}{2x^2 + 2y^2 - 1} dy &= 4y^2(0) \cdot \ln i_{1/0}^{y'} \int_1^{0,955479452} \frac{w^2}{[2y(0) \cdot w - 1]^2 \cdot w \cdot \ln i_{1/0}^{y'}} dw = 4y^2(0) \int_1^{0,955479452} \frac{w}{[2y(0) \cdot w - 1]^2} dw = \\ &= 4y^2(0) \int_1^{0,955479452} \frac{w}{[4y^2(0) \cdot w^2 - 4y(0) \cdot w + 1]} dw = \frac{1}{2} \int_1^{0,955479452} \frac{4y^2(0) \cdot 2w - 4y(0)}{[4y^2(0) \cdot w^2 - 4y(0) \cdot w + 1]} dw + \int_1^{0,955479452} \frac{2y(0)}{[2y(0) \cdot w - 1]^2} dw = \\ &= \frac{1}{2} \ln[4y^2(0) \cdot w^2 - 4y(0) \cdot w + 1] + \frac{1}{2y(0)} \int_1^{0,955479452} \frac{dw}{\left[w - \frac{1}{2y(0)}\right]^2} = 0,955479452 \\ &= \frac{1}{2} \ln \frac{4 \cdot (0,584)^2 \cdot (0,955479452)^2 - 4 \cdot 0,584 \cdot 0,955479452 + 1}{4 \cdot (0,584)^2 \cdot 1^2 - 4 \cdot 0,584 + 1} - \frac{1}{2y(0)} \cdot \left[\frac{1}{w - \frac{1}{2y(0)}} \right] \\ &= \frac{1}{2} \ln \frac{0,013456}{0,028224} - \frac{1}{2 \cdot 0,584} \left(\frac{1}{0,955479452 - \frac{1}{2 \cdot 0,584}} - \frac{1}{1 - \frac{1}{2 \cdot 0,584}} \right) = -0,370373788 - 2,668308684 = -3,038682472 \end{aligned}$$

Hence,

$$I_{1/0}^{\varphi(y/x)} = e^{\int_{(P_0, P_1)} \frac{4y}{2x^2 + 2y^2 - 1} dy} = e^{-3,038682472} = 0,047897954 \cong 0,0479 \text{ sau } 4,79 \%$$

So, in the conditions in which the road of the factors X and Y follows an exponential model of tendency, the value of the informational energy, who is adjusted, grew with 895,36 %, under the influence regarding the weight of the sales for the alimentary wares, in 2006 face to 1996, while under the influence concerning the weight of the sales for the nonalimentary wares, the level of the informational energy, who is adjusted, subtracted with 95,21 % in the same time.

In the case of the **arithmetical decomposition** concerning the dynamic of the indicator E_{iaj} through the method the road of the factors, we calculated the values in absolute sizes of the separated influences of the factors X , respectively Y :

$$\Delta_{1/0}^{\varphi(x/y)} = \int_{(P_0, P_1)} \varphi'_x dx = 4 \int_{(P_0, P_1)} x dx \quad \text{and} \quad \Delta_{1/0}^{\varphi(y/x)} = \int_{(P_0, P_1)} \varphi'_y dy = 4 \int_{(P_0, P_1)} y dy$$

Consequently,

$$\begin{aligned} \Delta_{1/0}^{\varphi(x/y)} &= \int_{(P_0, P_1)} \varphi'_x dx = 4 \int_{(P_0, P_1)} x dx = 4 \int_{x(0)}^{x(1)} x(0)(i_{1/0}^x)^t dx = 4x(0)^2 \ln i_{1/0}^x \int_0^1 (i_{1/0}^x)^{2t} dt = 4x(0)^2 \ln i_{1/0}^x \int_0^1 e^{2t \ln i_{1/0}^x} dt = \\ &= 2x^2(0) \cdot (e^{2 \ln i_{1/0}^x} - 1) = 2x^2(0) \cdot [(i_{1/0}^x)^2 - 1] = 2[x^2(1) - x^2(0)] = 2[(0,442)^2 - (0,416)^2] = 0,044616 \end{aligned}$$

In analogous mode, we obtain:

$$\Delta_{1/0}^{\varphi(y/x)} = 2[y^2(1) - y^2(0)] = 2[(0,558)^2 - (0,584)^2] = -0,059384$$

Hence, in the case in which the road of the factors X and Y follows an exponential model of tendency, the influence in absolute sizes regarding the weight of the sales for the alimentary wares, respectively concerning the weight of the sales for the nonalimentary wares, over the dynamical of the informational energy, who is adjusted, in 2006 face to 1996, consisted in a growth with 0,044616, respectively a subtraction with $-0,059384$.

If we accomplish a comparative analysis between the results who are obtained when the separated roads of the factors X and Y from to P_0 at P_1 follow an liniary model of tendency, respectively in the hypothesis when them reflect an exponential model of tendency, values concerning at the levels of the influences in relative sizes and in absolute sizes of the factorils X and Y , namely of the weights of the sales for the alimentary wares, respectively the nonalimentary wares, in the commerce from Romania, over the dynamical of the informational energy who is adjusted, in 2006 face to 1996, we obtaine the next centralization of the dates presented in the table number 3:

The table no. 3. The comparative analysis between the results obtained in the conditions when the separated roads of the factors X and Y describe an liniary model of tendency, respectively an exponential model of tendency

The size of the influence The tendency	The influence in relative sizes		The influence in absolute sizes		The outcome between the influence in relative sizes of factor X and the influence in relative sizes of the factor Y	The sum between the influence in relative sizes of factor X and the influence in relative sizes of the factor Y
	The factor X (the weight of the sales for the alimentary wares)	The factor Y (the weight of the sales for the nonalimentary wares)	The factor X (the weight of the sales for the alimentary wares)	The factor Y (the weight of the sales for the alimentary wares)		
Liniar	9,953606163	0,047897953	0,044616	- 0,059384	0,47675736	- 0,014768
Exponential	9,953606154	0,047897954	0,044616	- 0,059384	0,476757369	- 0,014768

On the other side,

- the index of the dynamical concerning the level of the informational energy, who is adjusted, under the influence of both factors X and Y , respectively the weight of the sales for the alimentary wares and the weight of the sales for the nonalimentary wares, in the commerce from Romania, in 2006 face to 1996, is:

$$I_{1/0}^{\phi(x \cup y)} = \frac{(E_{iaj})_{2006}}{(E_{iaj})_{1996}} = \frac{0,013456}{0,028224} = 0,476757369$$

- the absolute variation of the informational energy, who is adjusted, under the influence of both factors X and Y , with another words of the weight of the sales for the alimentary wares and the weight of the sales for the nonalimentary wares, in the trade from Romania, in 2006 face to 1996, is:

$$\Delta_{1/0}^{\phi(x \cup y)} = (E_{iaj})_{2006} - (E_{iaj})_{1996} = 0,013456 - 0,028224 = -0,014768$$

We observe that, in the conditions when the separated roads of the factors represented by the weight of the sales for the alimentary wares and the weight of the sales for the nonalimentary wares, follow an liniary model of tendency, respectively an exponential model of tendency, the outcome of the factorils indexes numbers is equal with the index number who reflects the total dynamical regarding the level of the informational energy, who is adjusted, under the influence of both factors X and Y :

$$I_{1/0}^{\phi(x \cup y)} = I_{1/0}^{\phi(x/y)} \cdot I_{1/0}^{\phi(y/x)} \quad \text{or} \quad 0,47675736 = 9,953606163 \cdot 0,047897953$$

$$\text{and } I_{1/0}^{\phi(x \cup y)} = I_{1/0}^{\phi(x/y)} \cdot I_{1/0}^{\phi(y/x)} \quad \text{or} \quad 0,476757369 = 9,953606154 \cdot 0,047897954$$

Also we can say, that both in the situation when the weight of the sales for the alimentary wares, respectively the weight for the nonalimentary wares, describe an liniary model of tendency, and in the hypothesis when the separated road of the factors reflects an exponential model of tendency, the sum of the separated influences, in the absolute sizes, manifested over the dynamical concerning the informational energy, who is adjusted, in 2006 face to 1996, is

equals with the total absolute turning off from the value of the adjusted informational energy under the influence of both factors X and Y , in the respective period of time:

$$\Delta_{1/0}^{\varphi(x \cup y)} = \Delta_{1/0}^{\varphi(x/y)} + \Delta_{1/0}^{\varphi(y/x)} \quad \text{or} \quad -0,014768 = 0,044616 + (-0,059384)$$

Consequently, the opinions of Ioan Florea are really in this research, only in the situation when the outcome, respectively the sum, of the values regarding the separated influences in relative sizes, respectively absolute sizes, for the variations of the the weights of the sales for the alimentary wares and nonalimentary wares, over the dynamical of the adjusted informational energy in the commerce from Romania, in 2006 face to 1996, are equals with the level of the total relative dynamic, respectively absolute, in the same period of time, of the informational energy who is adjusted, under the influence of the variations for both factors: the weight of the sales for the alimentary wares and the weight of the sales for the nonalimentary wares.

Yet, because the method concerning the coefficients of variation specifies that the separated road of the factors represented by the weight of the sales for the alimentary wares, respectively nonalimentary wares, between the year 1996 and the year 2006, is a liniary model of tendency, this has as effect the reflectation of the viability for the opinions of Şaifulin and Seremet in the present study.

If we analysis the weight of the sales for the alimentary wares and the weight of the sales for the nonalimentary wares, on the period 1996-2006, in the commerc from Romania, we observe that the values of the adjusted informational energy growth: from to 0,024336 in the year 1997, at 0,030976 in the year 1998; from to 0,008836 in 2001, at 0,013456 in 2002; from to 0,008464 in the year 2003, at 0,014400 in the year 2004; as well as from to 0,004096 in 2005, at 0,013456 in 2006.

These rises, who automatical put in evidence the subtraction of the entropy, occured owing to the growth of the sales for nonalimentary wares, which it has as signification a good development in sense economic, respectively a diminution concerning the expenses of the population for the buying of the nutriments.

Thus, the maximum of the adjusted informational energy is obtained in the year 1998 through the value of 0,030976, which it correspond to the development regarding the degre of concentration for the characteristic weight from the respectively year. This is an positive reality from economic point of view, because we want the relative rise concerning the importance of the sales for the nonalimentary wares.

In exchange, we observe diminutions of the values concerning the adjusted informational energy, as it follows: from to 0,028224 in 1996, at 0,024336 in 1997; from to 0,030976 in the year 1998, to 0,023104 in the year 1999, while in continuation at 0,011664 in 2000 and then at 0,008836 in 2001. Also, the adjusted informational energy subtracts: from to 0,013456 in 2002, at 0,008464 in 2003 and from to 0,014400 in the year 2004, at 0,004096 in the year 2005. In these situations appears an negative phenomenon, the diminution concerning the values of the adjusted informational energy and automatical the development of the entropy, are reflected by the rises of the expenses for the population at theconsumption of nutriments, which it determined a relative subtraction of the importance regarding the buyings of nonamilmentary wares.

3. Conclusions

The effect of the calculation concerning the adjusted informational energy, in this research, consists in the achievement of the statistics analyses, who is objective, of the significances

reflected by the both weights of statistics dates: the weight of the sales for the alimentary wares and the weight of the sales for the nonalimentary wares, in the context of the development of the commerce from Romania in the period 1996-2006, and also, in the analysis in dynamical regarding the variation of the levels for the factors who influences the adjusted informational energy, as well as of the connection between these.

References:

1. **Capéraà Ph., Van Cutsem B.** – „*Méthodes et modèles en statistique*”, Dunod, Paris, 1988
2. **Clements K.W., Izan H.I.** – „*Stochastic Index Numbers: A Review*”, *International Statistical Review*, vol. 74, no. 2, International Statistical Institute, 2006.
3. **Diewert W.E.** – „*Exact and superlative index number*”, *Journal of Econometrics*, vol. 4, 1976.
4. **Selvanathan E.A., Prasada Rao D.S.** – „*Index Numbers: A Stochastic Approach*”, Macmillan Publishing Co., London, 1994.

The Role of Intelligent Technology in Web Improving

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Abstract

Intelligent agents, intelligent software applications and artificial intelligent applications from artificial intelligent service providers may make their way onto the Web in greater numbers as adaptive software, dynamic programming languages and Learning Algorithms are introduced into Web Services. The evolution of Web architecture may allow intelligent applications to run directly on the Web by introducing XML, RDF and logic layer. The Intelligent Wireless Web's significant potential for rapidly completing information transactions may take an important contribution to global worker productivity.

Keywords: artificial intelligent, intelligent agent, semantic web, intelligent wireless web, XML.

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1. Introduction

Artificial intelligence can be defined as the study of the ways in which computers can be made to perform cognitive tasks. Examples of such tasks include understanding natural language statements, recognizing visual patterns or scenes, diagnosing diseases or illnesses, solving mathematical problems, performing financial analyses, learning new procedures for problem solving. The term expert system can be considered to be a particular type of knowledge-based system. An expert system is a system in which the knowledge is deliberately represented “as it is”. Expert systems are applications that make decisions in real-life situations that would otherwise be performed by a human expert. They are programs designed to mimic human performance at specialized, constrained problem-solving tasks. They are constructed as a collection of *If-Then* production rules combined with a reasoning engine that applies those rules, either in a forward or backward direction, to specific problems.

An intelligent agent is a computer software system that is situated in some environment and capable of autonomous action and learning in its environment to meet its design objectives. Intelligent agents have the following characteristics: reactive – they perceive their environment and respond; proactive – they exhibit goal – directed behavior; and social – they interact with other agents.

2. Main characteristics

Real-time intelligent agent technology offers a powerful Web tool. Agents are able to act without the intervention of humans or other systems; they have control both over their own internal state and over their behavior. In complexity domains, agents must be prepared for the possibility of failure. This situation is called nondeterministic. Normally, an agent will have a repertoire of actions available to it. This set of possible actions represents the agent's capability to modify its environments.

The key problem facing an agent is that of deciding which of its actions it should perform to satisfy its design objectives. Agent architectures are really software architectures for decision-making systems that are embedded in an environment. The complexity of the decision-making process can be affected by various environmental properties.

Distributed artificial intelligence is concerned with coordinated intelligent behavior: intelligent agents coordinating their knowledge, skills, and plans to act or solve problems, working toward a single goal or toward separate, individual goals that interact. Distributed artificial intelligence provides intellectual insights about organization, interaction, and problem solving among intelligent agents.

In building the Intelligent Wireless Web, can envision the use of parallel PC clusters coordinated by artificial intelligence service providers to carry out complex tasks utilizing the principles of distributed artificial intelligence. Adaptive configurations of such clusters will enable the task assignments to be distributed by artificial intelligence servers to PCs within the cluster having needed capabilities that may be highly specialized.

The basic assumption of distributed artificial intelligence is that, in general, a single isolated intelligent agent does not possess enough knowledge or resources to complete a problem-solving task. On the contrary, it is envisioned that complex problem solving in real-world domains will be performed by communities of specialized intelligent agents, able to collaborate with each other toward the accomplishment of a given common goal and to negotiate the use of resources in the most effective way. The ability to communicate with other agents is therefore considered essential for an agent to exhibit intelligent behaviors.

3. How artificial intelligent improve web

An artificial intelligence provider is used as the development environment for distributed artificial intelligence systems, using an extension to HTTP designed to support server-to-server communication. In particular, new methods enable a client agent to invoke a specific service on a server. The implementation of a specialized HTTP server would be able to deliver distributed artificial intelligence applications over the Web. In addition to implementing standard HTTP, the artificial intelligence server would offer a library of high-level functions to dynamically generate HTML pages and a server-to-server communication method.

The dynamic generation of HTML pages allows complex artificial intelligence applications to be delivered to end users without the need for specialized hardware and software support and using a simple and homogeneous interface model.

Intelligence usually refers to the ability to reason, solve problems, remember information, or learn new idea. The Web can be considered to be a massive information system with interconnected databases and remote applications providing various services. Although these

services are becoming more and more user oriented, the concept of smart applications on the Web is still in its infancy.

One of the most sophisticated on the Web today is the Enterprise Information Portal, operating with the state-of-the-art markup languages to search, retrieve and repackage data. The Enterprise Information Portal is in the process developing into an even more powerful center based on component-based applications called Web Services. Enterprise Information Portals provide ready access to information over intranets and the Internet.

Corporate portals have moved beyond the delivery of information; they also provide a way to integrate the many disparate systems and processes that are typically used within an enterprise. Corporate portals are able to use XML to integrate previously separate legacy systems and provide a single point of entry, or gateway, to these processes. Enterprise Information Portals now act as access centers that tie together people and data by linking e-mail, groupware, workflow, collaboration, and other mission-critical applications to portals.

The tools needed to continue evolving advanced Web capabilities are based mostly on XML standards, frameworks and Schema. The Wireless Application Protocol is an XML application that allows access to information via personal digital assistants (PDA's) and other handheld devices. The variety and power of these XML tools demonstrates the potential for Web development.

XML changes the Web by introducing the concept of metadata (that is, data about data). In XML, each piece of data includes not only the data itself but also a description of the data. XML therefore describes data, not pages. It is about actual information content, but says nothing about the layout. The power of XML then is that it makes applications aware of what they are about. Once a spreadsheet is expressed in XML, it can link across the Web into other spreadsheets and into server-based applications. The ultimate result of adding XML to the Web will be a change of Web infrastructure.

The latest versions of Web browsers can read an XML document, fetch the appropriate style sheet, and use it to sort and format the information on the screen. The reader might never know that he is looking at XML rather than HTML, except that XML-based sites run faster and are easier to use. XML based semantic messaging revolutionizing distributed system development. Their main advantages include: more flexible data transfer, simplified interface management and simplified remote invocation.

Today, artificial intelligence applications using the Prolog computer language are already being used for Web applications. Prolog is a logic language that is well suited to problems that involve symbolic or nonnumeric computation. The name itself is short for *PRO*gramming *LOG*ic. New applications are being vigorously pursued in many fields, and it shouldn't be long before Web Services include a variety of artificial intelligence applications.

One approach to artificial intelligence is to implement methods using ideas of computer science and logic algebras. The algebra would establish the rules between functional relationships and sets of data structures. A fundamental set of instructions would allow operations, including sequencing, branching and recursion, within an accepted hierarchy. Logic structures have always appealed to artificial intelligence researchers as a natural entry point to demonstrate machine intelligence.

Today, the Web consist primarily of a huge number of data nodes; the data nodes are connected through hyperlinks to form "hyper-networks" that collectivity can represent

complex ideas and concepts above the level of the individual data. The Web merely stores and retrieves information, even considering some of the “intelligent application” in use today (including intelligent agents, EIPs, and Web services). So far, the Web does not have some of the vital ingredients it needs, such as a global database schema, a global error-correcting feedback mechanism, a logic layer protocol, a method of adopting Learning Algorithms systematically throughout its architecture, or universally accepted knowledge bases with interface engines. So, the Web continues to grow and evolve, but it does not adapt – and adaptation is an essential element of learning. If the jury is still out on defining the Web as intelligent, can still consider ways to change the Web to give it the ability to adapt and therefore to learn.

The Web may be nexus of much of information flow, but it is not overly smart. In the future the Web will need to do much more than pass raw data between people via search engines.

The Semantic Web is a vision of having data on the Web defined and linked in a way that can be used by devices not just for display purposes but for automation, integration and reuse of data. The wireless communication process should start by talking to a personal or embedded device that recognizes the user’s words and commands. It will connect seamlessly to the correct transmission device, drawing on whatever resources are required from around the Web. Perhaps only database search, sorting and retrieval are required. Or perhaps a specialized application program will be needed. In any case, the information will be evaluated and the content of the message with the appropriate supporting data to fill in the “blanks” will be provided.

The Web require fundamental upgrades in the physical and intellectual components to perform intelligent tasks, including: wireless networking infrastructure, personal and embedded devices, processing chips, semantic Web architecture, mobile Internet protocol, parallel processing artificial intelligence application over clustered networks, perhaps as Web Services, adaptive software languages and learning algorithms, speech recognition, understanding, synthesis and translation. These physical and software components are necessary to implement the Intelligent Wireless Web. They require changing software applications from dumb and static to intelligent and dynamic.

The Web’s content is presently expanding at an enormous pace, but the quality of its structure is not improving. The only mechanism for network restructuring at present is the contributions of individual Web-designer subnetworks. This result in a Web that is weakly organized. Any system capable of dynamically adapting network structure and content must use information that is locally available to HTTP servers.

But the Web has limited control above individual HTTP servers. Many of the existing systems for flexible hypertext depend on extensive information being stored and managed. As a result, the control for the automatic adaptation of structure for the Web is limited to local networks.

The IT community seems to be leaning toward defining the Web in terms of a database with knowledge representation. Artificial intelligence based solutions for capturing and indexing vast amounts of Web information are already available. Artificial intelligence related technologies are at the heart of all Internet search engine services.

For the Web to learn, it requires the capabilities of knowledge discovery, learning algorithms and self-organization. Then the Web will autonomously change its structure and organize the knowledge it contains by learning the ideas and preferences of its users.

Supplementary to adding artificial intelligence algorithms and agents to web services, the W3C suggests the use of better semantic information as part of Web documents and the use of next-generation Web languages such as XML and RDF.

The Semantic Web carries the vision of having data on the Web defined and linked in a way that it can be used by devices not just for display purposes but for automation, integration and reuse of data across various applications. To make this vision a reality for the Web, supporting standards and technologies must enable devices to make more sense of information on the Web. For the Web to scale, programs must be able to share and process data, even when these programs have been designed totally independently.

Web-enabled languages and technologies are being developed (RDF-schema), schema and ontology integration techniques are being examined, and Web services integration standards are being defined. The success of Semantic Web will depend on a widespread adoption of these technologies.

A framework for representing metadata is Resource Description Framework (RDF). The goal of RDF is to enable the automation of many Web-related activities, such as resource discovery. RDF is a model for metadata, and XML can be used to represent this model. Another goal of RDF is to define a mechanism for describing resources that makes no assumptions about a particular application domain, nor defines the semantics of any application. Such models are used to represent knowledge representation, to address reuse and components and to handle problems of schema evolution.

The road map for achieving a set of connected application for data on the Web in the form of a logical Web of data is called the Semantic Web. An underlying idea of semantic networks is the ability to resolve the semantics of a particular node by following an arc until a node is found with which the agent is familiar. The Semantic Web, in competition with artificial intelligence Web Services, forms a basic element of the Intelligent Wireless Web.

The Web was originally designed as an information space, with the goal that it should be useful not only for human-human communication but also for interactions between devices. One of the major obstacles to this has been the fact that most information on the Web is designed for human consumption, and even if it was derived from a database with meanings for its database elements, the structure of the data is not evident to an autonomous agent browsing the Web. Leaving aside the artificial intelligence problem of training devices to behave like people, the Semantic Web approach instead develops languages for expressing information in a form that a device can process.

The model general is the RDF. The basic model contains only the concepts of an assertion and quotation, making assertions about assertions. RDF applications are for metadata in which assertions about assertions are basic, even before logic.

The RDF model does not say anything about form of the reasoning engine. The proof will be a chain of assertions and reasoning rules, with pointers to all the supporting material. RDF at the logical level already has the power to express inference rules.

RDF at the logical level is a query engine of specific algorithms and indexes. Although search engines that index HTML pages find many answers to search and cover huge part of the Web, they return many inappropriate answers. There is no notion of "correctness" to such searches. By contrast, logical engines have typically been able to restrict their output to provably correct

answers, but have suffered from the inability to go through the mass of connected data to construct valid answers.

If an engine of the future combines a reasoning engine with a search engine, it may actually be able to construct proofs. It will be able to reach out to indexes that contain very complete lists of all occurrences of a given term, and then use logic to weed out all but those which can be of use in solving the given problem.

The Web may benefit from self-organizing software, adaptive protocols, and object-oriented dynamic languages to give the Web a significantly hunger of mobility and dynamism, as well as integration of devices and sensors embedded in the real world. Self-organizing network software refers to the ability of a network to organize and configure itself.

Adaptation means the ability of protocols and applications to learn and adapt to the changing conditions in the network, such as levels of congestion and errors. The next-generation programming language may also support intelligent, adaptive, complex software systems. Adaptive software may use information from the environment to improve its behavior over time. Object-oriented dynamic language forms a higher level of abstraction, semantics, development, and reflection.

Adaptive software may offer to change this adding a feedback loop that provides information based on performance. The design criteria itself becomes a part of the program, and the program reconfigures itself as the environment changes.

At the question "how will the Web learn?", it suggest a composition of the Semantic Web with its logic layer utilizing components of artificial intelligence agents, learning algorithms and artificial intelligence applications, including adaptive software available through Web Services.

Two basic options exist for locating Web intelligence. Web intelligence could be globally distributed throughout the Web as a layer of the infrastructure over Web protocols. Although the semantic Web architecture is not actually an artificial intelligence application in itself, it is a foundation for possible artificial intelligence applications that could be added to its logic layer. An alternative approach is locating Web intelligence locally, centralized on an artificial intelligence portal (providing Web services) that is joined to its own cluster of Web computers. Each approach has a serious flaw. The artificial intelligence portal approach limits uniformity and access, while the global semantic Web approach faces combinatory complexity limitations.

Distributed computing is a model of data processing consisting of many small computers on a network working to do the same amount of processing as one supercomputer. The Internet, the world's largest network, provides vastly more computer power than ASCI White's 8.192 processors. By finding ways to allow many different computers to process smaller chunks of data, scientists hope to turn the Internet into the world's largest supercomputers. Locating Web intelligence on central artificial intelligence servers, each of which is joined to its own cluster of Web computers, provides a powerful component for local centralized Web intelligence.

4. Intelligent wireless web

An Intelligent Wireless Web is a network that provides any time, anywhere access to information resources with efficient user interfaces and applications that learn and thereby provide increasingly useful services whenever and wherever we need them.

It is certainly possible to develop intelligent application for the Internet without media (that is, audio/video) Web features and/or wireless capability. It is all suggestion, however, that Web media, such as audio, can lead to improved user interfaces using speech and the small wireless devices, widely distributed, can lead to easier access to large portions of the world's population. The end result could be not just an intelligent Internet but a widely available, easily accessible, user-friendly, Intelligent Wireless Web.

As a result, the concept of an Intelligent Wireless Web weaves together important concepts related to the growing and evolving system of information technology software and hardware known as the Internet. Intelligence (in particular, the ability to learn) and "wireless" promise the delivery of increasingly capable information services to mobile users any time and anywhere. Intelligent Wireless Web wove several important concepts related to intelligence (the ability to learn) wirelesses (mobility and convenience), and its advances in telecommunications and information technology that together promised to deliver increasingly capable information services to mobile users any time and anywhere.

It was certainly possible to develop intelligent applications for the Internet without media (audio/video) Web features or wireless capability. But, Web media such as audio could lead to improved user interfaces using speech and that small wireless devices widely distributed could lead to easier access for large portions of the world's population. The end result could be not just an intelligent Internet but a widely available, easily accessible, user friendly, Intelligent Wireless Web.

An Intelligent Wireless Web represent a network that provides any time, anywhere access through efficient user interfaces to applications that learn. Notwithstanding the difficulty of defining intelligence, it recognized that terms such as artificial intelligence, intelligent agents, smart machines, and the like refer to the performance of functions that mimic those associated with human intelligence.

All of information services are the next logical step, along with the introduction of variety of different portable user devices (Web-enabled cell phones, small portable computers) that have wireless connectivity. The result will be wireless technology as an extension of the present evolutionary trend in information technology. In addition, artificial intelligence and intelligence software application will make their way onto the Wireless Web. A performance index or measure may eventually be developed to evaluate the progress of Web intelligence. The future wireless communication process should start with a user interface based on speech recognition by which we merely talk to a personal mobile device that recognizes our identity, words and commands. The personal mobile device would connect seamlessly to embedded and fixed devices in the immediate environment. The message would be relayed to a server residing on a network with the necessary processing power and software to analyze the contents of the message. The server could then draw necessary supplemental knowledge and services from around the world through the Internet.

To build this ideal future wireless communication process we must connect the following technologies, along with their essential components: connecting people to devices – the user interface, connecting devices to devices and connecting devices to people.

The physical components and software necessary to construct and implement the Intelligent Wireless Web require compatibility, integration, and synergy of five merging technology area: user interface – to transition from the mouse click to speech as the primary method of communication between people and devices); personal space – to transition from connection of devices by tangled wires to multifunction wireless devices; networks – to transition from a

mostly wired infrastructure to an integrated wired/wireless system of interconnections; protocols – transition from the original IP to the new mobile IP; Web architecture – to transition from dumb and static application to new applications that are intelligent, dynamic and constantly learning.

In present, the network upgrades and integration seems endless. Even when new, advantageous technology becomes available, the existing legacy equipment retains value. Therefore, network integration is progressive and steady, but slow.

The vast system of interconnecting wired and wireless networks that make up the Internet is composed of several different types of transmission media, dominated by wired media but including: wired (fiber optic, coaxial cable, twisted pairs) and wireless (microwave, infrared and laser). Wireless LAN technology is rapidly becoming a vital component of data networks. IEEE Standard 802.11 - compliant LANs produce applications based upon open systems. To optimize the operation of wireless systems, software options for interfacing wireless handheld appliances emulate various systems and directly connect to databases.

To achieve the mobility requirements of the Intelligent Wireless Web, the Wireless Appliance Protocol (WAP) provides a global standard for data-oriented services to mobile devices, thereby enabling any time, anywhere access. The anticipated result is to provide intelligent networking software for routing and tracking that leads to general changes in IP networking protocols toward mobile IP. Sitting on top of the entire layer infrastructure will be a new control-plane for applications that smooth routing.

Normally, the wireless communication process should start with the user talking to a personal, or embedded, device that recognizes the person's identity, word's and commands. It will connect seamlessly to the correct transmission device, drawing on whatever resources are required from around the Web. In one case, only database search, sorting and retrieval might be required. Or in another case, a specialized Web service application program might be required. In any case, the information will be evaluated, and the content of the message will be argument with appropriate supporting data to fill in the "blanks".

Ideally, the wireless communication process should start with the user talking to a personal, or embedded, device that recognizes the person's identity, words, and commands. It will connect seamlessly to the correct transmission device, drawing on whatever resources are required from around the Web. In one case, only database search, sorting, and retrieval might be required. Or in another case, a specialized Web service application program might be required. In any case, the information will be evaluated, and the content of the message will be augmented with the appropriate supporting data to fill in the blanks.

For the Web to learn how to conduct this type of intelligent processing, a mechanism is required for adapting and self-organizing on a hypertext network. In addition, it needs to develop learning algorithms that would allow it to autonomously change its structure and organize the knowledge it contains, by "learning" the ideas and preferences of its users.

The speed at which new technologies become available and the rate of technology change have increased. Therefore, to develop guidelines for strategic planning, we must consider two discordant requirements: first, to optimize the network's long-term investment while, second, optimizing the time to market for each new product. Finding the right balance is not easy. However, opportunities for wireless developers and service providers will exist when they can reach all mobile users by developing infrastructure to support any wireless carrier, any wireless network (TDMA, CMDA), any wireless device (digital cell phone, PDA), any wireless

application, any Web format, any wireless technology (WAP, SMS), any medium (text, audio, TTS, speech recognition, or video).

Strategic planning for changes in the user interface (while small wireless devices proliferate) could focus on balancing innovations in software against innovations in hardware. For example, speech recognition and speech synthesis offer attractive solutions to overcome the input and output limitations of small mobile devices, if they can overcome their own limitations in memory and processing power. Therefore user interface opportunities could exist if the right balance for the client-server relationship between the small device and nearby embedded resources is achieved.

However, strategically, this will require integrating chip design engineering with specific software application engineering. It is no longer enough to build the fastest most powerful chips possible and then let software engineers design their applications to fit the available capability. Integrated application performance teams are essential to planning applications as speech synthesis and artificial intelligence requirements and then setting specifications for the combination of the small device/embedded resource to properly achieve a balanced and efficient client-server, as well as peer-to-peer relationships.

Wireless communication may be driven by decentralized network architecture integrating services that today span several network technologies. The most fundamental change to network intelligence could come from intelligence produced by decentralized Web architecture, such as by upgrading the IP. Or intelligence could come from a centralized process, such as Web Services, which provides a particular function or component from a central server to multiple users around the world. However, there will be a growing recognition that centralized components, globally distributed, and modifications to the underlying Web architecture, locally accessed, are two faces of one coin. Certainly, integrated and simultaneous development appears necessary.

Regardless of how artificial intelligence applications are processed on the Web, a vital challenge will be the establishment of trusted information. The process must build trust of information and will include a form of information registration and validation.

Whether learning is achievable from artificial intelligence service providers through Web Services, or through changes in Web architecture, such as the semantic Web, or if the machine learning is achievable at all, remains extremely controversial. But it is often in response to challenges mired in controversy from competing paradigms that some latent capabilities may be uncovered. The virtue of controversies is that they motivate experts into uncovering dormant capabilities in response to the challenge.

In this context, it can say that artificial intelligence is already being introduced to the Web, but the jury is still out on whether the Web is, or will ever become, intelligent. As the Web increases the percentage of applications and protocols with learning algorithms, we can expect improvements in performance in both type and quality.

5. Conclusions

The Web may become a learning network through a combination of Semantic Web architecture and components of artificial intelligence agents and artificial intelligence applications built with adaptive software languages and connected to the Web via its logic layer. Web intelligent could be located globally – distributed throughout the Web as a layer over the infrastructure of Web protocols, as well as locally on artificial intelligence service

providers, each of which is joined to its own cluster of specialized artificial intelligence application computers.

References

1. Bogdanowicz, K.D., *Scenarios for Ambient Intelligence in 2010*, ISTAG Report, European Commission, February, 2001.
2. McInerney, F., *Future Wealth*, Truman Talley Books, 2002.
3. Scott Lewis, *Wireless PC-Based Services – Prentice Hall PTR*, 1st edition, March, 2001.
4. Tamura, T., Oguchi, M., *Parallel database processing on a 100 node PC cluster: Cases for Decision Support Query Processing and Data Mining*, SC 97 Technical Paper, Institute of Industrial Science, 2001.
5. <http://aima.cs.berkeley.edu/ai.html>.
6. <http://www.sciam.com>.
7. <http://www.web-iq.com>.
8. http://www.wirelessweek.com/index.asp?layout=weblinks&page=directories_links&link=0-Z&industry=Publishing.

The Role of the Balance Sheet in the Corporations' Financial Management

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Abstract

The balance sheet represents the basic instrument in order to carry out the financial analysis, respectively the calculation of the indicators that allow the study of the companies' patrimony situation. The analysis in dynamics can be made both from the angle of the needs – resources report and of the liquidity – exigible type report. The indicators calculated on the basis of the balance allow the adoption of the most appropriate decisions in the companies' management and even more within the corporations. As the corporate governing must serve many economic categories such as investors, capital markets, employees, providers, clients, population, etc – the role of the analysis on the basis of the balance within the corporations is very important.

Keywords: corporate governing, financial analysis, functional balance, financial balance, financial management, profitability, risk, financial decision.

1. Introduction

In the business world, the adoption of some good financial decisions represents a basic condition in order to use efficiently the economic resources and to gain profit. The financial management takes responsibility for the financial politics of the company, using the analysis based on the balance as a main way to control and predict the activity.

2. Patterns of corporate governing and the role of this concept in the adoption of the financial decisions

Based on the corporate governing, theory appeared in 1932, the shareholders transfer their power on the managers, whom they pass for payment to act in their name to maximize the profit. The concept appeared as a need to protect the participants' interests in taking decisions: investors, capital markets, employees, providers, clients, creditors, state and population. The principles of the corporate governing sum up to the following aspects:

- the rights and the equitable treatment of the shareholders to: dividends, resources, subscription to new actions, profits, stocks sale, attendance to A.G.A, vote, information, special rights.
- The role of the groups of interests;
- The Administration Council and the management control;
- Transparency and access insurance to information.

The conflict between shareholders and managers can be solved by:

- the managers remuneration according to performance;
- the Administration Council 's power of decision;
- the presence of the reference shareholders;

- the buying public offers;
- the choice of a specific financial structure.

The corporate governing proposes three patterns:

- 1) the traditional pattern – specific to the North- American system which develops on three hierarchical levels: (1) shareholders, (2) directors and (3) managers.
- 2) The co- determination pattern – specific to the West –European countries, where we have the following levels: (1) shareholders, (2) directors, (3) managers, (4) employees – applied especially in Germany.
- 3) The assumed risk pattern – specific to the countries in the South- East of Asia, especially Japan. According to it, there are the four hierarchical levels, but the legal relations are more complex: shareholders, representatives of the employees, clients, banks, providers – on the one hand and directors, on the other hand.

3. The role of the financial analysis in making decisions at the company’s level

The financial analysis studies the financial fluxes formed at the company’s level, as well as the administration and placement way of the capitals. It can be made under two forms:

- the analysis of the financial situation, having as a study object, the financial balance of the company and as a work instrument, the patrimony balance;
- the analysis of the financial performance, having as a study object, the company’s profitability and as a work instrument, the income profit and loss account.

Based on the balance sheet, the analysis presupposes the calculus of an indicators system which responds to the following requirements:

- for shareholders and managers: the financial and economic profitability, the commercial profitability, the financial risk and the bankruptcy risk, the autonomy degree, the possibility to exert control, etc.
- for creditors: the bankruptcy risk, the solvability and liquidity, the payment capacity, the needs- resources balance etc.

I. The analysis of the company’s financial situation – the balance sheet

The analysis based on the balance sheet presupposes the analysis of the liquidity – exigible type relation in which the liquidity represents the capacity of an asset to transform itself in money and the exigible type relation, the capacity of a passive to become due at a certain moment.

The balance sheet is presented in the following chart:

<i>Permanent needs</i>	Net capitals (>one year) - Tangible assets; - Intangible assets; - Financial assets.	Social capital Resources Net profit Commissions for risks and expenses Debts > one year	<i>Permanent capitals (resources)</i>
<i>Temporary needs</i>	Net circulating assets (< one year) - stocks; - debts; - financial placements; - liquid assets;	Debts (< one year) Providers Employees Banks Budget	<i>Temporary resources</i>

We calculate three fundamental indicators based on the financial balance: The Working Capital (WC), The Necessary of Working Capital (NWC) and the Net Treasury (NT).

The net working capital can be calculated in two ways:

- 1) $NWC = \text{Permanent capitals} - \text{Capitals}$
- 2) $NWC = \text{Circulating assets} - \text{Temporary resources}$

If a positive WC indicates a long term financial state of balance (the capitals ensure the permanent needs, respectively the financial necessary of the assets), a negative WC shows the company's incapacity to ensure a surplus of resources that can cover the short term necessities.

The permanent (net) working capital results from the total of two indicators: the personal working capital and the foreign working capital.

The personal working capital (PWC) = Personal capital – Capitals

If it is positive, it shows a long term balance state. The foreign working capital = $NWC - PWC$ and reflects the long term leverage measure for the short term needs financing. It represents the resources attracted or borrowed from banks.

Another form of the working capital is represented by the gross working capital (GWC), calculated as a difference between the total asset and the net capitals. It represents the circulating assets and the indicator ' the cover degree of the circulating assets with personal capital' is calculated on its basis as a report between PWC and GWC.

Even if the working capital indicator is essential in the analysis of the financial balance, it is not enough to fundament the financing decisions.

In this purpose, we calculate the necessary of working capital:

$NWC = (\text{stocks} + \text{debts} + \text{regulation assets}) - \text{current debts} (< \text{one year}) - \text{Regulation passives}$

A positive NWC indicates a normal economic increase but also a decrease of the stocks and debts rotation in accordance with the turnover.

A negative value of NWC shows a surplus of temporary resources as a result of an accelerated rotation of the circulating assets.

If WC is compared with NWC, the result is the 'net treasury' indicator:

$NT = WC - NWC = \text{liquid assets} + \text{financial placements} - \text{Short term credits}$

The analysis in dynamics of the net treasury: $\Delta NT = NT_1 - NT_0 = \Delta WC - \Delta NWC$ indicates the 'cash – flow'.

The three indicators: WC, NWC and NT determine the management policy of the exploitation cycle that influences directly the profitability and the risk:

- the offensive policy, when $WC < NWC$
- the defensive policy, when $WC > NWC$
- the balanced policy, when $WC = NWC$

The study of the financial situation analysis is carried out by means of the financial rates:

- the analysis rate of the payment capacity;
- the analysis rate of the leverage degree;
- the analysis rate of the assets use efficiency;
- the analysis rate of the management team efficiency.

The current rate (general liquidity) $\Rightarrow R_c = \frac{\text{Current_assets}}{\text{Current_passives}} \times 100$ ($>2;2,5$)

The quick rate (immediate liquidity) $R_q = \frac{\text{Current_assets} - \text{stocks}}{\text{Current_passives}} \times 100$ ($\cong 0,8$)

The analysis of the leverage degree is carried out with the help of two rates:

The leverage rate $\Rightarrow R_l = \frac{\text{Total_debts}}{\text{Total_active}} \times 100$

The cover rate of the interest $\Rightarrow R_{ci} = \frac{\text{Gross_profit} + \text{interests_expenses}}{\text{interests_expenses}} \times 100$

(level minimum 2)

The analysis of the assets use efficiency is carried out with the help of three indicators:

The rate of stocks rotation $\Rightarrow R_{sr} = \frac{\text{Turnover}}{\text{Stocks_value}}$

The average time to cash the debts (clients) $\Rightarrow T_{ac} = \frac{\text{Debts_value}}{\text{Daily_sales}}$,

where Daily sales = $\frac{\text{Turnover}}{365\text{days}}$

The use rate of the fixed assets $\Rightarrow R_{ua} = \frac{\text{Turnover}}{\text{Net_value_of_the_fixed_assets}}$

(level minimum 2)

The analysis of the management team efficiency is carried out with the help of three indicators:

The profit rate = $\frac{\text{Net_profit}}{\text{Turnover}} \times 100$

The investment profitability = $\frac{\text{Net_profit}}{\text{Total_assets}} \times 100$

The financial profitability rate = $\frac{\text{Net_profit}}{\text{Total_personal_capital}} \times 100$

II. The functional analysis of the company – The functional balance

The functional analysis has in view the three functions of the company: production, investment and financing. In this purpose, the patrimony elements from the balance are grouped in two categories: exploitation and outside exploitation.

The functional balance is presented in the following chart:

<i>Investment function</i>	Assets (needs) - Gross net assets;	Passive (Resources) Personal capitals Depreciations and commissions Financial debts	<i>Financing function</i>
<i>Exploitation function</i>	- Circulating (Gross) Assets of exploitation - Circulating (Gross) assets outside exploitation - Treasury assets	Debts of exploitation Debts outside exploitation Treasury passives	<i>Exploitation function</i>

Based on the functional balance, we calculate two fundamental indicators: the necessary of working capital (NWC) with the distinct components: exploitation (NWCE) and outside exploitation (NWCAF) and the functional working capital (FWC).

The necessary of working capital depends directly on turnovers, but also on the activity domain of the company.

The functional working capital or the global net working capital: $GNWC = \text{Stable resources} - \text{Stable uses} = \text{Permanent capital} - \text{Net assets}$

It represents the permanent capitals that are at the company's disposal to support the exploitation functioning.

As long as $GNWC > NWCE$, the company is in a normal state of financial balance.

The difference: $GNWC - NWC$ indicates the net treasury (NT), that is the availabilities left after the treasury credits are subtracted.

$NT = \text{Availabilities} - \text{Treasury Credits}$.

III. The analysis of the company's financial performance - The administration intermediary balance and the self-financing capacity

This type of analysis is carried out based on the profit and loss account, following the stages of capital accumulation on the three types of activities: exploitation, financial and extraordinary.

The administration intermediary balance is represented by: the commercial margin, the exercise production, the added value, the gross surplus of exploitation, the exploitation result, the current result, the net result of the exercise.

The commercial margin = Incomes from selling goods – The cost of the sold goods

The exercise production = The incomes from the stocked production + The incomes from the assets production

The added value = Exercise production + Commercial margin = Consumptions from the third;

The gross surplus of exploitation = The added value + Incomes from Exploitation subsidies - payable expenses from exploitation.

The exploitation result = The gross surplus of exploitation + other incomes from exploitation – expenses from depreciations, commissions and other exploitation expenses;

The current result = The exploitation result + Financial incomes – Financial expenses;

The net result = The current result – Profit tax.

The second indicator of the financial performance analysis, the self financing capacity reflects the financial potential of the company to pay for its own capitals and to finance its investments.

This indicator can be determined by two ways:

- The deductible method: SFC (self financing capacity) = Collectable incomes – Payable expenses
- The additional method: SFC = Net profit – Calculated incomes + Calculated expenses

We can calculate the following indicators based on SFC :

The redemption potential capacity of the financial expenses:

$$C_p = \frac{\text{Financial_expenses}}{SFC}$$

The financing rate of the annual investments:

$$R_{fi} = \frac{SFC}{\text{Annual_investments}} \times 100$$

The coverage rate of the gross surplus:

$$R_{gs} = \frac{SFC}{\text{Gross_surplus_of_exploitation}} \times 100$$

The coverage rate of the exercise result:

$$R_{er} = \frac{SFC}{\text{Exercise_result}} \times 100$$

IV. The profitability analysis by means of the rates

The profitability analysis at a company's level presupposes the rates calculation:

- for the capital invested by the owners;
- for the capital invested by the creditors;
- the economic profitability rate.

In the case of the capital invested by the owners, we calculate the financial profitability rate:

$$P_f = \frac{\textit{Profit_of_the_owners}}{\textit{Capital_invested_by_the_owners}}$$

It is the rate according to which the shareholders make the decision to invest or withdraw from business.

In the case of the capital invested by the creditors, we calculate the profitability rate of the company's creditors:

$$R_{pc} = \frac{\textit{Expenses_regarding_the_interests}}{\textit{Financial_debts}}$$

representing the average interest rate paid by the company for the contracted credits.

In the case of the economic profitability rate, we take into account the efficiency of the economic capital allocated to the productive activity of the company.

$$R_{ep} = \frac{\textit{Net_result_from_exploitation}}{\textit{Economic_asset}} = \frac{\textit{Net_profit} + \textit{Interests}}{\textit{Personal_capitals} + \textit{Financial_debts}}$$

The economic profitability rate can be analyzed by the factorial decomposition according to the following elements:

- the value structure of the turnover;
- the capitals rotation.

In the same way, the financial profitability rate can be analyzed from a factorial point of view according to:

$$\textit{Profitability net margin} = \frac{\textit{Net_profit}}{\textit{Turnover}}$$

$$\textit{Personal capitals rotation} = \frac{\textit{Turnover}}{\textit{Personal_capital}}$$

The profitability diagnosis takes a central place within the financial analyses at the company's level, representing the fundament of the tactical and strategic financial decisions.

4. Conclusions

In order to fundament and adopt new financial decisions within the companies, it is necessary to investigate the performances by means of the financial analysis.

The fundamental instrument of the financial analysis is represented by the balance sheet. The patrimony balance helps at carrying out the financial and functional analysis and the Profit and Loss Account, for the calculation of the activity's financial performance. Beside the financial and functional indicators, the rates of economic and financial profitability have an important role in the analysis.

References:

- 1) *Mihaela Onofrei – Management Financiar, Editura C.H. Beck,. Bucuresti, 2007*
- 2) *Georgeta Vintila – Gestiunea financiara a intreprinderii, EDP, Bucuresti, 2000*
- 3) *Violeta Isai – Teoria si practica bilantului contabil, Ed. Valinex, Chisinau, 2002*
- 4) *Avram V. – Managementul procesului de creare a valorii în contextul guvernării întreprinderii, Editura Economică, București.*
- 5) *Brezeanu P. (coordonator) – Diagnostic financiar, Editura Economică, București, 2003*
- 6) *Dravotă V. – Managementul financiar, Editura Economică, București, 2003.*
- 7) *Halpern P. – Finanțe manageriale, Editura Economică, București, 1998.*
- 8) *Verboncu I. – Diagnosticarea firmei. Teorie și practică, Editura Tehnică, 2001.*

The Impact of the Economic Crisis on Agricultural Insurance in Romania

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Abstract

Agricultural insurance plays a significant role in stimulating agricultural investments and in stabilizing the incomes of agricultural producers. Agricultural insurance subsidies can set the path towards sustainable development in agricultural insurance as well as in Romanian agriculture, in an unfavorable economic context, and in a field which could redevelop economic growth. All concerned by this outcome should work together towards the conception and development of a viable procedure of risk evaluation, of a risk management solution tailored for the local market, but also of a stable pricing policy for agricultural insurance depending on risk.

Keywords: agricultural insurance, efficiency, agricultural insurance market

Introduction

In the national economy of our country, agriculture plays an important role, because Romania has favorable natural conditions and a long tradition in the practice of agriculture. In this context, the importance of agriculture lies in its contribution to the overall process of economic development a country may be a factor in the economic balance internal harmony, if it will be sufficiently representative at national level. Agriculture is both a source of income, employment, and can be a favorable business environment, having regard to natural resources more accessible and therefore more cheaply. Agriculture can play an important role in creating availability for export and, in balancing the balance of payments.

Table no. 1 Share of agriculture, forestry, hunting, fishing and fish farming in GDP

Gross domestic product	2002	2003	2004	2005	2006	2007	2008*
TOTAL	116.768,7	151.475,0	197.564,8	246.468,8	288.047,8	344.535,5	266.590,6
Agriculture, hunting and forestry	15.612,9	17.301,2	22.835,2	31.030,1	24.277,9	26.898,2	17.806,8
% GDP	11,4	11,6	12,6	8,4	7,8	6,68	
Fishing and pisciculture	5,0	6,4	14,0	13,8	13,8	15,8	

Source: Statistical Yearbook of Romania 2008

* Provisional data 01.01 – 30.09.2008

The specificities of agricultural and farming activities and the range of unpredictable and uncontrollable environmental factors make the anticipation of risks, their intensity and their frequency difficult in the long run.

The process of agricultural production is subject to permanent and high risk due to the influence of unpredictable natural factors. Thus, insurance companies take on the risk posed by these events, damage payments diminishing the losses incurred by agricultural producers. Ministry of Agriculture data shows that the cultivated surface affected by drought in 2007 is 1.7 million hectares, of which only 700,000 hectares are covered by damage payments. These were paid by the state, the total amount adding up to approximately 160 million euros, that is, between 600 and 750 RON per hectare. The government pays damages to farmers whose crops are destroyed by natural disasters like prolonged drought, floods or strong wind (over 80 km/hour), but only if the latter have insured their fields against other natural risks, such as hail storms, late spring and early autumn freeze periods, heavy rains or landslides.

Today, less than 10% of the 9.6 million hectares of farming land in Romania are insured. For this reason, the population in rural areas should be actively informed of the advantages and risks of crop insurance. In order to diminish the existing reticence concerning insurance, we believe that this process of active information and popularization should be carried out by the local agricultural administrative offices, the farming consultancy centers. In order to significantly alleviate the repeated and acute problems faced by farmers, it is necessary to develop the current insurance system, and to make insurance against high probability and high damage risks compulsory.

Insurance is mainly understood as a type of financial protection against loss for people and companies.

Following the natural disasters which have occurred in our country, people should seriously think about purchasing protection plans for their goods, which are, in most cases, their life savings. This way, people would better realize the importance of being insured, should insurance companies and the government show more active involvement. [1]

It is now obvious that the whole world is facing a profound economic crisis, the effects of which will be felt through the years to come. This crisis has hit Romania as well, despite assurances of the contrary made by certain political and economic actors. We mustn't think that Romania will be miraculously spared of economic difficulties.

In our country, there is a series of restrictive natural factors which are the result of global climate changes: frequent excessive drought affecting over 7.1 million hectares, periodic excess of humidity over 3,781,000 ha in 2005, saline soils – 700,776,000 ha, small or very small reserve of organic substance over 4,800,000 ha, strong acidity over approximately 2,000,000 ha, or lack of fertilization elements. At the same time, there is also a series of anthropological elements affecting the condition of the soil. This data comes from the research of the Pedology and Agrochemistry Institute.

In Romania, 6.300.000 ha are strongly or very strongly affected by erosion. The Soil Erosion Research Station at Perieni is the only one in our country research solution for the prevention and reversal of this process, which is particularly dangerous for Romanian villages.

Production risks are present as well. The series of floods, droughts and pandemics of the last 5-6 years reminds us of the importance of weather-related and natural phenomena. Climatic changes can cause permanent mutations in Romania's agriculture, like the influence of drier summer seasons and of drier and warmer winter seasons. It is also possible for climatic

changes to determine even more instability in the weather, making catastrophic events like floods and droughts, not just more frequent, but also more serious.

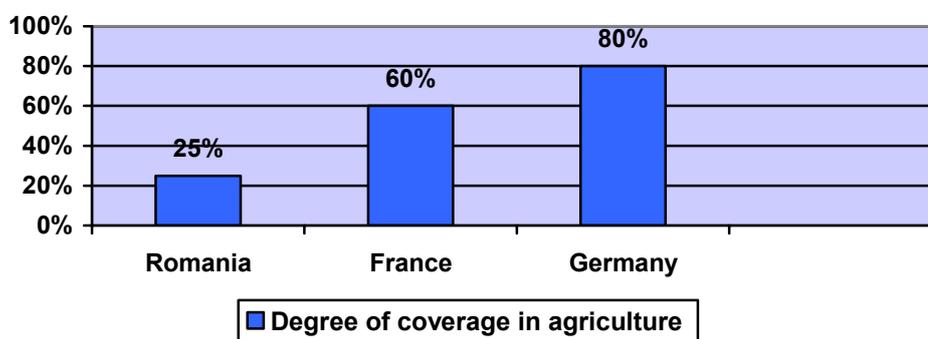
2. The agricultural insurance market in the EU

Risk management in agriculture is very important, and it will further grow in importance in the years to come. There are many instruments used in risk management, one of which is agricultural insurance. Agriculture is inherently risky, and its risks can have very negative effects on agricultural incomes, on the steadiness of the food supply and on that of the economic sector's capacity for development, investment and competition, particularly as far as large commercial farms are concerned. Consequently, governments and public policies around the world have been trying to resolve this issue.

In the fight against random, damage-generating phenomena, man has several options at his disposal: avoidance of prevention of the risk, limitation of the damage caused by the risk, creation of own resources to cover eventual damages, and finally, risk transfer.

Although starting from 2006 the government has increased the insurance subsidy for farmers from 20% to 50% of the insurance bonus, very few farmers insure their crops. Estimates made by insurance companies in this sector vary between 10-25%, compared to 60% in France and 80% in Germany. The primary explanation for this is the lack of money, but also the absence of an insurance culture, as well as the rooted custom of subsidies and damage payments from the government.

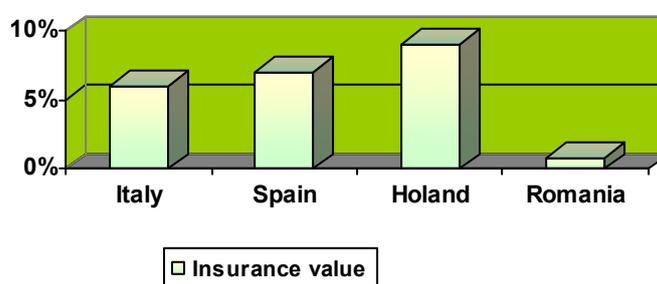
Figure no.1 Degree of coverage in agriculture



Apart from this, the most devastating risks confronting the Romanian agriculture, droughts and floods, are excluded from insurance policies subscribed by Romanian insurers. Their very solid argument for this is that, in Romania, the frequency of these phenomena and the precarious state of irrigation systems make the risk a certainty, and not a possibility. Furthermore, insurers claim that drought is a risk similar to earthquakes, as it can affect large stretches of land, and even whole regions, making the damage payments disbursed push the insurance companies to bankruptcy. Compared to the EU market, agricultural insurance in Romania are a lot cheaper and rarer. In Italy, over 90% of the arable surface is insured, while in Romania only 1 of the 9 million hectares is. In Poland, only 10% of the arable surface is insured, less than in Romania, where the percentage of land covered by insurance is 17%. The Polish government only gives financial support to farmers whose land is particularly exposed to floods. In Italy, the insurance tradition is such that people don't even have to come in person to renew their insurance agreements. They make a multi-annual 5 – 10 year agreement, and upon its expiry the insured person must send the insurer a note through which he agrees to renew the agreement, and the amount of money of the renewal.

France is Europe's main agricultural producer and exporter, and the world's second agricultural and food exporter after the United States. Because of droughts and floods, the French government carries out ample campaigns to ameliorate, through insurance, the farmers' degree of protection, and to convince the latter to insure themselves against a wider range of agricultural risks. To this end, the FNGCA (the National Fund for the Guarantee in case of Agricultural Disasters) was created, a partial insurance system subsidized by the government, which covers only the damage resulted from droughts, hail storms, or floods. Contribution to this fund is made 50%-50% by farmers and by the government. After the French authorities declare that the area has been affected by a natural disaster, payments are made by the FNGCA to farmers who had bought insurance for at least a risk, and who had suffered losses over a certain level. Also, in France, state subsidies for agricultural insurance represent around 2.5% of the insurance bonus (40% for new farms – for an amount corresponding to a franchise of 20% or 25%)³.

Figure Tariffs-insurance value



A big difference is also noticeable in fees. If in Italy the insurance is not made for less than 6% of the insured value, in Spain for 7%, and in Holland for over 9%, in Romania companies sell insurance even for 0.8-0.9%. The market average is 2.5%.

3. The agricultural insurance market in Romania

These natural phenomena are a danger both for people's lives and homes, and for certain economic sectors, such as the agriculture. For instance, in July 2008, floods have caused damage of over 180 million RON to the agriculture and forestry. The farming sector is particularly affected by these losses, as it is the rural environment's most important economic branch. The damage that farmers incur are all the greater considering that the weight of agricultural insurance is very low, and that land owners are not aware of their need for such protection. In very high risk regions, such as Vrancea, Buzau or Prahova, where the risk of hail is particularly high, the price is around 5-6%. In areas where the risk is lower, the price also lowers to about 1.5-2% of the insured value. Amongst the crops for which insurance is more expensive are grapevines and fruit trees.

The Romanian market for agricultural insurance was valued by insurers at approximately 30 million euros in gross subscriptions in 2007. Also, the amount approved by the government for damage payments to farmers whose crops were affected by draught are estimated around 500 million lei (over 150 million euros), five times the initial figure. The maximum level of damage payments will be of approximately 70% of the farmers' total expenditure until the declaration of the state of calamity. Furthermore, damage payments will be disbursed only to those farmers who had already bought crop insurance for the affected crops. The possibility of being granted lawful access to a large market of potential buyers is important for insurers. According to official data, there are approximately 4.5 million rural households, and another 100,000 commercial exploitations and agricultural stock companies. Nonetheless, insurance companies are wary about the means by which the authorities could make agricultural insurance compulsory. The insurance market in Romania is immature, yet competitive. There are many companies on the market, but the offer is only apparently varied, as their financial capacity is reduced, due to the fact that most of their clients are personal shareholders. Another

deficiency of the current insurance system is the lack of specialized personnel in the field. This leaves a mark on the entire organization and approach of the staff, which lacks the necessary technical assistance and reinsurance programs. This is reflected in the quality of their services, as well as in the future development of the market. The international insurance market is in continuous change, particularly in Central and Eastern European countries. Forced to carry out their activity in a legal framework marked by significant inconsistencies with the international system, insurance companies have had to solve problems concerning their position on the market, as well as problems concerning the existence of a weakly developed, instable, and troubled capital market, which has hindered the efficiency of the attracted resources[2].

The agricultural insurance market touches the level of 41.40 million RON, or 11.3 million euros, following the first half of the year 2008, according to data provided by companies in this field to the specialized review Insurance Profile, while the gross bonuses subscribed by agricultural insurance in 2007 have reached the level of 54.76 million RON (16.41 million euros). Representing less than 1% of the total subscriptions made by Romanian insurers, the amount covers spring crops between January 1st 2008 and June 30th 2008. At the same time, the volume of damages paid out by agricultural insurance amounts to 5.31 million RON (1.45 million euros), which were largely split between the companies ALLIANZ-TIRIAC (1.88 million RON), ASIROM (0.92 million RON), and FATA Insurance (0.66 million RON). With a market share of almost 30%, FATA Insurance is the leader company in this field, with a business figure in agricultural insurance of 12.18 million RON, representing 47.6% of its portfolio, compared to 8.77 million RON throughout the year 2007. On the following positions in Top 5 rank, in order, ASIROM, with 7.6 million RON in subscriptions and 18.34% in market share, and OMNIASIG, with over 5.7 million RON and a 13.9% market share. These are followed by ALLIANZ-TIRIAC, with almost 11% in market share and 4.53 million RON in subscriptions, and ARDAF, a company whose business figure in agricultural insurance amounts to 3.37 million RON, and whose market share reaches 8.13%. The damage payments disbursed by insurance companies in the analyzed period add up to 5.31 million RON (1.45 million euros), while the companies suffered 32.26 million RON (9.70 million euros) worth of losses from agricultural insurance. If the autumn crops in 2007 brought insurance companies approximately 55 million RON according to UNSAR, then the subscriptions registered during the agricultural year 2007-2008 for the coverage of autumn and spring crops (from September 1st 2007 to July 31st 2008) add up to 96.4 million RON, compared to 54 million RON during the previous agricultural year.

Table no. 2 Agricultural Insurance 2008

Agricultural Insurance 2008											
Nr.	Company	Share in total portfolio	Subscriptions				Damage payments				Market Share 2008
			2008		2007		2008		2007		
			EURO m.	RON m.	EURO m.	RON m.	EURO m.	RON m.	EURO m.	RON m.	
1.	FATA Asigurari	47,58	3,32	12,18	2,63	8,77	0,18	0,66	0,60	2,01	29,41
2.	ASIROM	1,89	2,07	7,59	5,10	17,00	0,25	0,92	1,51	5,02	18,34
3.	OMNIASIG	0,94	1,57	5,76	0,28	0,95	0,08	0,29	0,04	0,12	13,92
4.	ALLIANZ-TIRIAC	0,65	1,23	4,53	4,52	15,08	0,51	1,88	6,04	20,16	10,94
5.	ARDAF	1,54	0,92	3,37	1,72	5,76	0,07	0,27	0,36	1,21	8,13
6.	GENERALI	1,17	0,67	2,48	1,31	4,39	0,11	0,42	0,89	2,97	5,98
7.	ASTRA-UNIQA	0,67	0,46	1,70	0,23	0,77	0,00	0,00	0,18	0,61	4,10
8.	ASIBAN	0,52	0,43	1,57	0,33	1,11	0,11	0,40	0,01	0,04	3,80
9.	EUROINS	2,21	0,41	1,49	0,00	0,00	-	-	-	-	3,60
10.	BCR Asigurari	0,24	0,17	0,62	0,24	0,82	0,10	0,38	0,06	0,22	1,50
11.	CARPATICA Asig.	0,27	0,03	0,11	0,04	0,12	0,02	0,08	-	-	0,27
	Total	0,98	11,28	41,40	16,41	54,76	1,45	5,31	9,70	32,36	100,00

Source: <http://www.primm.ro/primm/arihiva/index.htm>

For most of the country's regions, agricultural insurance have a very important potential, which remains untapped for the following reasons: the lack of money, the lack of specialists, and the very weak education of buyers. This year does not seem to be very prolific for the development of this segment either, with 45% of the respondents of an asig.ro survey foreseeing a drop in agricultural insurance subscriptions this year. Nonetheless, almost 37% of the surveyed public is optimistic and predicts a growth of the agricultural insurance field in 2009, while the rest await a stagnation of the level of subscriptions.

Conclusions

The threat of recession, the very small volume of agricultural insurance in previous years, despite its large potential, the lack of subsidies for this type of insurance, and the significantly lower incomes of farmers this year will only increase the market's potential, by operating a dramatic reduction in the income from this type of insurance. Nonetheless, the fact that agricultural insurance holds a very small percentage of the total number of subscriptions despite its significant potential is the direct result of lax regulation of this field. Many farmer representatives have said that, in order to afford this type of insurance, its price should be lowered to at most 1% of the insured value. These prices are already low enough according to insurers (1%-1.5%), considering that the profit threshold is between 4% and 8% of the insured value. Also, farmers have expressed their wish to have the 50% government subsidies for the price of insurance reinstated, regulation which was eliminated in August 2007. The principal solution for the consolidation of the agricultural sector and also for the durable development of agricultural insurance is the establishment of a public-private partnership, in which the government and state authorities build the organizational framework necessary to the efficient application of risk management and damage assessment procedures in agriculture. Furthermore, it is essential to put together all the data and information concerning damage and risk in agriculture for the creation of a pricing policy founded on the degree of risk in agricultural insurance, goals which can be reached by establishing a specialized agricultural risk management agency. As far as actual agricultural insurance prices are concerned, these need to be correctly restructured and grounded on risk categories, not just by each insurance company, but also market-wide, according to special norms established by market specialists.

Reference

- [1] Violeta CIUREL - *Asigurări și reasigurări. Abordări teoretice și practice internaționale*, Ed. All Beck, 2000
- [2] Gheorghe D. BISTRICEANU - *Sistemul asigurărilor din România – Ed. Economica*, 2002
- [3] <http://www.primm.ro/primm/arhiva/index.htm>
- [4] *Statistical Yearbook of Romania 2008*

The Internal Marketing Role in the Creation of the Firm Identity through Communication and Leadership

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Abstract

Managers act like champions of knowledge and learning. The implementation of knowledge management is an incremental process. The point raised by many theorists, that “employees are a company’s first service market”, is an assumption which shows that the first market of an organization is the market of its employees. Also, internal marketing has a significant impact on knowledge management in an organization. Company employees do not need the organization to develop complicated internal marketing programs to make a difference.

Keywords: employees, market, organization, internal management, knowledge, communication, leadership

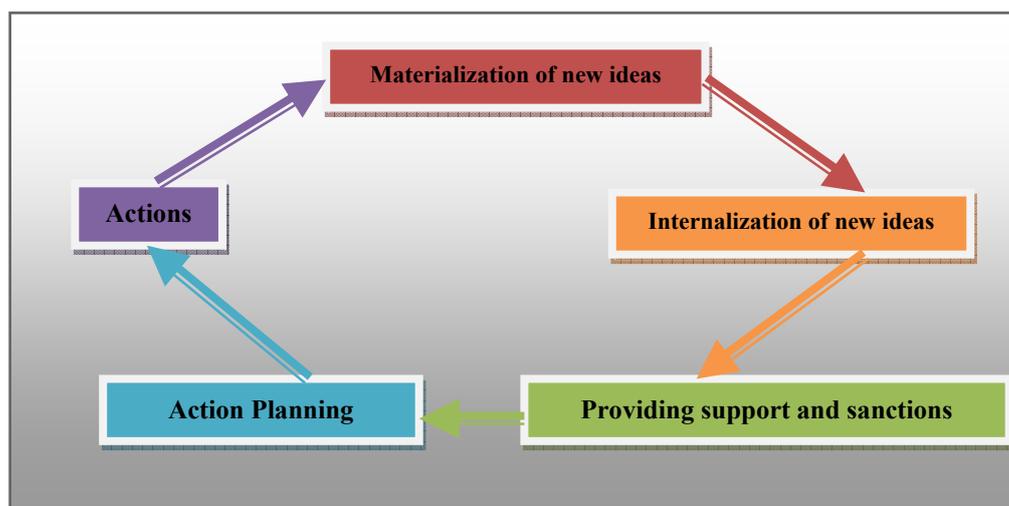
1. Introduction

Communication is a critical factor for successfully implement any changes in the organization. The audit is important to grasp what other people listen and understand. This is critical, especially when the message passes through several layers of the organization. These layers filter the information through their own perspective before proceeding to the next. Appelbaum and Gallagher¹³⁴ have proposed a connected model of how the communication loop must be closed to allow the organization to progress towards the desired direction

Top management within an organization plays a major role. Managers act like champions of knowledge and learning. Their actions are important directives that support the implementation. Their mode of action and program facilitation provide support for the knowledge management concept. The actions that managers take can help overcome resistance, facilitate exchange of information and can enhance involvement in activities that promote learning. They can trigger a positive cycle of learning that includes new concepts and ideas in a process of materialization and internalization.

¹³⁴ Appelbaum, S. H., Gallagher, J. (2000) – “*Journal of Workplace Learning*”, p. 40- 56

Figure 1 illustrates an example of promoting learning through materialization and internalization of the support, the commitment and of the practical activities. In the case of a positive cycle, the ideas will be transformed into actions that are required for the implantation of information in knowledge management. Functions act like a learning mechanism through which new ideas and thoughts are implemented. When applied in the implementation process of the organization, they occur through stages of materialization of ideas, of concept internalization, of ideas supporting, through stages that prepare an action plan and, finally, through the action itself. This is an ideal four stages cycle of learning. By participating in training programs, people will understand the idea of knowledge management and learn new ways of working.



*Figure 1 – The implementation of the positive cycle
Source: Sheridan, JR (1997) – “Industry Week”*

Figure 2 presents a negative cycle of implementation. This leads to avoidance of learning from the organizations. When perception management is not very clear, the obligations of employees are affected. Imprecision and few commitments have an adverse effect on the progress of knowledge management programs. Employee’s ideas are not shared and it is not provided enough support for efforts of knowledge and learning. Consequently, efforts are elusive and end up being unable to promote the organization.

Nucor’s Chairman, Kenneth Iverson, said about the company’s efforts of learning: “We tried a variety of technologies, but our success is due 30% thanks to new technologies and 70% thanks to our employees¹³⁵”. It is therefore clear that employees are the first factor to ensure success of a company.

This is a very important aspect of the economy of knowledge: companies have invested in technology, but neglected the fact that for using the equipment and systems they needed people. Moreover, as Sheridan¹³⁶ has suggested, there are two fundamental ingredients: the need for a new strategy but also the need to implement it properly. In building a company 10% stands for strategies and 90% for the need to achieve the daily requirements.

¹³⁵ Sheridan, J. R. (1997) – “Industry Week”

¹³⁶ Sheridan, J. R. (1997) – “Industry Week”

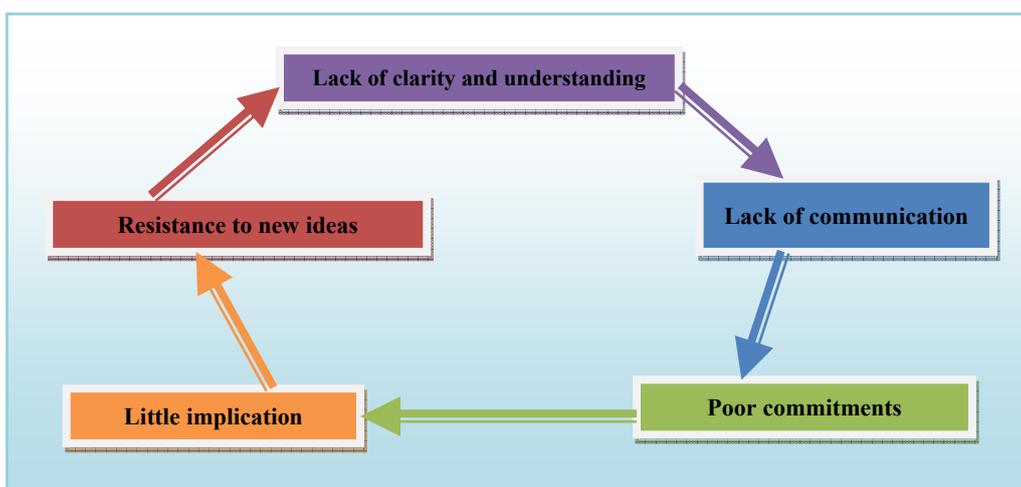


Figure 2 – The implementation of the negative cycle

Source: Sheridan, JR (1997) – “Industry Week”

The implications of this learning process for the organization are:

- companies that take decisions regarding only the financial side will not use all the values they possess;
- investments in technology, even if important, are not the final answer. Developing a company which incorporates ideas and knowledge of individuals that design a system leads to a better comeback.

The implementation of knowledge management is an incremental process. It is necessary that it begins with developing a common way to understand knowledge management. This can be done with the materialization of ideas. The adoption and internalization of knowledge management is a major change of the learning process. If this is not addressed properly, inaccurate perceptions will be developed, perceptions that will lead to the weakening of the common foundation. Therefore there will be insufficient support for the knowledge initiative. Poor commitments lead to resistance to the adoption. This is a challenge for the top management. To avoid accidental efforts of the knowledge management, the top management must internalize and communicate values and visions in order to create a common basis of understanding and commitment improvements. This is one of the most important tasks that the management has in the joint effort to create a culture of knowledge management. Promoting the concepts, values and principles can not be overstated.

Expression is a very important aspect of communication. To ensure that the information is understood and shared properly, companies must develop and implement an extensive vocabulary of the enterprise. Defining or redefining the image of employees and means of expression used by the organization should also be treated very carefully. The way that people in the organization expose ideas in can have a profound influence on the perception about themselves, about the company and its products. Therefore, the way we express ourselves in, has an impact on the way we lead and the way we behave.

It is very important to consider the use of metaphors as they broaden the field of possibilities and provide interactions and approaches. Metaphors represent important transmitters of information. New metaphors and words not only create new linguistic areas, but also help the integration and promotion of new concepts through speech and behavior. Using them correctly, they can help us guide the business activities. They provide managers with multidimensional ways of understanding and mechanism transference.

The implications of communication within an organization are:

- communication, transmission and reception of information link the elements of a puzzle;
- managers need to understand that they communicate no matter what they say and what they do and the communication will be better when the two sides are aligned;
- filters are found anywhere in the company. Therefore, if the information is clear in our minds it does not necessarily mean that it is clear to all other persons that make contact with it.

No doubt, the most common application of internal marketing is represented by the quality of internal communication strategies. When applied in parallel with external marketing communication, there is a chance that the required level of performance might be attained because the staff will be better prepared.

Leaders can influence organizational values required to run a company. Furthermore, they have influence not only on those values but on various ways of thinking, levels of motivation and relevant behaviors. Leaders exercise this influence on multiple channels.

Popper and Lipshity¹³⁷ show three channels of influence of the leadership:

- **Time devoted by the manager.** In management practice emergency tend to gain priority over what is important. Daily tasks and the need to accomplish them on short notice are usually prior to the need to solve long-term problems. The “manager time” draws attention regarding what is important and what is less important to achieve. The fact that managers who are very busy solving urgent tasks invest “manager time” only in certain actions has certain impact on employees in setting priorities. Allocating precious “manager time” to some problems can send a clear message about the importance of those values.
- **The attention of managers.** The attention given by managers is similar to the “manager time”. Managers who consistently pay attention to a particular topic send a clear message about its importance. For example, a company manager who wants to show that customer satisfaction is more important than profits, will not let another day pass without remind local managers about customer perception regarding the company and its products.
- **Rewards and recognition.** The channels of reward and gratitude have, usually, a great influence on the organization. They set the criteria for the desired behavior. These channels include various bonuses, letters of appreciation, promoting, attractive tasks, allocation of resources and sanctions. Managers that are evaluating the learning activities will reward employees who participate in the process of educating the organization. They use learning facets as part of the employee evaluation process and learning activities become a criterion for promotion. Thus they reinforce the behavior needed to create knowledge. On the other hand penalties for mistakes and eagerness reduce the probability of sharing and forwarding of the transfer of information. Even worse is that, sometimes, employees tend to abandon the dialogue and communication, which are crucial for knowledge management and learning.

The channels of influence described above affect the actual desires of individuals to put the process of education into the organization’s agenda. However, the fact that this process becomes part of the agenda is not enough. In order to manage the knowledge it is necessary for the education process to become part of the organization.

¹³⁷ Popper, M., Lipshitz, R. (2000) – “*The Learning Organisation*”, p. 1-12

The main problem in creating and maintaining learning process within the organization is the human's tendency to protect their "positive image". A major change in building an educational process within the organization will be reducing the impact of "defensive routines". Given that "defensive routine" is a natural tendency of individuals, it is necessary to create the psychological conditions that alter these trends and to encourage individuals to be more accountable, transparent in actions and more oriented to the important matters. Therefore, leadership's activities have greater influence because they have a great impact in creating the atmosphere necessary for learning within an organization.

The main aspects of leadership that creates the value required for learning are:

- transparency;
- orientation to issues;
- responsibility.

The principle of "eliminating the feeling of fear in the organization" was first stated by Deming for the introduction of Total Quality Management in organizations. This principle is the result of understanding that "training teams" have become a mere ritual in the conditions in which those involved in this process do not feel a psychological safety that would enable them to attract attention about certain facts and talk openly about them even if sometimes this can be disturbing. Psychological safety states that employees can afford to speak frankly about their mistakes. Reacting in another way and making things differently will lead to a certain degree of misunderstanding. It can be difficult, emotionally speaking, and it can lead to anxiety about the feeling of incompetence. Individuals act transparently and can investigate their mistakes with integrity when they feel psychologically safe. Leaders within the organization can facilitate learning in conditions that are able to inspire confidence. In these circumstances employees can trust their leader and will most certainly find the process and system being correct and will have trust in the "game rules" applied in the organization.

The importance of truth in the process of educating the organization has been demonstrated by several studies. The establishment of the "conditions of truth" is not less important than the establishment of "psychological conditions for effective learning within the organization".

Gambetta¹³⁸ suggested that in order to build trust within an organization we need:

- consistency;
- compliance of promises;
- discretion;
- morality;
- fairness;
- sincerity;
- accessibility.

Leaders who are able to inspire trust have four characteristics¹³⁹:

- **Idealized influence.** Words reinforced by behaviors form a collective and social orientation. Leaders, through their role, can influence the behavior of others.
- **Inspire motivation.** Leaders inspire and motivate by creating a vision about the future of the organization that is thriving. These leaders praise the correct actions, are optimistic about the future of the organization, show enthusiasm for shared success and show the confidence to achieve the objectives.

¹³⁸ Gambetta, D. (1988) – "Making and Breaking Cooperative Relations", p.213-238

¹³⁹ Bass, B. M., Ogolio, B. J. – "Manual for the Multifactor Leadership Questionnaire"

- ***Intellectual stimulation.*** Leaders can provide intellectual stimulation by exposing desire of self-examination and by ignoring the possibility that the current situation is unchangeable. Leaders who can intellectually stimulate employees help them tackle old problems in a different way, encouraging them to “think differently”. Thus they legitimize creativity and innovation.
- ***Individualized consideration.*** Leaders who put great emphasis on personalized attention are able to inspire and motivate their employees. This implies treating employees as individuals with different needs, abilities and aspirations. Leaders help to strengthen skills of employees and to avoid mistakes they make through training programs and assistance. They should not punish mistakes but treat them like learning opportunities. When a mistake has been made, they are keen to identify what happened and not who is guilty for what happened. Success does not come by itself, but it is studied as part of the approach on progress.

The behavior of leaders is very important in the process of value formation and ensuring a friendly atmosphere for knowledge management and learning. These leaders are transformational leaders because they inspire great confidence. They are able to obtain a much more idealistic and ethical thinking by generating a wider cooperation, honesty, credibility, accountability and high performance.

Leaders promote knowledge in three ways:

- Positioning learning as a main problem on the daily agenda - leaders can achieve this through affecting skills of different channels.
- Building a structural foundation.
- Creation of culture and psychological conditions that facilitate learning.

The pattern used to initiate knowledge management and learning programs requires completion of a set of steps:

- **Step 1.** Organizing that is necessary to begin management training and education in order to obtain senior managers. In this way the foundation needed for knowledge exchange is built.
- **Step 2.** The planning of the company’s intellectual capital and skills contrary to strategic requirements of the external environment.
- **Step 3.** In practice, the next step is the formulation of the policy for easy to understand knowledge in order to form a guide of daily operations. Top management requires a profound commitment when policies are implemented.
- **Step 4.** Communication of a clear vision of the company.
- **Step 5.** Developing a business language or vocabulary due to mainstream understanding of strategic objectives.
- **Step 6.** Implementation of the structures and systems that facilitate multiple streams of knowledge within the organization.
- **Step 7.** Implementation of the evaluation framework used to check if the conducts are directed in the right direction.
- **Step 8.** Output feedback in order to align the company’s strategic objectives.

For the first time, internal marketing has been proposed as a solution to the need to consistently provide high quality services. However, despite the rapid development of related literature on internal marketing, relatively few organizations apply in practice the concept

Internal marketing implies to attract, develop, motivate and retain qualified employees through job and products that satisfy their needs. Internal marketing is a philosophy of treating employees like customers, being the shape strategy for a job and for products that people need.

Despite the multitude of research conducted over time, a careful review of the literature reveals the existence of two internal marketing models: one based on Berry's conception of "*employees like customers*" and one based on the idea that Grönroos proposed regarding "*customer horizon*" and "*interactive marketing*"

The main objective regarded by the internal marketing is the way in which we can use specific marketing technologies to motivate employees.

In the center of its psychology are located concepts related to customers and changing, which mean that customers receive the desired product after paying a price. In the external marketing the situation changes, the products are being purchased to meet some form of utility or satisfaction. Applying these concepts in the internal marketing involves treating "employees like customers".

The point raised by many theorists, that "employees are a company's first service market", is an assumption which shows that the first market of an organization is the market of its employees. This is contrary to one of the fundamental axioms of marketing that says that customers are the most important.

Marketing mix reflects a marketing approach that is based on transactions and whose objectives are to maximize sales and profits. Marketing mix is used to alter customers' decisions and ensure their satisfaction while contact with customers is minimal.

Applying the concept of marketing mix in the internal marketing has been structured generally around the 4 P's of marketing mix (product, promotion, price and place (distribution)). Moreover, it was proposed that in the traditional 4 P's marketing mix to add other 3 P's: physical evidence, process and participants. This is because the development of the marketing mix's 7 P's explicitly reconstructs interoperable interdependence and the need for an integrated effort for the effective delivery of services or products.

Internal marketing role in the implementation of innovation is complex. The main factors which directly or indirectly have influence on the success or failure of innovation are:

- organizational culture;
- structure, process and context;
- communication with employees;
- staff;
- essence of competence;
- integration.

Internal marketing plays a major role in implementing the innovation, helping to strengthen and highlight their underlying aspects.

Also, internal marketing has a significant impact on knowledge management in an organization. In most companies, responsibility ends with some managerial roles. Thanks to the effect of organizational hierarchy, the managerial roles are differently positioned to generate, communicate and exploit information. They provide access to ideas from different domains, different groups of people and different opportunities to use those ideas.

Internal marketing requires the company's attention towards employees and staff, informing them of the recent happenings and guiding them towards the following actions.

Once the company will address the development of national marketing programs for their clients, they will be able to identify the methods to attain a fast growing for the company.

To ensure the success of internal marketing, the company will have to show that employees are valued and heard. Hence have the moral progress and productivity. Another thing that must be taken into account is the implementation of these types of programs before employees become dissatisfied and intend to leave the company. It is important that the company emphasizes the importance of choosing the best employees. Best marketing programs are aimed at the best skills of staff. Thus it is important to highlight from the beginning the type of employees that the company wants.

In order to guide to the company towards the internal market it is very important to consider actions such as removing obstacles of employee motivation and providing incentives to employees making them reach their organization's objectives. In other words, management must be able to answer a permanent question that the employees have: "How much of the gaining is mine?"

Motivating employees is not a very easy task. This requires a change in the way the organization and the management think. Appreciation is a performance incentive. It is a part of the positive cycle of the employee behavior building process. The question that inevitably arises is "How can a company create the proper consequences of behavior to promote the objectives of the organization?" It is also important for the company to identify executives with strong intuitive skills, which are particularly perceptive about the things that employees do and encourage employees to express their feelings about the attitude of other employees, but also the ones about the things that their manager wants from them. In the issuing of an internal investigation, the company has to take care and ensure that it is open to internal criticism and cynicism, as they appear every time a company is considering such initiatives. The strongest protection against cynicism is a company relies in the promise made by the company's leader that actions will be taken according to survey results.

In order to develop these tools, the company needs to establish internal guidelines for employees and start a general internal research to define key objectives relevant to the service environment. These concepts will be used later to create a list of performance criteria that the company must achieve. Company employees do not need the organization to develop complicated internal marketing programs to make a difference. It is much better if the domestic marketing program is a lot simpler and easier to implement. Finally, internal marketing is an unreal concept through which we can express our concern for the employees, our appreciation for their efforts and through which we want to hear their opinion about our company.

References

1. **Anthony, M. T., McKay, J.** – *Journal of Product Innovation Management*, Ed. Prentice-Hall, 1992
2. **Anthony, Shapino, McGrath** – *Product Development: Success Through Product and Cycle-time Excellence*, Ed. Butterworth Heinemann, 1992
3. **Appelbaum, S. H., Gallagher, J.** – *Journal of Workplace Learning*, Ed. Editura Brasil Blackwell, 2000
4. **Berry, L.L., Hensel, J.S. and Burke, M.C.** – *Journal of retailing*, Ed. Fall, 1976
5. **Berry, L.L., Parasuraman, A.** – *Marketing service: Competing Through Quality*, Ed. Prentice-Hall, 1991
6. **Cole, G. A.** – *Staff Management*, Ed. CODECS, 2000
7. **George, W. R.** – *Journal of retailing*, Ed. Fall, 1977
8. **Grönroos, C.** – *Marketing of services*, American Marketing Association Proceedings Series, 1981
9. **Kotler, Ph.** – *The management of marketing*, Ed. Teora, 1997
10. **Lukacs, E.** – *Professional Performance Assessment*, Ed. Economică, 2002

Intelligent Multi-Agent System for Forecast the Consumption

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Abstract

The cybernetic system of the economy is a very complex system made of households and companies that interact with each other. All of these subsystems and the interactions between them can be shaped using multi-agent systems, also considering the human factor and its influence. This paper presents a multi-agent system architecture which deals with consumption forecast. The system was designed in order to determine a consumption model and then, based on the exogenous factors forecast, to determine future consumption.

Keywords Cybernetic system of consumer, consumption, multiagent system, method of least square, forecast.

Introduction

In the context of globalization and economic crisis the commerce has an increasing role in many organizations as a mean of improving the ways to interact with business partners (suppliers and clients) and to increase the efficiency of the operations.

Strategic planning of a company is based on the characteristic of the company (its goal, culture, existing or foreseen resources) but also on the conditions the trends and the risks presented by the social and economical environment. Thus, the company wishes to benefit from a software product capable of producing a forecast of consumption. The forecast of consumption is influenced by a series of macro economic factors (GDP, inflation and unemployment), micro economic factors (income, previous consumption, prices) or psychological factors (motivation, needs). Creating a forecast of consumption must respect some requirements like: real and correct knowledge of reality, existence of a huge volume of data from the past.

In making a forecast of consumption it is needed to take into account the forecast of the evolution of macro economic and micro economic factors that have an influence on consumption. After the forecast of the factors a forecast of consumption is also needed, taking into account the future evolution of involved factors in consumption research. In order to obtain a degree of automatization and flexibility of the forecast new methods are and software tools are needed capable of producing this. An elegant option that is developing today is

represented by the use of intelligence agents and multi agents systems. Simulation methods that create a forecast have been ambitious enough in what regards their dimension. These set up with a small number of parameters, imputing towards the finish a greater number of parameters. An intelligent agent or a multi agent system is an application that has a great flexibility in reaching certain objectives. The characteristics that an agent must have are autonomy, reactivity, proactivity and interaction. While the agents follow their objective they need to interact with other similar independent agents.

The present paper is the result of research that is at the border between econometrics, economics, and informatics containing theoretical concepts but also a personal approach regarding the structure of a multi agent system for the forecast of consumption.

The first part of these work present theoretical concepts regarding the cybernetic system of the consumer and multi-agent systems. The first section of this paper deals with the consumer regarded as a subsystem of the cybernetic system of the economy, while the second section will present a series of concepts concerning intelligent agents and multi-agent systems, concentrates on the properties of the agents.

First, the system will perform a forecast of the factors which influence consumption and then, based on the obtained data it will perform a forecast of the consumption model and then of the consumption itself. The data used for determining the model and assessing the parameters is provided by the National Statistics Institute of Romania.

Cybernetic system of consumer

Any economic unit, no matter its activity object, by its actions, aims at fulfilling the actual and future needs of consumers. In order to accomplish this task, the unit must consider, track and anticipate the consuming behaviour of individuals, minding a series of factors. The consumer represents the cybernetic system consisting of one or more individuals who use together their income and property in order to fulfil their individual consuming needs. The system is part of the cybernetic system of the economy and it represents one of its very important components, because by its behaviour, a household establishes the request for goods and services and also adjusts the offer for this request on the utilities and services market, the offer on the monetary and financial markets.

The cybernetic system of consumers, like any other cybernetic system, has input and output streams. The input streams of the system are generated according to the government policy, which offers subsidies that can be included into the streams called transfers. The output stream of the system is given by the labour and is formed by the labour request and offer mechanism and leads to forming salaries, added value and, finally, to paid taxes. Paid taxes represent the main components which produce income for the central budget and for the health insurance budget. Any consumer has values or other types of income that require contributions to the local budgets [ScEChiN2003].

The structure of the cybernetic system of the consumer emphasizes its elementary components, but also the whole of the interactions that take place between them, the same time tracking the relationships between the system of the consumer and its environment. The relationships between the consumer and the environment are reflected by the connections with the asset and services market, with the labour market, with the monetary and financial market, with the foreign currency market and also with the local administration system (government sector).

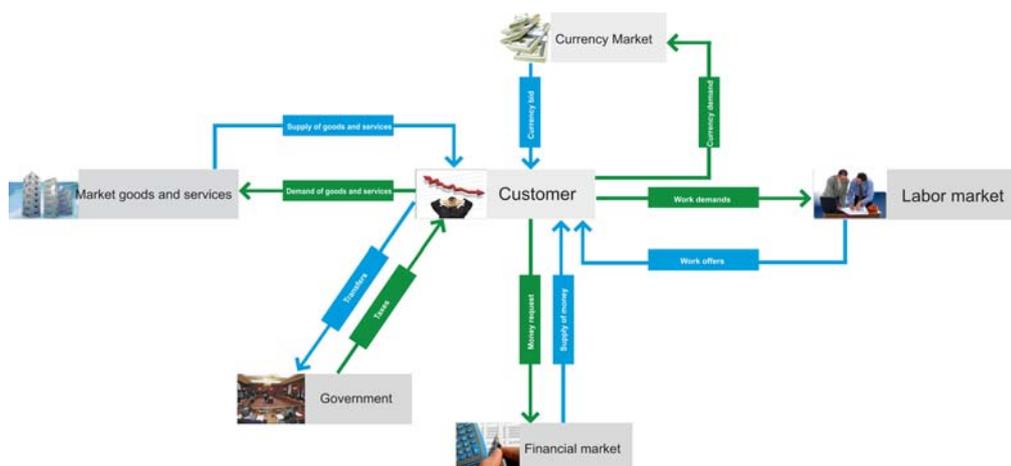


Figure 1. Economic Connections with the Cybernetic System Consumers

The state a household reaches after consuming products and services acquired during a given period of time represents the utility of consumption. The economic purpose of each household is to maximize its obtained consumption utility given the fact that consumption is limited by the available income, which is obtained consequently to renting services from production factors that it owns. [ScEChIN1997].

Multi-agent Systems

Agents and multi-agent systems are a new method of analysis, modeling and software implementation of complex economic systems. They can be used in a great variety of applications, from the simplest to the most complex ones. Although at present time there are a great number of valuable studies and applications dealing with agent-oriented technology, it seems it was not entirely accepted by the economic software industry. The resistance against its adoption also comes from the fact that it is considered a much too academic paradigm to be applied in real projects. Given the context, this chapter presents the contributions of multi-agent systems like a way of taking advantage of their properties in the process of developing intelligent informational systems in the economy.

In economy, the term “agent” refers to either the representative agent, or the relationship between the agents in order to solve a problem. By representative agent, economy refers to the agent with the features that the best economic agent would possess, that is to say it refers to the sum of features that economic actors within the model could possess. In the field of Information Technology, although the term “agent” can be found more and more often in its most important component domains, it still does not have a definition entirely and unanimously accepted by the majority of specialists. A definition especially used in this domain is the one issued by Gerhard Weiss, Michael Wooldridge and Nicholas R. Jennings: „An agent is a hard and soft system placed in a certain environment and capable of autonomous actions within that environment in order to complete its task.” [WoMJENR1995], [WeG1999]. The most important features of an agent are autonomy and interaction.

Autonomy refers to the fact that agents are capable of acting without human or other systems’ intervention, that is to say they are in control of their own behavior and also of their internal state. Interaction involves the collaboration between the agents for achieve the purpose.

Agents are assigned roles in the scenarios of use, so that that each agent has a set of actions that can represent its capacity to bring modifications to the environment it resides in, but all the actions an agent can perform cannot occur no matter the situation. For example, the action

“analyze the household consumption between the years 2004–2007 considering its income” can be successfully preformed only if necessary information is available (the income for the 2004–2007 period is known).

The systems including several agents are called multi-agent systems and can model problems generated by complex domains. In this situation, agents can have common goals and sometimes even opposed goals. Within a multi-agent framework system, agents can interact with any other agent, either indirectly (by actions oriented towards the environment, or directly (by communication and negotiation with each other) and can decide to cooperate for common benefits or can compete for their own interest.

The construction of agents is the most important stage and it is done considering the imposed necessities. An agent must consider: the mechanisms that transmit and receive input data; the way input data and previous actions are stored; the way output data is distributed. A system of agents can be built by the means of production systems or other processes.

Production systems are the most simple and effective ways to build agent-based models. These systems are formed of three components: the group of rules (knowledge base) – represents the main component and helps choosing the action that follows; the working memory – the area where rules are saved; the rule interpreter – represents the mechanism of reason based on rules or the rule chaining mechanism [TaPA&all1998]. Production rules serve to represent procedural knowledge in the form of modular constructions as in:

IF {data template or condition} THEN {processing or actions or conclusions}

An example of production rule is this one: IF random variables are correlated THEN estimators can be calculated. Learning is a feature of intelligent agents and this means that an agent can learn at any time new rules and can add new knowledge to the working memory. For learning, neuronal networks or evolution algorithms can be used. In using learning methods, there must be a person to decide the scale at which the model should work.

Designing a multi-agent system for consumption forecast

This section presents a proposal of intelligent multi-agent system architecture, which addresses individuals who need a consumption prediction, considering a series of exogenous factors. The system architecture started from a series of purposes and necessities, some of them being: the capability to take as many factors that can influence future consumption as possible; the capability to gather data in an electronic format, from a Microsoft Excel file or from a database; tracking interactions between agents; capability to interpret obtained values; capability to choose the model which performs the best consumption forecast.

The structure of the system was built by the means of an agent-based designing methodology. This methodology implies following three steps, each of the steps generating one model. The first step of the methodology will generate the agent model, that is to say the agents and the attributes of each agent will be defined. The second step will generate the organizational model, which will perform an operational description of each agent, identifying their roles. The third and last step will generate the cooperation model, which will contain the messages changed by the cooperating agents.

The agent model – description of constraints

The designed multi-agent system has a variable structure consists of three main agents, each of them having a number of obligations and a number of four agents who will intervene if is

needed. The four agents involved in the system verify the four assumptions of the model and intervene if they are not met. The architecture of the multi-agent system is presented in figure 2.

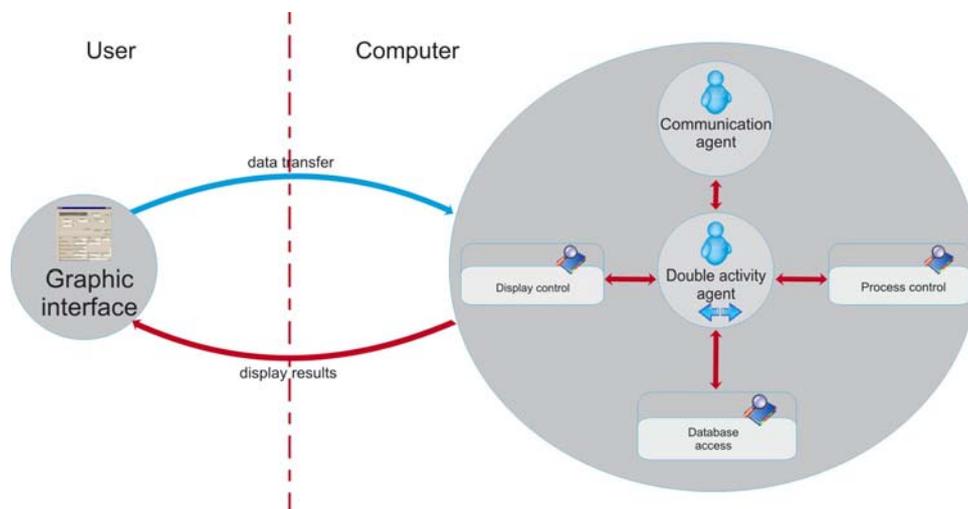


Figure 2. Multi-agent system architecture

From a practical point of view, the system has the following components: user interface, agent and processes. As it can be observed from figure 2, the agent is the one that makes the connection between the user and the processes that run within the system. The user provides the agent with all the necessary data in order to make the forecast and from that moment on, he (she) does not know anymore the way data is being processed. After the calculation process is over, the user will be provided with the results and their interpretation. The agent which takes the data input by the user (independently from the manner this is done), has another role, the one of supervising the interactions between the agents which processes this data. Thus, this agent can also be called a “double agent”.

Behind the double agent, there are other agents for which the double agent checks and evaluates the requests. An example of request that it must evaluate and send to the agent that will solve it is given by the situation when one of the hypotheses of the least squares method is not carried. Each hypothesis that must be checked (for the assessed parameters of the model to be correct) will be processed by an agent who communicates with the double agent, thus keeping permanently in touch with the other agents. The data provided by each agent will be detained in a database which will also keep the predicted values of the factors influencing consumption and also the value of the forecast consumption. The data can be used at a later time for forecasts covering larger periods of time.

The operational model – role identification

The operational chain of the system architecture is presented in figure 3.

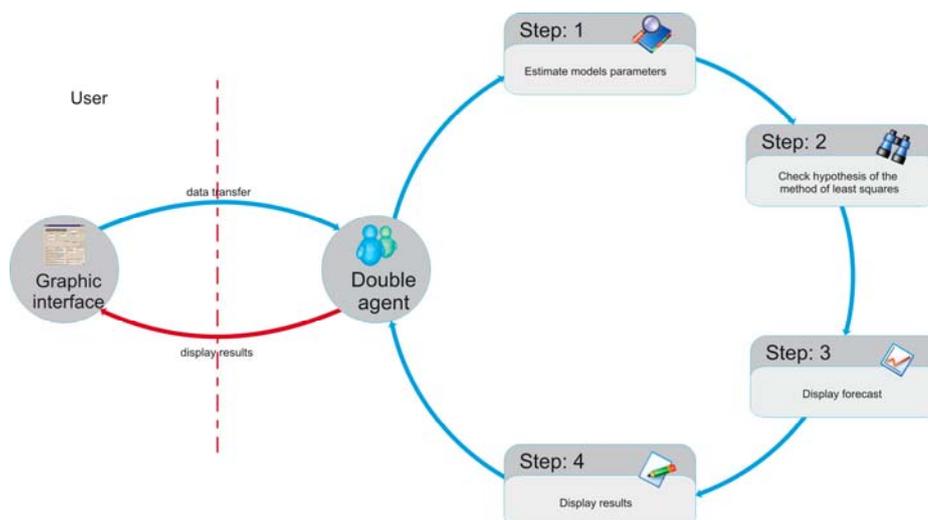


Figure 3. Multi agent system operational model

The architecture begins with receiving from the user the input data necessary for forecasting the factors influencing consumption and then consumption itself. The data input by the user is taken by the double agent, which will send it to the first agent to assess the parameters of the model. The assessments made by agent number two will be transmitted to the agents that deal with checking the hypothesis of the least squares method. Each of the agents will check its own hypothesis. In the event that the hypothesis does not pass checking, the data in the database will be modified and a new request for reassessment of parameters will be issued to the double agent, minding the new values. The received request will be transmitted to the agent who reassesses parameters. The process goes on until all hypotheses confirm. When all hypotheses confirm, the assessed values of the parameters will be sent to the agent who makes the forecast. It will calculate the predicted values of the factors and then it will calculate future consumption. The forecasted value of consumption will be transmitted to the double agent, which will print it to the user. The forecasted data will be introduced in the database and will be used for the calculation of future periods for which consumption forecasts are needed.

The Cooperation Model – relationships between agents

The cooperation model is described in figure 4.

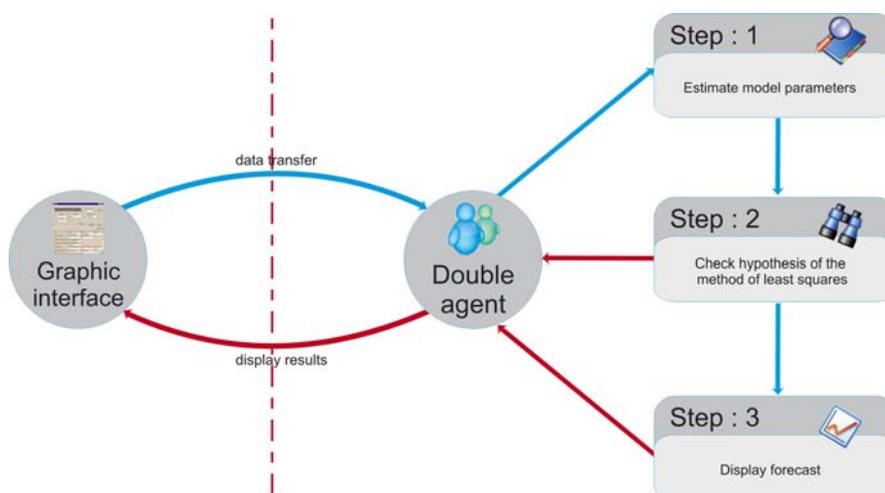


Figure 4. Cooperation model of the multi-agent system

As we stated in the beginning of this subchapter, the cooperation model presents the relationships between the agents.

As it can be observed in figure 4, the most important and probably the most difficult role is the one of the double agent. The difficulty of this role resides in the fact that it has a double role: to take the data from the user and to intermediate between the agent who assesses parameters and the agent who verifies hypothesis.

Conclusions

As a conclusion to this paper, it may be said that the intelligent agents are a smart solution for ever increasing needs of a large number of users. Due to the speed with which the information is processed, using an intelligent agent will allow individuals to be freed from certain tasks that required more time and which required repetitive activities

The adoption and using of modern technologies in econometric models generate advantages and important benefits, enable decisive actors to make the most adequate decisions that shall guarantee the success of their businesses and better the activities of each organization.

References

1. [AnI&all2001] ANDONE, I., DOLOGITE, D., MOCKLER, R., ȚUGUI, A. - *Dezvoltarea sistemelor inteligente în economie*, Editura Economică, București, 2001
2. [CaKM1994] CARLEY K.M. - *An Introduction to Evolutionary Theories in Economics, chapter Adaptive Organizations and Emergent Form*. Springer-Verlag, 1994
3. [FePViM2003] FEVRIER P., VISSER M. - *Measuring Consumer Behavior Using Experimental Data*, *Journal of Economic and Behavior Organization*, 2003
4. [IvIViA2005] IVAN I., VISOIU A. - *Baza de Modele Economice*, Editura ASE, București, 2005
5. [JiZMaZWaH1994] JIANG Z., MAO Z., WANG H. - *A Theoretical Analysis of Optimum Consumer Population and its Control*, *Chinese Journal Population Science*, 1994
6. [MaMF&all1991] MAGRABI F.M., CHUNG Y.S., CHA S.S. - *The economics of household consumption*, Greenwood Publishing Group, 1991
7. [MaV2009a] MAZILESCU V. – *A Real Time Control System Based On A Fuzzy Compiled Knowledge Base*, *The 13th CSCC Multiconference, Rodhos, Grecia, July 22-25 2009, Track: Artificial Intelligence. Computational Intelligence*, p 49-55
8. [MaV2009b] MAZILESCU V. – *A Processing Algorithm For A Production Predictable System*, *The 5th International Conference on Dynamical Systems and Control, track: Control Theory and Advanced Applications, La laguna University, Tenerife Canary Islands, Spain, July 1-3 2009*, p 140-145
9. [OpG&all2004] OPRESCU GH., IMPERATO A., ANDREI A. - *Cibernetica Consumatorului. Abordare Statică și Dinamică*, Editura ASE, București, 2004
10. [PeEȘ2005] PECICAN E.Ș. - *Econometria pentru...Economiști*, Editura Economică, București, 2005
11. [ScEChiN1997] SCARLAT E., CHIRIȚĂ N. - *Bazele Ciberneticii Economice*, Editura Economică, București, 1997
12. [ScEChiN2003] SCARLAT E., CHIRIȚĂ N. - *Cibernetica Sistemelor Economice*, Editura ASE, București, 2003
13. [StS2003] STANCU S. - *Modelarea Cibernetică a Fenomenelor Economice. Teorie și Aplicații*, Editura ASE, București, 2003
14. [StJD2000] STERMAN J.D. - *Business Dynamics: Systems Thinking and Modeling for a Complex World*, Irwin Professional/McGraw-Hill, New York, 2000
15. [TaPA&all1998] TACU A.P., VANCEA R., HOLBAN ȘT., BURCIU A. - *Inteligență Artificială. Teorie și Aplicații în Economie*, Editura Economică, București, 1998
16. [VIN2003] VLASSIS N. - *A Concise Introduction to Multi-agent Systems and Distributed AI*, Informatics Institute, University of Amsterdam

17. [WeG1999] WEISS G. - *Multiagent Systems: A Modern Approach to Distributed Artificial Intelligence*, MIT Press, 1999
18. [WoJM2000] WOOLDRIDGE J.M. - *Introductory Econometrics. A Modern Approach*, South-Western College Publishing, 2000
19. [WoM2002] WOOLDRIDGE M. - *An Introduction to Multiagent Systems*, Wiley and Sons, 2002
20. [WoMJeNR1995] WOOLDRIDGE M., JENNINGS N.R. - *Intelligent Agents: Theory and Practice*, *The knowledge engineering review* (10), 1995

U.S. Dollar - Supremacy in the Global Economy

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Abstract

World economy is the result of an evolutionary process of development of the reciprocal exchange of activities, from lower forms to higher forms, from simple to complex. U.S. dollar needed 40 years to remove the pound sterling, which required shifting a lot of time, only that the dollar had a history before and years of experience at that time.

Keywords: american economy, dollar exchange, economic supremacy, Central Banks

1. Introduction

For a long time, starting the early human society and long after the industrial revolution, fair trade was practiced mainly at the level of individual farming. The economy was a closed network, tending only to meet auto producers requirements¹⁴⁰.

It is however needed a brief presentation of the U.S. currency, the most marketable product in the U.S. In 1785, two years after the war of independence of the English colonies in North America (1755 - 1783) and two years before the adoption of the Constitution, Congress has decided that the U.S. currency unit shall be a confederation dollar. For 141 years, was kept the dollar legal value in gold set in 1792, which remained a record for longevity. In 1913 was established the Federal Reserve System.

Financing needs generated by First World War and the U.S. participation resulted in an inflationist increase of prices of 12% (1913 to 1920). In 1934, after four years of economic crisis, the U.S. national income was reduced by 50%, the market price was subject to a cruel disinflation, with 15 million unemployed. President Roosevelt decided drastic devaluing of the currency by 41% and suppressing internal convertibility in gold. After Second World War, the U.S. dollar has lost 33% of purchasing power.

In the twentieth century, the dollar's international functions were developed and crystallized in spite of such events and circumstances of the above. Becoming the most widespread means of payment and reserve in relations between states, dollar exceeded pound sterling, which in fact, worked as international currency for two centuries. Dollar's increased force since 1940 was based on its relative stability compared to gold and other currencies and supported by economic, military and financial strength of the U.S. Starting from this fact and the absence of other comparable currencies with internationally impact, U.S. managed to impose the dollar as pivot of the international monetary system created at Bretton Wood.

¹⁴⁰ Mihai Chirila, George Crețoiu "World economy" – page 21

Bretton Woods Agreements has brought an era of general stability of the exchange rate that has lasted over 20 years. Under this system, the currencies were linked to the dollar and the fluctuation was permitted only to a percentage below or above the preset value. Extreme fluctuations of the exchange rate distort the market prices, causing some confusion among consumers, hamper development of international trade and hinder investment. Dollar was the only currency convertible into gold, thereby becoming on the world law level the dominant currency against other currencies of the countries acceding to the system.

In the 80's, R. Reagan end the largest disorder ever known of the American economy by manipulating the interest that the Federal Reserve imposed it over 20% when the Western country's did not exceed 10%. Foreign capital was attracted to the U.S. market so that demand for U.S. dollars increased spectacularly. In the same time increased supply of Western currency too, resulting in the most expensive dollar.

This hurt all the other countries, including Western ones because imports for oil and raw materials, which were paid in dollars, became more expensive by default. U.S. policy of higher interest rates had the effect of exporting inflation and unemployment from the U.S. to other countries. In addition to the solution of R. Reagan, nothing but an "economic engineering" - should also be mentioned the '60 period, when after the deterioration of U.S. balance of current payments because of the fact that Americans bought more from abroad than they managed to sell in their own currency, the Federal State accumulates large amounts of dollars, meaning billions, even hundreds of billions, especially in official foreign reserves and in accounts of many banks outside the U.S. The solution was found this time too, say Eurodollars and the idea of a substitution account. This process, however, weakened confidence in the stability of the dollar.

Eurodollars - noted for the least informed - are fortunes expressed in U.S. dollars, belonging to individuals or legal entities, which move outside the issuer state, resulting in an extraterritoriality of places of management and owners. On European markets, the operations are of non-residents in relation to the currency used as support. Their origin is found in Korea, when the Soviets withdraw their assets placed in the U.S. and transferred them to London for fear of freezing of the capital.

U.S. dollar needed 40 years to remove the pound sterling, which required shifting a lot of time, only that the dollar had a history before and years of experience at that time. Euro is of course supported by an important entity, but has no "money" experience in their own right (there is the experience of former national currencies of the Member States of EMU), therefore evolution is likely in both directions and for both currencies. It remains to be seen if Europe will get back to the U.S. and if dollar will pay interest on sterling pound." U.S. officials consider that a major alteration of dollar status will only occur in an internal political crisis or an economic crisis. Just as the U.S. dollar could not replace the pound sterling in England in its quality as first reserve currency of the world until a world war has forced investors to actually cross the Atlantic, so it is unlikely for the euro to replace dollar in the near future, but this future may be closer than many of us see it, given the circumstances of an outbreak of war in Iraq, with the U.S. directly involved.

Dollar going to collapse?

It is a question often found in the European press. The reason is not difficult to suspect. For years, no one bets on the dollar, but euro or yen. Flee before the dollar became even more evident in the current crisis on the U.S. credit market. But there are also contrary views that might surprise many people. The "The Telegraph" experts believe that Greenback patient

("green ticket", as it says the dollar) will not give away this year or in 10 years or 20 years, not in half a century, since none of the rival powers has no economic deep needed to end American domination. The highest hopes were placed in Europe, which they say that it "decoupled" from America and would try to go alone. Germans bluntly declared that like the strong euro and feel good at an exchange rate of 1.38 dollars. Not surprising. German economy has adapted to new conditions. She has, after 1995, a gain of competitiveness of 20% over the French economy and 40% of that Italian. But it draws attention that the euro area is not only Germany part of.

If the German economy is not felt by the considerable appreciation of the single currency, the other economies from euro area, especially those in the south, give signs of suffocation. Some experts consider that French, Italians, Greeks or Spaniards are on the verge of collapse. The Italians will not stand if it will maintain the current exchange rate of euro-dollar. Rome needs a 15% depreciation of the euro to compensate for lack of productivity.

This requires that wages be reduced by 15-20%, or exit from the euro area. Italy has been faced with such a problem in 1927, when Mussolini used the dictatorship installed in the country to cut off the salaries by 20%. Today something like that is possible only with the price of serious social disorder. No euro depreciation is possible if Berlin considers inflation as sacrosanct.

It is clear that a currency can not survive without a country or a strong union. Dollar is supported by first world economy. Euro is behind his union, but union is gimpy. EMU is based solely on the common monetary policy. Other common policies, including tax one, are missing. Such gearing can work for a while, but will benefit the strong over weak. So in the end will lock. If Europeans will not accept a deeply political and economic integration, the current state of things will become unsustainable.

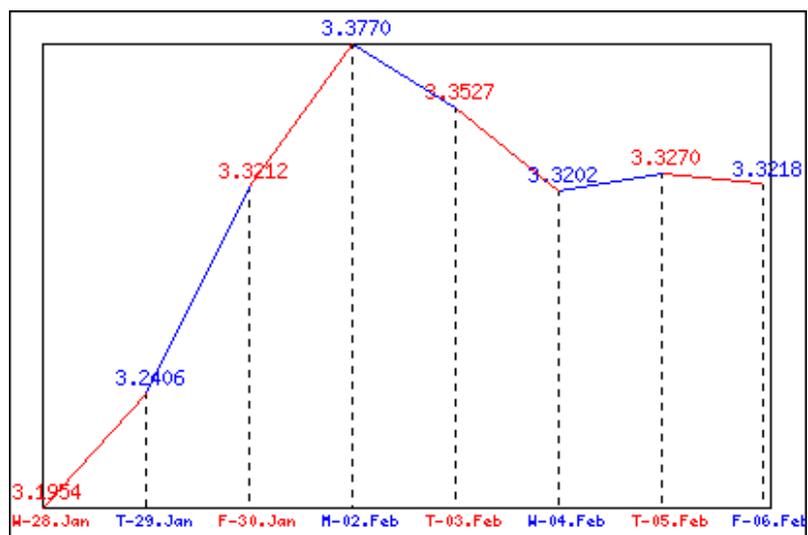
Meanwhile, what happens in the euro area makes more current the warning of BNR Governor, Mugur Isărescu who spoke recently of a trap that could enter the Romanian economic policy: "Strengthening the Romanian currency has a limit and otherwise we will have adverse effects." In fact, you can not have a currency awarded and repeater productivity. If Europe is not prepared to give the dollar down from the pedestal, what opportunities has Japan, the second economy in the world after the U.S.?

Analysts from "The Telegraph" offer not even one. Japanese society is marked by an aging and decreasing population and the economy is stigmatized of deflation, i.e. negative inflation, which reduces both the production and wages. How could yen - the currency of a country facing so many structural problems - take over the marshal stick from U.S. dollar?

For the reasons already mentioned, writes "The Telegraph", XXI century will be an American one, as the twentieth century. Yankees could be forced to raise a little belt - after all Greenspan sins (former employer of the central bank) and the Clinton-Bush generation sins too, during which were swollen current speculative bubble - but the dollar remains the reserve currency of the world long after "euro will be gone" and "yen will be forlorn"¹⁴¹.

¹⁴¹ Gh Cercelescu - Newspaper "Gandul" - 25 August 2007

Dollar graph 2007 - 2008

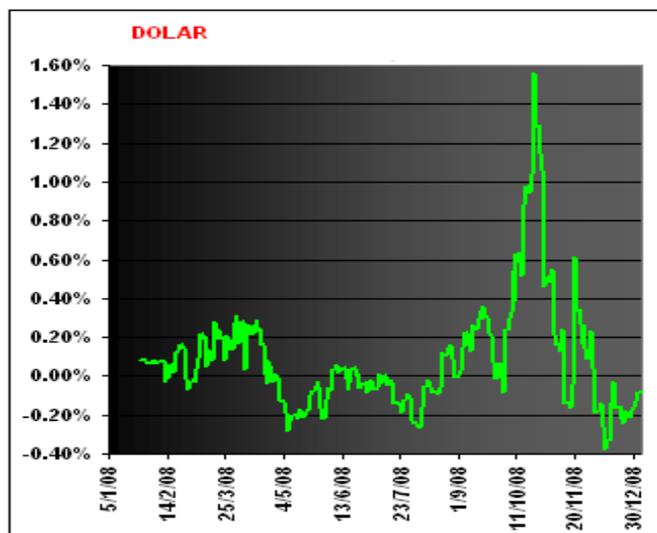


U.S. dollar gradually lost status of the main reference currency globally, for the euro, but the sudden shift to another currency would create, during present conditions, more problems in financial markets, told Reuters the French Minister of Economy¹⁴². "Change is gradual and better reflects the qualities of the dollar, on the one hand, and the euro, on the other. The process should be as slow as they do not want a major change in this period of high volatility, which would induce new difficulties and even greater volatility", showed Lagardè in an interview with Press Agency. U.S. dollar is, since 1944, the main reference currency of world financial system and has remained the preferred international currency too after the introduction of current model of currency markets, in 1971, followed by the euro. Financial crisis has provoked great debates on the structure of the international financial system, including the role of the dollar. "I think it is a matter of balance, of relative force. Europe's economy as a whole is the largest player globally, and as euro area increases the single currency strengthens and becomes even more attractive, in many ways, "continued Lagardè.

¹⁴² Christine Lagarde, Paris, 07.11.2008

French Minister added that the Group of Seven strong industrialized nations will maintain its position against strong fluctuations on the foreign exchange markets, which are considered undesirable. Asked if the G7 is ready to intervene directly in currency markets, Lagarde said "we must look at the situation, to look at reality, the movements that take place - but there are a set of tools and none is prohibited".

Evolution of dollar rate - 05.01.2008-30.12.2008



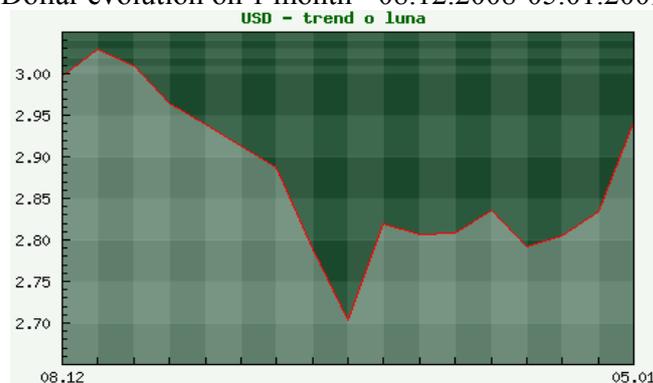
Bad state of the reference currency induces a bad state of world economy. So the question related to U.S. dollars is of general interest. Dollar has recorded the worst proportion against the European currency since the emergence of this exchange mechanism (euro-dollar above 1.57). Also, sterling pound has exceeded two U.S. dollars and yen has not been so strong against U.S. dollars for 12 years, lowering even the benchmark history of 100 dollars. Same evolution for the Swiss franc, as if only the dollar is under pressure and only the U.S. economy has problems. And even if the reality is somewhere close (America has problems bigger than Europe, at least for now), accumulation of dissatisfactions in the market around the dollar lead to imbalances. Weak dollar is not just a point issue. Because on this level of listing, the central banks of the Middle East area, for example, large depositary of dollars, start to convert their savings into gold or other currencies, which should not be so volatile, and may gather in around them more consistent. In this climate, rapid exit of investors from the dollar, as expected, can lead to a collapse of the dollar as the current stock would not be a very serious and dangerous for all that means predictability and stability. But has the real motivation of this devaluation a support in the development of American economy? This is the fundamental question that can transform fatalistic responses into legitimate concerns. Maybe the link is not directly proportional, it may even be exaggerated to support this, but the first consistent signs of recession are felt. A decrease in domestic demand on the U.S. market has been interpreted recently as a first step that will lead to increased unemployment and all the major macroeconomic problems will be opened, in a pessimistic scenario.

These wild developments have led all central banks to the conclusion that isolated interventions - as infusion of 200 billion dollars in the U.S. economy - may no longer be effective. Coordinated intrusions, it seems to be the new strategy. But how successful can be? In fact, things are very complicated concerning the mechanism of interest. Bank of Japan already has an interest of only 0.5% and interest have been around this value for years without causing a new dynamism to the economy, which is more dependent on exports to the U.S. Exports are more expensive. In Europe, the central bank does not want to risk against inflation and keep interest at 4%, although a smaller step would be a sign for moderation of euro growth against the dollar, but the medium term could come in favor of European exports and economy. But this is on long-term. Battle of the central bank in Frankfurt, however, is too close and the stakes too high to lose any time. So interest is four and the euro strong. In the case of EDF, interest in U.S. dollars could make the difference. EDF believes that only a small

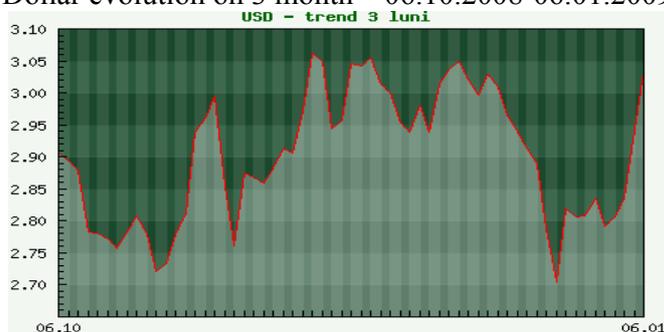
interest can stop the recession and then does not increase the interest, just lowered to 2.25 percent. But in these circumstances, in which each central bank pursues a personal preoccupation, current situation perpetuates until, in an optimistic scenario, the U.S. economy will start to rise, pulling after it the Japanese one, and inflation in Europe will not go significantly two percent.

Until then, if this positive scenario will come, the dollar will be trundled down by all currencies and evil, that is hardly filled imbalances, will be produced already. And these are the first consequences of a situation that causes, with the emergence of weak dollar, oil price increases - more expensive than \$ 110 per barrel - and hot gold - on more than 1,000 dollars. This is not talking about conversions so directly proportional to the monetary developments, but rather about trends manifested by increases in nominal and real prices. Will central banks be able to recover their private interests to see the common interest? Who will make the first step? And mainly when? Or the dollar - a small coin - is the new reality of the world economy that need to be normal¹⁴³.

Dollar evolution on 1 month - 08.12.2008-05.01.2009



Dollar evolution on 3 month – 06.10.2008-06.01.2009



Dollar evolution on 1 year – 07.01.2008-06.01.2009



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Conclusions

America owes its current economic development level to the historical factors, such as lack of feudalist period, social factors and experiences that people of the colonies gained over the period of imperial domination, thus learning to organize, to lead and to provide products for own consumption by their own forces, as well as to the riches existing on this continent. America's force comes from its previous failures and the Keynesian theory crisis pictured by 70's recession. Indeed, this seemed to announce the end of a theory based on stimulating of demand and on budget deficit that previously contributed - especially in Europe - to the success "30 glorious years 1945-1975". But S.U.A. is far from being the only one which buried in 1980 the ideas of Keynes. U.S. market economic model is at the confluence of two major theoretical models, namely:

- Neoclassical model (in this type of economy, state intervention is excluded);
- Keynes's model (in which state intervention is accepted as the only economic and decision-making agent).

Development of the United States is also supported, by other international economic leaders, such as the International Bank for Reconstruction and Development (IBRD) and International Monetary Fund (IMF). Now S.U.A. is respected, emulated and enviable taking again the leadership.

Boosting the U.S. economy which begins with power taking over by Reagan, is firstly based on assets without an equivalent, an important economic, financial and technological legacy; also shall not be ignored the contribution of labor categories to development and expansion of U.S. economy influence. The economic, political act and social measures are complementing each other, each of these components having some benefits from this communion of interests. Friendly circumstances, privileges which U.S. economy could benefit of, are mainly the following:

1. Capital stock which the United States did not cease to accrue from the end of the Second World War and until today, is incomparable. Within the boundaries, United States owns huge infrastructure, most of the most modern: airports, highways, universities, factories, real estate assets. Abroad, U.S. Multinational controls huge assets which are strongly underestimated by an accounting made mostly in terms of acquisition costs that do not take into account current revaluations.

2. Primary resources available to the United States are among the most important in the world. Energy reserves - especially in the form of natural gas and coal - are immense. With the exception of some strategic minerals, it possesses almost all metals. American human potential is fourth worldwide in terms of numbers, but first among civilized countries, and it is also richness without equal. So, could say that this state is sitting on a mountain of gold. However, all these would not be an advantage being in the possession of another economy because not every state is able to organize, manage and administer primary and secondary resources with so much discernment, how do the U.S. economy representatives.

For some even at this time there is trivial question "if Americans have so many resources, especially natural gas and oil, why are in first place in the classification of countries importing oil, exported by Middle Eastern countries?". The answer derives from the simple strategy used by American managers, meaning own resources must be kept with great care, used effectively, because as we know there is a real and permanent imbalance between unlimited human needs and limited resources of the planet potential. So, when Middle East oil resources will be almost zero, the United States will be among the few states that will be able to operate using production resources; thus proposed purpose will be achieved, because the time offered by the use of external resources can be used for development of new technologies that require the injection in the production of smaller quantities of oil or total replacement with other more efficient economically and environmentally.

3. Technology - in this area S.U.A. enjoys a significant advantage. The best researchers, the best engineers, the most gifted students came to work in the United States. They bring that famous capital on which everyone agrees that it is most important - gray matter - or the

intellectual capital acquired. From this standpoint, the United States speculates on the international employment market, to purchase the best specialists from other countries. This process of transferring values from countries that can not afford to support them as it should, on other countries that have this ability, is a very sad one but with beneficial consequences for the countries in the second category. Between them there is the United States which benefit from these advantages.

4. Monetary privilege, which proves to be decisive. Since 1945, the dollar serves as a reference currency for international transactions. It is also the main reserve currency that central banks collect in most countries.

A stable and strong currency confirms and also supports a developed, efficient, functional economy. Economic growth is the default. Strong currency provides citizens a greater security, a confidence in the currency in question, resulting in the stimulation of new investment, as it may prove the U.S. dollar over time. And, perhaps, is as they say "Every nation has the currency that it deserves.", because as long as people of an economic space do not understand that it takes time, patience, effort, sacrifice, loss and even experience to build a competitive economy, and ultimately obtaining profits - money - and therefore a high purchasing power, so long they will have an unstable currency.

References

1. *Caesar Basno, Nicolae Darcac, Constantin Floricel - Currency, credit, banks - Didactic and Pedagogic Publishing House, Bucharest, 2005*
2. *Jacques Portes - United States - a hiperpower? - Rao, Bucharest, 2003*
3. *Robert Gilpin - The world economy in the XXI century: the challenge of global capitalism - Polirom, Bucharest, 2004*
4. *Mihai Chirila, George Crețoiu "World economy" - 2001.*
5. *Mircea Malita, Gheorghe Olah, Ada Mirela Tomescu - University of Oradea, Faculty of Economics, 2002*
6. *Zbigniew Brzezinski - The great chessboard. American supremacy and its geo-strategic imperative - Enciclopedic Universe, Bucharest, 2000*
7. *Gh Cercelescu - Newspaper "Gandul" - 25 August 2007*

The Management of the European Agricultural Water Resources

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Abstract

The balance between water demand and availability has reached a critical level in many areas of Europe, the result of over-abstraction and prolonged periods of low rainfall or drought. Reduced river flows, lowered lake and groundwater levels, and the drying up of wetlands are widely reported, alongside detrimental impacts on freshwater ecosystems, including fish and bird life. Where the water resource has diminished, a worsening of water quality has normally followed because there is less water to dilute pollutants. In addition, salt water increasingly intrudes into 'over-pumped' coastal aquifers throughout Europe. Climate change will almost certainly exacerbate these adverse impacts in the future, with more frequent and severe droughts expected across Europe.

Keyword: water resources, water management, common agricultural policy (CAP), climate change.

JEL Code: Q25, Q28

1. Introduction

Protecting the quality of Europe's water resources has been a high priority for the European Union (EU) since it started adopting legislation in the area of environmental protection. The first directives, adopted in the mid-1970s, established a series of quality standards aimed at protecting human health and the living environment, including surface water used for drinking water, bathing water, fish waters, shellfish waters, groundwater and water for human consumption. In the same "generation" of legislation, a directive that set standards for the discharge of dangerous substances into the aquatic environment was for many years the main instrument to control emissions from industry.

Despite the vast amount of water on the planet, decades of unsustainable management mean that water shortages have reached crisis point in many regions. Globally, humans appropriate more than 50 % of all renewable and accessible freshwater, while billions still lack the most basic water services. Until now, most Europeans have been insulated from the social, economic and environmental impacts of severe water shortages. Addressing the issue of water scarcity requires not only a quantitative knowledge of water abstraction by each economic sector but also a strong understanding of the driving forces behind it. Critically, it is only by changing these driving forces that more sustainable management of water can be achieved.

In the EU as a whole, energy production accounts for 44 % of total water abstraction, primarily serving as cooling water. Twenty-four per cent of abstracted water is used in agriculture, 21 % for public water supply and 11 % for industrial purposes. These EU-wide figures for sectoral water use mask strong regional differences, however. In southern Europe, for example,

agriculture accounts for more than half of total national abstraction, rising to more than 80 % in some regions, while in western Europe more than half of water abstracted goes to energy production as cooling water. These sectors also differ significantly in their 'consumptive' use of water. Almost 100 % of cooling water used in energy production is restored to a waterbody. In contrast, the consumption of water through crop growth and evaporation typically means that only about 30 % of water abstracted for agriculture is returned.

Agricultural water use across Europe has increased over the last two decades, driven in part by the fact that farmers have seldom had to pay the 'true' cost of water. The Common Agricultural Policy (CAP) bears part of the responsibility, having in some cases provided subsidies to produce water-intensive crops using inefficient techniques. Recent reforms of the CAP have, however, reduced the link between subsidies and production from agriculture. In general, agricultural water use has now stabilised across Europe but at a high level. Demand for energy crops, however, has the potential to increase agricultural water use still further in future years.

A range of factors influence public water demand, including population and household size, tourism, income, technology, and consumer behaviour such as buying bottled mineral water. In addition, 'leakage' in the distribution and supply networks plays a key role in determining the amount of water reaching domestic premises. Public water supply in eastern Europe has declined since the early 1990s due to the introduction of metering and higher water prices. Recent economic growth in eastern Europe is, however, predicted to reverse the overall downward trend in the future. A similar but less marked reduction in supply is apparent for western Europe over recent years, driven by the implementation of water saving measures. Tourism can markedly increase public water use, particularly during the peak summer holiday months and especially in southern European coastal regions already subject to considerable water stress. In addition to using water for food, drinks and personal hygiene, tourism is associated with activities such as swimming and golf (because of the requirement to irrigate courses) that significantly increase water use. In southern Europe, tourism has helped to drive an increase in the use of public water in recent decades.

The abstraction of water for industrial use has decreased over the last 15 years, partly because of the general decline in water-intensive heavy industry but also due to technical developments such as on-site recycling of wastewater. Abstractions for use as cooling water have also decreased, primarily due to the implementation of advanced cooling technologies that require less water.

Traditionally, the management of water resources across Europe has focused on a supply-side approach. Regular supplies of water have been ensured using a combination of reservoirs, inter-basin transfers and increasing abstraction of both surface water and groundwater. The nineteenth and twentieth centuries, for example, were characterised by a rapid growth in the number of large reservoirs. Currently about 7 000 large dams are to be found across Europe, with a total capacity representing about 20 % of the total freshwater resource.

Problematically, the historically disproportionate emphasis on supply provided no incentive to limit water use in any sector, leaving the major driving forces of use unchanged. As a result it has promoted the excessive abstraction currently observed in many parts of Europe and the associated harm to aquatic habitats. Continued expansion of supply is not, therefore, a viable management option in the future, particularly given the anticipated increase in the frequency and severity of droughts across Europe.

Europe needs a sustainable, 'demand-led' approach to water resource management, focusing on conserving water and using it more efficiently. Integral to this is a more equitable approach to

water abstraction that addresses not only the requirements of competing economic sectors but also the need for healthy freshwater ecosystems. Successfully achieving demand-led water management across Europe will both address the need to adapt to climate change and contribute to lower energy consumption because water and energy use are closely linked.

The need for a more sustainable and integrated approach to managing water resources in Europe is already reflected in water-related policy and legislation. The Water Framework Directive, for example, requires the 'promotion of sustainable water use based on a long-term protection of available water resources'. The European Commission also recognised the challenge posed by water scarcity and droughts in a 2007 communication, which outlined the severity of the issue and presented a set of policy options focused on demand-side management to address water scarcity and drought across Europe.

Irrigated agriculture is central to the local (and in some cases national) economy in many parts of Europe. In some areas, ceasing irrigation could lead to land abandonment and severe economic hardship. Adopting a sustainable and efficient approach to agricultural water use is critical, therefore, not only to protect the environment but also to ensure agriculture remains profitable. Central to this, therefore, is a key requirement that national Governments invest in technologies and measures that improve the efficiency of water use by agriculture.

Various practices can be implemented to ensure that agriculture uses water more efficiently. These include changing the timing of irrigation so that it closely follows crop water requirements, adopting more efficient techniques such as using sprinkler and drip irrigation systems, and implementing the practice of deficit irrigation. In addition, changing crop types can reduce water demand or shift peak demand away from the height of summer when water availability is at a minimum. As with other water saving approaches in agriculture, providing advice, information and education to farmers will enhance their impact significantly. Both national and EU funds, including those disbursed under the CAP, can potentially play an important future role in financing measures to reduce agricultural water use.

Illegal water use, particularly for agricultural purposes, is a major problem in certain parts of Europe. Addressing the issue is a difficult but necessary political and technical challenge. It first calls for the detection of illegal abstraction sites, potentially followed by fines or penalties as a deterrent and subsequent surveillance.

Introducing energy crops should not lead to an increase in water use, particularly in areas of water scarcity, but should instead serve as an opportunity to reduce agricultural water demand. In this respect, energy crops that have a low water demand or are drought tolerant are clearly preferable to the current first generation energy crops.

Modern domestic appliances and fittings are much more water efficient than their predecessors, implying the potential for future reductions in demand from the public water supply. Increasing the use of these modern technologies across Europe remains a challenge. Agriculture is a significant user of water in Europe, accounting for around 24 % of total water use. This share varies markedly, however, and can reach up to 80 % in parts of southern Europe, where irrigation of crops accounts for virtually all agricultural water use. In many regions within southern Europe, crop irrigation has been practised for centuries and is the basis of economic and social activity. Indeed, the importance of irrigation in some southern locations is such that in its absence great economic hardship would occur with the potential for land abandonment.

In northern Member States, agriculture's contribution to total water use varies from almost zero in a few countries, to over 30 % in others. While water for irrigation is important, a significant proportion of water use in northern countries goes to livestock consumption (drinking) and cleaning livestock housing and yard assembly areas. Across the United Kingdom, for example, the irrigation and livestock components each contribute around 50 % of the estimated 300 million m³ of water abstracted for agriculture each year. Generally, the use of water for livestock in the north occurs in areas with sufficient rainfall, where water stress is rare. As a consequence, this chapter focuses on water use for crop irrigation, particularly in southern Europe where it predominates and its adverse impacts are most marked.

In arid and semi-arid areas of the EU, including much of southern France, Greece, Italy Portugal, Cyprus and Spain, irrigation allows for crop production where water would otherwise be a limiting factor. In more humid and temperate areas, irrigation provides a way of regulating the seasonal availability of water to match agricultural needs, thereby reducing the risks to crops during periods of low rainfall or drought.

While enhancing the yield and quality of crops, irrigation can and does lead to a range of negative environmental impacts, including water scarcity. In addition, significant inputs of fertilisers and pesticides are typically applied to irrigated land to enhance production. Such chemical inputs can be greater than those associated with more traditional rain-fed cropping. Adverse impacts upon water quality are therefore common. The detrimental effects of excessive agricultural water use are exacerbated by its relatively high consumptive use. Although some irrigation water is 'returned' to groundwater via percolation, consumption through plant growth and evapotranspiration is typically significant and approximately 70 % of water abstracted does not return to a water body. Irrigated agricultural land comprises less than one-fifth of the total cropped area globally but produces about two-fifths of the world's food

2. Trade patterns and subsidies

Although recent commitments under the World Trade Organization are driving a gradual reduction of border protection (EEA, 2006b) the influence of markets and competition upon agriculture in the EU has historically been buffered by subsidies to farmers. These subsidies have helped to ensure that while most Member States operate charging systems for water abstraction by means of permits, licences or more general user costs, agriculture does not have to bear the true cost of its water use. In the EU as a whole, especially where large collective irrigation networks are managed by public bodies, the price of water to farmers rarely reflects its full resource and environmental cost, and hence does not act as an incentive to reduce over-abstraction. In addition to national funding mechanisms, some irrigated crops have historically received significant support under the EU Common Agricultural Policy (CAP). These subsidies buffer the impact of global markets and competition, and have led to increased water use and a shift of traditional rain-fed crops to irrigated cultivation. In Spain, for example, olive production has traditionally been rain-fed but is now the main water consumer in the Guadalquivir region in Andalusia; nearly 300 000 ha of land devoted to olive production are now irrigated in the Guadalquivir river basin. CAP subsidies have also been used to support water-intensive crops such as cotton and rice that are often grown using inefficient irrigation techniques. In Greece, for example, a significant proportion of cotton is grown using flood irrigation, which requires 20 000 litres of flood water to produce a kilogram of harvested crop due to high levels of surface runoff and evaporation. Drip irrigation of cotton can require 7 000 litres per kilogram of crop, although that is still seven times higher than the volume of water needed for the production of a kilogram of wheat. While linking subsidies to production has contributed to the growth of irrigated agriculture, recent reforms of the CAP are leading to a decoupling. In addition, the reforms have strengthened the incentives to farm in an

environmentally sensitive way through the adoption of agri-environmental schemes. Such schemes encompass measures related to the water resource, with the potential for a more sustainable use of water by agriculture in the future.

Future increases in atmospheric carbon dioxide levels and temperature are expected to promote a lengthening of the crop growing season, resulting in increased crop yields and a general northward shift of crops in Europe. Such changes have already been observed over recent decades, with the flowering of winter wheat occurring 2–3 weeks earlier now compared to 30 years ago. The degree to which these potential future increases in crop yield are realised will, however, be strongly dependent upon the availability of water. Annual average water availability is likely to increase generally in northern Europe. Availability in the summer months, when crop water demand peaks, may decrease, however, in some areas. In southern Europe, increased temperatures and decreased precipitation will result in a general decrease in water availability, increasingly exacerbated by an increase in the frequency and severity of droughts. In southern locations and certain areas of the north, therefore, the requirement for irrigation water is likely to rise in the future. Without appropriate management the competition for water between agriculture and other sectors is likely to increase, with a progressive worsening of water scarcity. In some southern locations, lack of water in the future may limit agriculture, causing the growing season to contract. The European Union and its Member States are committed to increasing the use of renewable energy sources, including biomass, with an EU target of a 10 % share of biofuels in transport by 2020. This will markedly increase future demand for energy crops and thus total agricultural output. Associated changes in land use and practice will have significant implications for agricultural water use depending on the crop type. If the demand for biomass from energy crops is met using standard arable crops then agricultural water demand is likely to increase, perhaps necessitating greater use of irrigation. The introduction of new energy crops has the potential to change water use but whether the outcome is an increase or a decrease will depend on the type and management of both the introduced and replaced crop. In areas of water scarcity, any introduction of new energy crops should not lead to an increase in water use and should be used as an opportunity to reduce agricultural water demand. In this respect, certain less water demanding

The supply of water in an irrigation system can depend upon pressure or, more traditionally, gravity (without pressure). Pressure systems include sprinklers and drip irrigation systems, while gravity systems include flood irrigation of whole fields and furrow irrigation using shallow channels or ditches to carry water to the crop. Pressure systems are generally more efficient in transporting water to crops than traditional gravity systems. Although the traditional gravity approach is still apparent in Europe, particularly in the south, it is steadily being replaced. Irrigation water can be sourced from groundwater using wells or boreholes, on-farm surface water from ponds and rivers, and off-farm surface water sources using a water distribution infrastructure connected to, for example, storage reservoirs. The continual expansion of all these sources has helped drive the growth in irrigated agriculture across Europe. The illegal abstraction of water for agricultural purposes is commonplace in certain areas, however, particularly from groundwater sources. Illegal water use may involve drilling an unlicensed well or exceeding a consented abstractable volume from wells that are licensed. In addition, it can occur from surface waters using transportable pumping devices.

Irrigation can be 'permanent', implying that it is practised throughout the year; 'support', meaning. The southern Member States have the greatest absolute area equipped for irrigation (in 2005), with Italy (3.97 million hectares), Spain (3.77 million hectares), France (2.71 million hectares), Greece (1.59 million hectares), Romania (0.81 million hectares) and Portugal (0.62 million hectares) the six largest. Combined, these six countries contribute almost 84 % of the total irrigated area across EU-27. Italy, Spain, France and Greece all exhibit a broadly

increasing trend in area equipped for irrigation between 1990 and 2005. This growth has been rapid for Spain and France, although both now show a small recent decline between 2003 and 2005. In Portugal a general decline in equipped area is apparent between 1990 and 2005. Overall, the area under irrigation in the northern Mediterranean countries is expected to remain broadly constant in coming years, although agricultural development policies in the southern and eastern Mediterranean countries include plans to extend the area of irrigated agriculture. In this respect it is worth noting that in countries such as Turkey, agriculture plays a much greater role in the national economy than elsewhere and that the high agricultural water use is to some degree compensated for by a relatively low use by industry. By combining information describing area equipped for irrigation with a soil water and crop growth model, the European Commission's Joint Research Centre has predicted irrigation water demand for the EU and Switzerland. The findings reflect the importance of irrigation to agriculture in much of southern Europe and illustrate the approximate volume of irrigation water demand within a defined spatial unit.

3 Sustainable use of water for agriculture

The relationship between environmental objectives and the functioning of water systems can be very complex. In an institutional context where environmental objectives are given no real expression (either within institutions or among decision makers), the water sector will tend to reflect this situation and is very unlikely to produce positive environmental effects. For example, if the overall effect of economic policies is to favour rapid economic growth with intensive use of water-polluting production processes, as is presently the case, for example, in China, the water sector will only amplify this, since water will be allocated to the activities favoured by these industrialisation policies. This general consideration notwithstanding, better water management can be useful for attaining environmental objectives under various circumstances. The traditional government response to growing demand has been to construct water control and distribution infrastructure. These projects have usually had a negative environmental impact; so, better management is one option for avoiding or reducing effects of this kind. Economic viability means the benefits are more than the implied costs. Financial sustainability means an activity can be carried on without the need for additional outside financing. Environmental sustainability is defined as a lasting solution that does not affect the environment negatively. Social sustainability would be a solution that is socially acceptable in a given social and cultural context. Finally, total sustainability would then be the combination of economic, financial, social and environmental sustainability.

Traditional supply-orientated approaches aim to secure a sufficient supply of water for agriculture by, for example, building reservoirs, inter-basin transfers and exploiting new abstraction points from both surface and groundwater. Generally, however, such practices are not sustainable in the longer term and simply exacerbate the adverse impacts of agricultural water use. In contrast, a number of demand-side measures together with some potentially sustainable supply approaches can address agricultural water use in a more sustainable way. These include the re-using of treated waste water; improving irrigation systems; modifying agricultural practices; implementing policy measures such as water pricing; and establishing farmer advisory schemes.

In areas where water is scarce, treated wastewater provides an alternative source of water for irrigating crops. Depending upon the level of treatment, it can be relatively nutrient rich, reducing the need for additional applications of inorganic fertiliser. Although potentially beneficial to water resources, the re-use of wastewater for agriculture raises soil contamination and public health concerns, particularly with respect to pathogens and hazardous substances. As a consequence, the practice is regulated according to quality criteria or standards regarding,

e.g. microbial concentrations, often based on established guidelines. In addition, some countries have implemented standards for irrigation techniques and minimum distances to separate irrigation sites from residential areas and roadways. Currently, however, no harmonised Europe-wide regulations exist and the quality standards implemented in different countries vary.

Irrigation efficiency can be improved by improving conveyance efficiency, field application efficiency or both. Conveyance efficiency refers to the percentage of abstracted water that is delivered to the field. There are large differences in conveyance efficiency depending on the type of irrigation network. In open channel networks, efficiency varies between 60% and 95%, depending on the quality of maintenance, the lining used and the length of the channels. The conversion from open channels to pressurised pipe networks can, therefore, be an important water saving measure. Field application efficiency is the ratio between the water used by a crop and the total amount of water delivered to that crop, indicating how well an irrigation system performs in transporting water to the plant roots. A strong contrast is apparent when comparing furrows with sprinkler and drip systems, with the former having an efficiency of around 55 %, sprinklers 75 % and drip systems 90 %. Drip irrigation systems, however, are not suitable for all crops and soil types.

Increased irrigation efficiency can, however, result in either no change or even an increase in water used, when the gains in efficiency simply drive an expansion of the irrigated area. For example, García (2002) reports that drip irrigation technologies that were subsidised in the Valencia region of Spain did not lead to reduced application rates. Furthermore, research in Crete has revealed that the technical efficiency of some farmers using drip irrigation systems is low and they are not fully exploiting the potential water resource savings. Any installation of improved irrigation systems needs, therefore, to be accompanied with advice to farmers. Crops vary in their resistance to drought, water requirements and the time of year at which the requirement peaks. These factors, together with irrigation management and soil moisture conservation can all reduce crop water use. Crop tolerance to drought depends partly on the depth of root systems. Crops with deep root systems such as grapes and alfalfa are able to draw upon moisture deeper in the soil horizons than those with shallow roots and so cope better during periods of water stress. Crops also vary in their timing of peak water demand. Water demand for maize, for example, is concentrated in the summer months when water stress is at a maximum. In contrast, the cropping calendar of rape, winter wheat and winter barley is centred on the autumn and winter months when there is more water available. The timing of the cropping calendar can also be used as a technique to reduce irrigated water use. Early sowing, for example, can help capture winter rains so that the need for supplementary irrigation is reduced. Early sowing also helps avoid the extreme evapotranspiration rates typical of Mediterranean summers.

Aside from economical considerations, changing from high water demanding crops to low water demanding crops is an obvious option for reducing irrigation water requirements. The success of such a change is, however, highly dependent on market prices. In addition to changing to less water demanding crop types, there is also potential for returning irrigated land back to traditional rain-fed practices, particularly in regions where water-stress is acute. While such a wholesale change in the approach to farming would clearly make a marked impact on water use, it raises a number of socio-economic issues and may not be economically feasible in some locations. Deficit irrigation is a technique that aims to reduce the amount of water applied to below the 'theoretical irrigation need' on the basis that the substantial water savings realised outweigh the modest reduction in crop yield. The approach takes advantage of the fact that maximum production does not necessarily lead to maximum profitability. Reducing the irrigation water applied by 40 %, for example, has been shown to result in a decreased yield of

only 13 % for wheat. For potatoes, water savings of 20 % can be achieved with a yield reduction of around 10 % and for grapevines, reduction in water use ranging from 16.5 % (rainy years) to 53 % (dry years) produced no significant impact on the grape yield or the quality of the must (Battilani, 2007). For maize, limited reduction in yields due to water savings of up to 20 % would be entirely compensated by reduced irrigation and drying costs.

Improving the timing of irrigation so that it closely follows crop water requirements can lead to significant water savings (Amigues *et al.*, 2006). The approach does require, however, that farmers are well trained and familiar with issues such as temporal changes in crop water demand and the estimation of soil moisture. Nevertheless, several research initiatives have shown encouraging results. For example, the 'Hagar' project (EC, 2007c) aimed to facilitate decision-making in irrigation with the help of on-site, real-time microclimatic and soil humidity sensors. The project was undertaken on agricultural land overlying an over-exploited aquifer in Spain, trained farmers and technicians and realised water savings. With other highly water demanding crops like maize or beetroot the results have also been marked, with water savings of around 20–30 % compared to normal practices. Other studies have looked into the environmental impact of irrigating olive trees. Currently, the irrigation of olive plantations often has little agronomic foundation in terms of the quantities and timing of water applications; many farmers apply more water than is necessary or desirable for the health of the plantation and state of the soil.

No-tillage farming involves leaving the soil intact and covered by crop residues following harvesting. Compared to traditional tillage methods, this practice has been shown to reduce water loss through evapotranspiration, thereby maintaining higher soil moisture levels and reducing the amount of water required from irrigation.

4. Common Agricultural policy

One of the major pollution problems facing European waters is eutrophication, a process whereby water bodies, such as lakes, estuaries, or slow-moving streams receive an excess of nutrients, such as nitrogen and phosphorus compounds that stimulate excessive plant growth, commonly known as algal bloom. When dead plant material decomposes, dissolved oxygen levels in water fall, causing other organisms such as fish to die. Eutrophication symptoms are found in some 40% of European rivers and lakes, and in the North, Baltic, and Black Seas and significant parts of the Mediterranean Sea. Nutrients can come from a variety of sources. Diffuse pollution from agriculture, such as nitrogen fertilizers applied to agricultural fields, manure from rearing of livestock and the erosion of soil containing nutrients are responsible for 50 to 80% of all water pollution. The second largest source of water pollution is the wastewater originating from sewage treatment plants. Both of these sources are addressed by EU legislation adopted in 1991. Recent reforms of the CAP have decoupled agricultural subsidies from production levels and therefore have potential to reduce the use of water in agriculture. The reforms also involve implementing a 'crosscompliance' mechanism that requires all farmers receiving direct payments under various schemes to comply with a set of 'statutory management requirements' in the areas of environment, animal welfare, animal diseases and public health. Payments are also dependent upon farmers keeping their land in 'good agricultural and environmental condition'. A sound management of water resources is encompassed by these requirements, with the issue being given further emphasis in the 2008 CAP 'health check', which includes the requirement to respect authorisation procedures for using water for irrigation. In addition to decoupling and cross compliance, the CAP's rural development regulation includes the implementation of agri-environment and farm modernisation measures. These involve payments to farmers that carry out specific agri-environmental commitments that go beyond usual good farming practice and include the improvement of irrigation efficiency.

Water pricing is a potentially effective mechanism for influencing the volume of water used for irrigation. Its implementation across Europe has been given momentum by the Water Framework Directive principle of 'cost recovery' for water services. Water pricing can trigger reduced water use via a number of possible farmer responses, including improving irrigation efficiency, reducing the area of irrigated land, ceasing irrigation and modifying agricultural practices such as cropping patterns and timing of irrigation. To date, however, water pricing has been applied only on a limited scale in European irrigation districts and often coupled with other instruments such as quotas. Consequently, little information is available to assess the success and limitations of water pricing in agriculture and to identify optimal implementation practices. The new approach included both a fixed and variable charge linked to water use, with farmers paying, on average, significantly more than under the original area-based approach. There are situations where water pricing may not lead to a significant reduction in agricultural water use. But in general a pricing approach that accounts for local environmental, economic and institutional conditions will provide a strong incentive for a sustainable use of water, ensuring that environmental objectives are met more cost-effectively.

Technological and policy measures need to be accompanied by advisory, educational and information dissemination activities aimed at farmers in order to achieve optimal outcomes with respect to agricultural water use. In general, more farm advisory systems are needed throughout Europe and they must be made accessible to a greater number of farmers. In this respect, the rural development programmes of the CAP can play a key role, since advisory services are one of the measures proposed in the rural development regulations.²

5. Conclusions on future water resource management in Europe

Increasing problems of water scarcity and drought clearly indicate the need for a more sustainable approach to water resource management across Europe. Such an approach will require a marked shift towards demand-side management, implying a key role for measures that control or improve the efficiency of water use. According to this approach, any expansion of traditional infrastructure-based water supply would occur only when all other options have been exhausted.

A more equitable approach to abstraction will also be necessary, addressing not only the competing requirements of each sector involved but also the requirements of the aquatic environment and the need to achieve and maintain healthy freshwater ecosystems. Implementing such a management approach successfully would not only help adapt to climate change but also contribute to lower energy consumption, since water and energy use are usually closely linked. The need for a more sustainable and integrated approach to managing water resources in Europe is already reflected in water-related policy and legislation. The WFD, for example, requires the 'promotion of sustainable water use based on a long-term protection of available water resources'. To this end, the 'registration and control of abstraction of both surface and groundwater' is identified as a key measure. The European Commission has also recognised the challenge posed by water scarcity and droughts in a 2007 communication. The communication outlines the severity of the issue and presents a set of policy options to address water scarcity and drought Europe-wide. Successfully achieving demand-led water management across Europe will potentially require the implementation of a number of differing policies and practices, as outlined below.

Introducing water pricing across all sectors will be critical to achieving sustainable water use. The WFD recognises this, requiring that pricing provide adequate incentives to use water resources efficiently and recover the full cost of water services. Full cost recovery not only encompasses the cost of water supply, maintenance and new infrastructure but also environmental and resource costs. As such it reflects the 'water user pays' principle. Effective water pricing needs to be based, at least in part, on the volume of water used, rather than adopting a flat-rate approach. To this end, water metering plays a key role and must be

implemented widely across all sectors. Successful water pricing will require a good understanding of the relationship between price and use for each sector and needs to account for local conditions. In line with the Millennium Development Goals guaranteeing universal access to clean water and sanitation, however, pricing must not mean that anyone should compromise personal hygiene and health in order to pay their water bill. Drought management plans provide a powerful tool to alleviate the impacts of drought and reflect a positive shift from a 'crisis response' to a 'risk management' approach. Plans developed so far within Europe have included, for example, the mapping of water stress, the identification of warning or alert systems and sector-specific measures, such as temporary restrictions on irrigating water-intensive crops. Ensuring widespread development of such plans across Europe will require efforts to foster information sharing on best practice in drought risk management.

Implementing technologies and practices that either conserve water or use it more efficiently plays a key role in the demand-side approach to water management. With respect to agriculture, improved efficiency can be realised by improving the methods by which water is supplied to crops; pressurised pipe networks are more effective than gravity-fed open channels, for instance. Drip and sprinkler systems are also more efficient than furrows in delivering water to plant roots. Evidence exists, however, that in some cases improvements in irrigation efficiency have simply driven an expansion of the area irrigated, resulting in either no reduction or even an increase in total water use. The relevant authorities must ensure that this does not occur. A change to less water demanding crops, including those that are more tolerant of water stress, can promote reduced agricultural water use. Reductions can also be achieved by improving the timing of irrigation, using monitoring or estimation of soil moisture to closely follow the crop water requirement on a daily basis and, through implementing deficit irrigation techniques. Growing crops whose water demand peaks prior to the summer months can also reduce maximum water stress at the height of summer. Demand for energy crops could increase agricultural water use. In areas of water scarcity, guidance and, where necessary, intervention by authorities is required to ensure that the introduction of new energy crops does not boost water use. Instead any such introduction should be used as an opportunity to reduce agricultural water use by using low water demand or drought tolerant energy crops. Both national and EU funds, including the CAP, can potentially play an important future role in implementing measures to reduce agricultural water use. Successful outcomes are most likely to be achieved, however, if advisory, educational and information dissemination services are also provided for farmers. The introduction of successful water saving measures is reported across various industrial sectors in Europe, although significant potential remains for a greater implementation of such practices. Recycling of industrial wastewater has an important role in this respect, not only in reducing water use but also the subsequent discharge of wastewater. With respect to public water supply, the most modern of the commonly used domestic appliances or fittings, including washing machines, dishwashers, toilets and showers, are significantly more water efficient than their predecessors. A challenge remains, however, to increase the uptake and use of these modern technologies across the whole of Europe. Both regulation, in terms of standards, and consumer awareness play a role in this respect. Leakage in public water supply systems remains significant in many European countries, despite the general availability of modern leak detection technologies. Tackling leakage may require the imposition of fines where agreed reduction rates are not met.

References

1. Zahiu L., 1999, *Management agricol*, Editura Economică, București;
2. Zahiu L., Dachin A., 2001, *Politici agroalimentare comparate*, Editura Economică, București;
3. Zahiu L., Toncea V., Lăpușan A., Toderoiu F., Dumitru M., 2003, *Structuri agrare și viitorul politicilor agricole*, Editura Economică, București;

Diagnosis of Romanian Organizations' specific Current Culture

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Abstract

The paper highlights the culture-climate relationship present in the Romanian organizations. This relationship shows that the perception of certain climate factors, such as structures or systems, determines employees to understand what the organization expects from them (culture). The main feature of the Romanian organizations' culture is excessive competitiveness, employees work in a "winning" or "losing" environment. Another predominant feature for Romanian organization is self-development, specific for organizations that exploit the creativity and quality rather than quantity. The ideal profile of firms in Romania involves combining the four behavioral rules from the category of constructive styles.

Keywords: organizational culture, climate, organization, satisfaction, stress, competitiveness, objectives

JEL code: M14, M21

1. Introduction

The transition from a current state to a desired one is called **transformation**. One of the most frequently-encountered signals when business owners decide that there is a need for cultural transformation in their organization is grasping that even though they have great results the strain needed is unreasonably big. Managing an organization is a subject for analysis and strategic planning and so is business strategy also. It is not sufficient to understand what your goals are within a business, you must also understand what kind of organization you need in order to achieve those goals. Taking the above-said into consideration we can state that leading people is a part of the complex process of managing a business. It is the responsibility of each manager to lead his/her people though delegating this to the Human Resources Department is very tempting. Strategically speaking, leading people implies defining and building an **organizational culture** that would serve the purpose of achieving the business strategy's targets.

2. Cultural transformation through cultural discount

A company can attain planned results without actively building a constructive culture. Organizational culture helps businesses in the same way as wind helps sailboats advance. A sailboat can sail the seas no matter what conditions, but the wind is the main factor that decides whether the boat will be late or arrive in time, will sail easy to reach its destination point or not

and so on. An organizational culture that is also a constructive culture helps organizations reach their goals. Furthermore, an organizational culture that has an aggressive approach may result in a short-term success. Finally, a passive way of acting leads the organizational culture towards certain failure. In most cases, organizations promote rather defensive attitudes (which are highly contraproductive) and therefore it is necessary to define the organizational culture type which best suits them. This action will allow them to understand the current state they are in and finish their strategic plans in order to accomplish them.

For an organization to have a culture similar to the desired one, it needs a set of values that are well aligned with the aspirations of the members, and it also needs concrete management actions that are in line with the aspirations the organization has. Often, the culture of an organization drifts away from its stated aspirations and values because, on a daily basis, that managers do not implement their own philosophy. This is called cultural discount. The causes of cultural discount are multiple and profound, but not fundamentally different from those that make every one of us, individually, do things we state and also know that they are not good.

3. How does Organizational Culture work?

Organizational culture has a direct impact on the effectiveness of an organization. Understanding the causal relationship between **how** things happen in an organization and **why** they happen that way will lead to designing and obtaining impact changes with long-term beneficial effects.

Most research in the field of organization development has revealed the existence of strong links between the culture of an organization and its performance. Therefore, identifying the causal relationship between organizational culture and the organization's effectiveness is part of the overall performance. The effectiveness of an organization can be measured according number of parameters at individual, group and organization level.

These parameters are highly influenced by the degree to which people's expectations are satisfied by the reality of the organization. This is the reason why these parameters are defined as consequences of the organizational culture. For example, culture is associated with satisfaction, motivation and stress at the individual level, with teamwork and coordination between departments at group level and with quality of products/services and external adaptation at the organizational level.

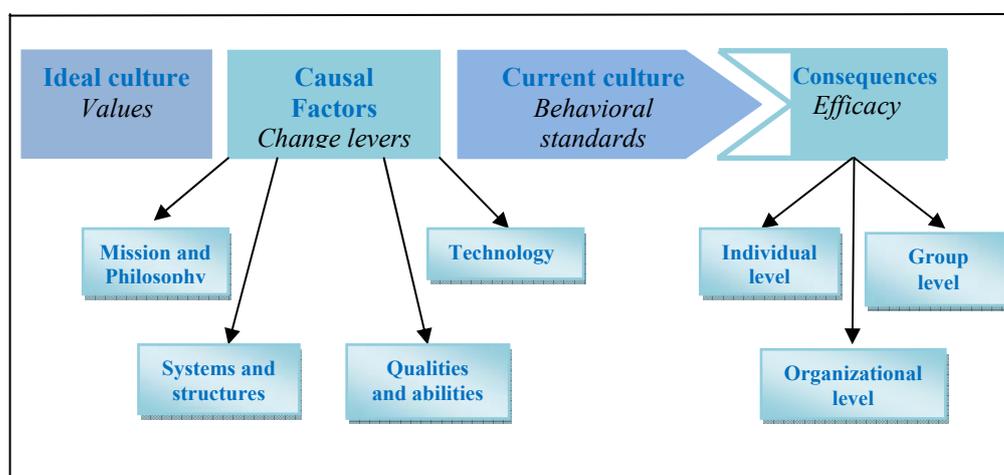


Figure 1 – How does culture work?
Source: own contribution

The concept that people's expectations are measured against is called the **ideal culture**, and the one that measures how things actually happen inside organizations is called the **current culture**.

Organizational culture, however, is a profound phenomenon. It can be measured and observed but cannot be managed directly, because it is not determined by allegations but by action and how the organization is run. A number of factors can thus be identified relating to all facets of the organization's management and also having direct impact on creating the culture of the organization, which are known as **causal factors**. Therefore, culture represents the fundamental perceptions, shared values and beliefs that guide the way members of an organization interact with each other and the way they work. Culture is determined by behavior and it expresses the way employees should act to fit in the group and be successful (or, at least, avoid problems).

4. Elements of organizational climate

Organizational climate is a combination of how employees perceive that the organization operates and how they feel because of this perception. It can be defined as: attitudes, emotions and perceptions of the employees at work.

Elements belonging to the organizational climate are:

- Consequences of organizational culture
- Causal factors

A. Consequences of organizational culture

I. Consequences at the individual level

a) **Positive indicators:** is the extent to which members report personal status and pleasant and productive attitudes. Refers to:

- ***Clarity of roles***
- ***Motivation***
- ***Satisfaction***
- ***Intention to remain (in the organization)***

Negative indicators: concerns the extent to which organization members feel the existence of excess demand, pressures and/or adverse conditions (stress factors) and psychological reactions to these conditions (stress or tension). Negative results at the individual level are:

- ***Role conflict***
- ***Job uncertainty***
- ***Stress***

II. Consequences at group level relates to organization effectiveness in managing the interdependence of its members and of its departments and also managing the quality of services provided by them:

- ***Teamwork and cooperation within departments***
- ***Coordination between departments***
- ***Quality of services within departments***

III. Consequences at organizational level:

- ***Quality of services at organizational level***
- ***Adaptation to the external environment***

B. Causal factors

I. Mission and philosophy refers to the extent that the organization has successfully defined its identity and values to employees. Mission and philosophy are examined depending on the clarity with which they are presented to members of the organization and the importance that customers have for the organization, as follows:

- *Emphasizing mission*
- *Organizing towards customer serving*

II. Structures relate to the ways that roles, activities and human resources are ordered and combined such as to give birth to the organization. Structures can be examined depending on the extent that they allow (or not) influence, empowerment and involvement of the employees. They are:

- *Total influence*
- *Distribution of influence*
- *Empowerment*
- *Employee involvement*

III. Systems represent interrelated sets of procedures that an organization uses for key activities and troubleshooting. There can be examined aspects of human resources management systems, evaluation/incentive and goal setting for the organization, as shown below:

- a) **Human resources management:**
 - *Recruitment and selection*
 - *Training and development*
 - *Respect for the members*
- b) **Assessing and sustaining:**
 - *Accuracy of the assessment*
 - *Using rewards*
 - *Using punishments*
- c) **Goal setting**
 - *Clarity of the objectives*
 - *Goal difficulty*
 - *Participatory establishing of the objectives*

IV. Technology refers to the methods that are used by the organization for changing resources into results. Technology can be examined depending on the various job characteristics and on the degree of interdependence between members of the organization, and there is:

- *Self-government*
- *Variety*
- *Feedback*
- *Task identity*
- *Significance*
- *Interdependence*

V. Skills/qualities are skills and qualities displayed by members of the organization – especially by those in management positions. Skills and qualities can be:

- a) **Communication:**
 - *Communication with lower levels (top-down)*
 - *Communication with higher levels (bottom to top)*

■ **Communication for learning**

b) Leadership:

- **Interaction facilities**
- **Task facilities**
- **Emphasizing of the objectives**
- **Consideration**

c) Superiors' sources of power:

- **Personal power bases (positive)**
- **Organizational power bases (neuter - negative)**

Culture-climate relationship shows that the perception of certain climate factors, such as structures or systems, determines employees to understand what the organization expects from them (culture). These rules and expectations, in turn, generate consequences and attitudes such as motivation and teamwork.

To diagnose the current culture of companies in Romania we have analyzed the results of the first national research of organizational culture made by Human Synergistics Romania

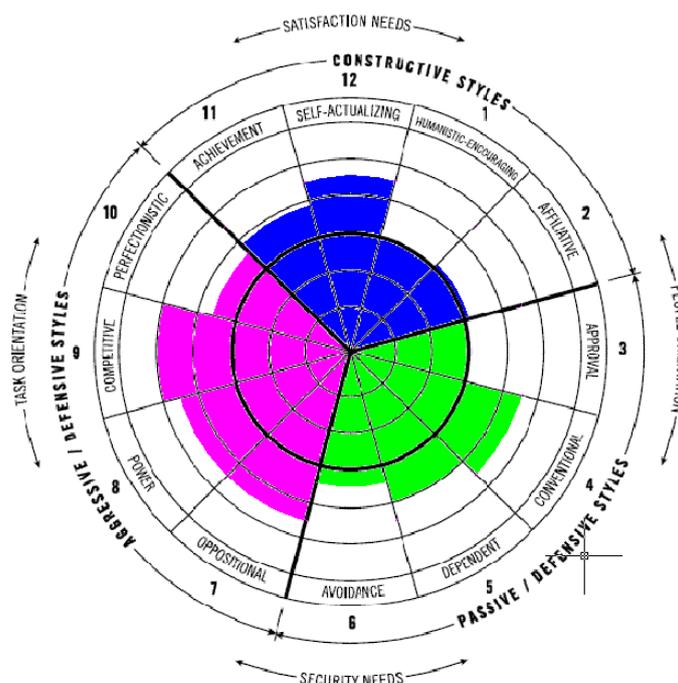


Figure 2 – Current culture of organizations in Romania
 Source: Human Synergistics România

The research took place from July to September 2008 and final results were published in February 2009.

The study was a quantitative investigation based on questionnaires and was held on two coordinates: climate and culture of the organization. The two dimensions – climate and culture – have been investigated with two quantitative instruments:

- **The organizational culture study** - quantifies „what is expected” from the members of the organization, or, in a more technical language, the standards and the behavioral expectancies which reflect more abstract aspects of culture such as values and beliefs shared in an organization.

- *Organizational efficiency study* – which measures causal factors that drive and shape culture as well as the impact that culture has on the employees, groups/teams, and the organization itself as a whole.

Using the first instrument, “Organizational culture study”, measurements were made for twelve different styles that define the culture of an organization in terms of how they expect the employees to approach tasks and interact with each other. Results for these cultural rules were collected for the whole organization and distributed on a circular chart (figure 2). The cultural norms are arranged on the chart so that the ones which are pointing towards the top would reflect expectations of growth and satisfaction oriented behaviors. The styles placed at the bottom highlight presumptive conducts that are focused on meeting the security needs. The norms from the right side of the circle show the human interaction expectancies, whether those from the left side emphasize task-oriented behaviors.

Differences between satisfaction and security and between people and their tasks define three categories of cultural standards measured by the circular diagram. Each category includes four types of cultures:

- A. *Constructive cultural standards :*
 - *Result- based culture*
 - *Self-development oriented culture*
 - *Humanist – encouraging type of culture*
 - *Affiliation type of culture*
- B. *Passive/Defensive cultural standards:*
 - *Approving type of culture*
 - *Conventional type of culture*
 - *Subordination type of culture*
 - *Avoidance type of culture*
- C. *Aggressive/Defensive cultural standards:*
 - *Opposition type of culture*
 - *Power based culture*
 - *Competition type of culture*
 - *Perfectionist type of culture*

The results of the research that Human Synergetics conducted, as far as the Romanian organizations’ cultural distinctiveness is concerned, show three predominant cultures, one for each cultural standard:

- *Competitive*
- *Self-development*
- *Conventional*

and also a secondary culture:

- *Opposition*

The main feature of the Romanian organizations’ culture is excessive competitiveness. The firms in which this type of culture prevails, value success and all that surrounds it, like “winning” or “losing”.

Employees are constantly trying to prove that they are better than their peers, and not necessarily meet the objectives of the organization. This need to prove something often exceeds the priority tasks and becomes present in any situation no matter how insignificant it may be: that person needs to win any debate, any polemics and any dispute. Every idea, once expressed becomes sacred and that person is willing to fight tooth and claw to protect it. If the dispute is lost, retirement is preferred to admitting defeat. In other words, individuals within such organizations are working in an environment of "winning or losing" and consider that in order for them to be noticed at work, they should work (rather) against their colleagues than together.

In these organizations the rewards for performance are always given after comparison between employees. This behavior is not at all useful. At the individual level, it generates stress and conflicts, and at organizational level it causes dissolution of the organization, dividing it into camps and even creates polarization towards exclusively personal interests. Also, the exaggeration of competitiveness can hinder the efficacy, reducing cooperation and encouraging unrealistic performance standards (either too weak, or too high). Another predominant feature reflected on the chart is self-development. Self-development oriented culture is specific for organizations that exploit the creativity and quality rather than quantity, and also sustain the completion of tasks and individual development. This dimension shows that the Romanian organizations have a high level of orientation to the future, for the better, for quality, for creative overcoming of obstacles. That comes, not only from the proverbial capacity of Romanians "to manage", but also from a sincere concern of members to make something of good quality. Employees of these organizations are encouraged to obtain satisfaction from their work, to self-develop, and to always seek new and exciting activities. This trend is evident in all the top organizations and shows the highly importance that the organizational environment of Romania has in developing consciousnesses and working practices. They have a missionary role that is not listed in stable economies.

Even if organizations that have self-development as a specific can be quite difficult to understand and monitor, they tend to be innovative, to offer quality products and services, and to attract and develop employees who stand out. Conventionalism is the third predominant feature that the research highlighted. There are Romanian organizations that are highly conventional, which means respecting, sometimes only in appearance, of rules and procedures. This act is the human response to the increased aggressiveness of the organization and is a loophole to escape from the individual responsibility. Conventional culture is specific to conservative, traditional and bureaucratically controlled organizations. In this kind of organizations rules become more important than ideas and the employees are expected to follow rules and make a good impression. A traditionalist culture can become an obstacle to performance, by deterring innovation and initiative and by preventing the organization to adapt to changes. The lack of conventions does not necessarily mean repeated violation of the rules, but the knowledge that rules are created to help the work, and when they do not, they must be changed. Opposition oriented culture is a secondary culture in Romanian organizations. In organizations defined by this culture confrontation is dominant and negative attitude is rewarded. Employees gain status and influence by being critical and thus are encouraged to oppose the ideas of others. Although only decisions which are safe are adopted, they are not effective. Even if a certain level of criticism is good, increasing criticism can cause unnecessary conflicts, a poor capacity to solve problems within the group and adoption of minimum risk solutions which are, mostly, ineffective. As the chart shows (Figure 2) Romanian organizations are:

- encouraging task-oriented conducts
- are concentrated towards meeting the security needs

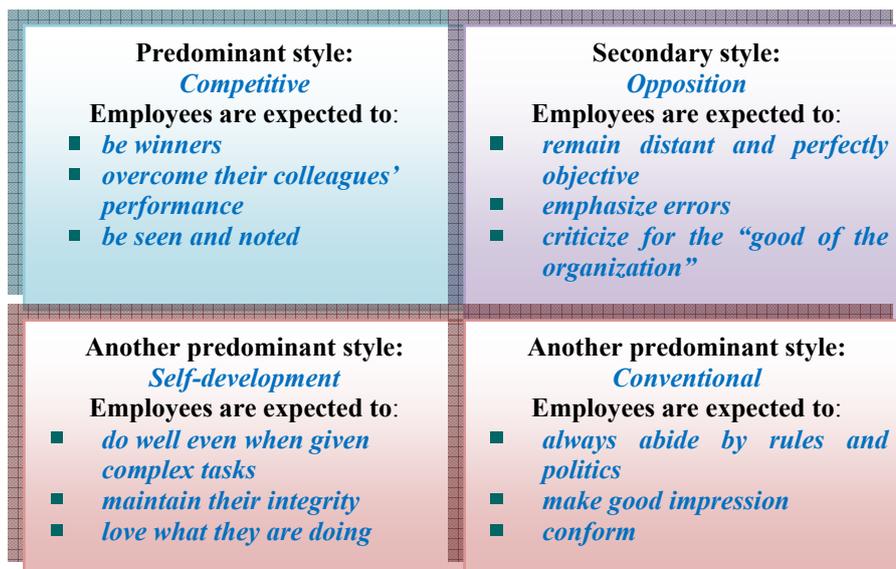


Figure 3 – What is expected from employees in different kind of cultures?
 Source: own contribution

Expectations of behaviors oriented to satisfaction, growth and people are lower, but they must not be neglected because these conducts help define styles that characterize Romanian organizational culture.

5. Finding the ideal culture that Romanian organizations aspire to

Romanian organizations aspire to a culture in which constructive styles prevail and conduct is pointing towards growth and satisfaction.

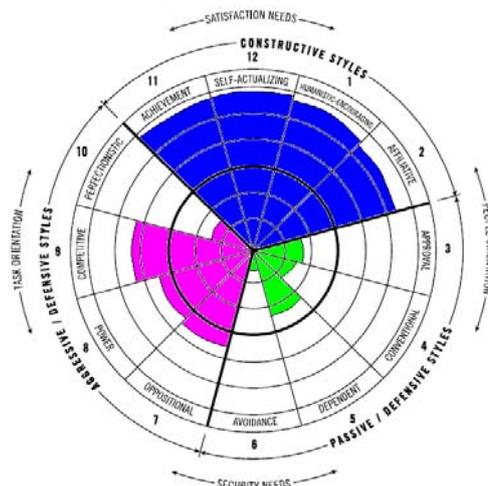


Figure 4 – Romanian organization ideal profile
 Source: Human Synergetics

The chart shows us that the ideal profile of firms in Romania involves combining the four behavioral rules from the category of constructive styles:

- results oriented style
- self-development oriented style
- humanist – encouraging style
- affiliation style

Such organizations are those that tend to get things right, being focused on results. These organizations value employees who set and reach their goals, creativity and quality more than

quantity. The ideal profile for the Romanian organizations also refers to participatory management, focusing on individuals. Employees in such organizations are constructive, friendly, open to relating with one another, loyal to the organization. They collaborate, support each other and shape their activities, as necessary, to facilitate achieving group tasks. Organizations with such a profile solve their problems accordingly. They are oriented to innovation and attain performance by increasing employee involvement. In these organizations members at all levels are involved in carrying out the organization's mission and have the authority to perform their tasks independently, which encourages personal development. As can be seen from the diagram the ideal profile of the organizations in Romania involves an extension to the aggressive styles, especially to the competitive one. The tendency is to encourage the negativist attitudes, emphasizing the hierarchical positions, performance evaluation using comparison with the achievements of other individuals. This side of the ideal culture also reflects the fact that employees tend to be influenced by the control exercised by managers on the desirable results (reward power), on the official position (legitimated power) and on the ability to punish those who do not comply (coercive power).

Conclusions

REFERRING TO THE WAY PEOPLE WORK	
IDEAL CULTURE	CURRENT CULTURE
Managers want an organizational culture that encourages employees:	Managers encourage employees:
<ul style="list-style-type: none"> ■ to think ahead and plan ■ to follow high standards ■ to work for success ■ to like what they are doing ■ to take calculated risks ■ to accept challenging tasks 	<ul style="list-style-type: none"> ■ to give greater importance to rules than to ideas ■ to change their priorities to please others ■ to never take the blame for problems ■ to follow orders, even if the orders are wrong ■ to pin decisions above them

Figure 5 – Ideal culture vs. current culture in Romania – the way people work
 Source: own contribution

REFERRING TO THE WAY PEOPLE INTERACT WITH EACH OTHER	
IDEAL CULTURE	CURRENT CULTURE
Managers want an organizational culture that encourages employees:	Managers encourage employees:
<ul style="list-style-type: none"> ■ to maintain integrity ■ to show concern for the needs of others ■ to use their skills to relate with others ■ to be open about themselves ■ to help others develop professionally ■ to encourage others 	<ul style="list-style-type: none"> ■ to play "political games" in order to gain influence ■ to appeal to people with positions of authority ■ to maintain their authority no matter what ■ to cultivate an image of superiority ■ never to let anyone see that they are losing ■ always to compete with others rather than collaborate

Figure 5 – Ideal culture vs. current culture in Romania – the way people interact with each other
 Source: own contribution

The current culture promotes the encouragement of employees in order for them to set and achieve their own goals based on previously established plans. This fact reflects a results-oriented culture. We can observe a trend towards self-development. The organizations are supporting creative and innovative activities which lead to a diversification of skills that the employees possess and to a humanistic-encouraging orientation. This last aspect is emphasized by the participatory management. Furthermore these actions also lead to an affiliation orientation revealed by constructive human relationships. In the ideal culture these constructive styles are more prevalent. They seek the top limit, which could be a first gap between how things work in an organization and how they should.

Another discrepancy between current and ideal culture refers to approving and perfectionist styles. In the current culture the two styles tend to be increased while ideal culture maintains them at an average level. Also in the current culture, unlike in the ideal one there is a greater preponderance of the conventional style, which indicates that currently, the rules are more important than they should be. It can be observed a different prevalence of the competitive style, which is considered at a lower level today than it should be. This aspiration reflects primarily the desire to add value and rewards to success. Adapting to cultural ideal Romania should take into account the consolidation of behaviors considered ideal for both cultures and minimize potential manifestation of those behaviors that fall outside the vision of an ideal culture

As a last instance these cultural competences must be sustained by a consolidation program. Such a program can contain actions such as:

- The identification of the promoting activities for the new cultural values.
- The organization of courses and programs for retraining or further professional training.
- Find staff that meets the new requirements.
- Linking performance required in the new culture with appropriate moral and material rewards.

References

1. Burnes, Bernard, *Kurt Lewin and the Planned Approach to Change : A Re-appraisal*, Journal of management, New York, 2004
2. Carnall, Collin, *Managing change in organizations*, Pretience Hall, 2003
3. Clark, Liz, *Management of change : Practical guide of production, maintenance and control change in an organization*, Teora, București, 2002
4. Druker, Peter, *The Theory of the Business*, Harvard, 1994
5. Gersick, Charles, *Revolutionary Change Theories: A Multilevel Exploration of the Punctuated Equilibrium Paradigm*, Academy of management, London, 1991
6. Goodman, Paul, Pennings Jeroen., *Critical Issues in Assessing Organizational Effectiveness*, Wiley, New York, 2003
7. Gould, Stephen, *Ever Since Darwin: Reflection in Natural History*, Brunett Books, London 1999
8. Hayes, Jhon, *The Theory and Practice of Change Management*, Palagrave Macmillan, New York, 2007

Organic food market: trends and opportunities

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Abstract

This paper attempts to comprehend and analyze the present trends and opportunities in the organic food sector. Organic foods comprise those vegetables, fruits, grains and other edible agricultural and dairy products that are produced without the use of any harmful pesticides, chemical fertilizers, growth hormones, or genetically improved seeds or livestock. The organic food industry has been growing remarkably for the past several years. The major key factors behind this growth are the increasing consumer awareness of health and environmental issues along with an increasing resistance towards genetically modified food products and the aggressive and targeted marketing and promotion by the retail sector.

Keywords: organic food, market trends, Romania, Europe, consumer, food legislation

1. Introduction

According the FAO/WHO Codex Alimentarius guidelines for organic food, organic agriculture is a holistic management production system which promotes and enhances agro-system health, including biodiversity, biological cycles, and soil biological activity. It emphasizes the use of management practices in preference to the use of off-farm inputs, taking into account that regional conditions require locally adapted systems. This is accomplished by using, where possible, agronomic, biological and mechanical methods, as opposed to using synthetic materials, to fulfill any specific function within the system.

By adopting Council Regulation EEC No 2092/91, amended by Council Regulation EC No 1804/92, the European Union was one of the first to set up a policy on organic farming. With this regulation, the Council created a Community framework defining in detail the requirements for agricultural products and foodstuffs bearing a reference to the production methods used in organic farming and foodstuffs (<http://europa.eu.int>).

The U.S. organic market is officially relatively new, with the USDA only adopting national standards for organics in October 2002. The USDA National Organic Standards regulates all organic agriculture in the United States (www.usda.gov).

2. Romanian organic food market

2.1. The Concept of Organic Food Product in Romania

The Romanian legislation, in accordance with the European norms, defines the ecological agroalimentary production as the attaining of agroalimentary products without using chemical synthesis compounds, according to the ecological production rules and following also the standards, guides and national specifications. The products thus obtained are attested by an

organism of inspection and certification constituted with this mere purpose. The regulations of GEO 34/2000 refer to the “products obtained and labeled in order to inform the consumer that the product and/or its ingredients were obtained according to the ecological production methods: a) primary unprocessed vegetal products, the animals and animal unprocessed products; b) processed products of vegetal and animal origin, designed for human consumption, prepared from one or more vegetal and/or animal ingredients; c) forage, composite forage and raw materials, which are not included at lett. a).”

These products are obtained using raw materials derived from the ecological agriculture, which aims to create sustainable, diversified and equilibrated agricultural systems in order to assure the protection of natural resources and the consumers' health. The ecological agroalimentary production does not allow the genetically modified organisms and its derivatives. The label “ecologic” is opposite to the chemical and synthetic elements. The pesticides usage is strictly forbidden for the ecological products breeding and the fertilizers are natural. Although the protein content in some conventional products is higher, their quality is lower in comparison with the quality of the ecological products protein. From a nutritional point of view the ecological products are not different than the conventional products, but the sensory characteristics and the natural valences can influence the consumer's choice. The blind taste tests for dairy products, vegetables and fruits proved that the ecological products are more tasteful, being preferred by the majority (www.e-green.org). The agriculture and the ecological agroalimentary production have to follow some principles and conditions, such as: to follow the ecological production principles; to eliminate any pollutant technology; to use species with high resistance at environment conditions; the amendment and the maintenance of the natural fertility of soil; the use of natural fertilizers and amendments; the use of ingredients for the food preparation in accordance with the list of allowed products in the ecological agriculture (according to the annexes of the methodological norms of applying the GEO 34/2000); the absence of the genetically modified organisms (GMO) and of the irradiated plants; the absence of the synthesis chemical additives – preservatives, colorants, flavors, emulsifiers, acidifying agents etc.; the integration of the animal breeding in the plants and plant products production system; the use of seeds or planting vegetative material obtained through ecological production methods; the limited usage of the conventional energetic resources and their replacement, at high degree, with secondary recycled products.

For the attainment of some organic agricultural products a conversion period is needed in which the soil and/or the animals to be transformed according to the ecological principles, the obtained production being certified only after some strictly periods: 2 years for annual field crops, 3 years for perennial crops and plantations, 2 years for meadow and forage crops, 1 year for beeves and meat, 6 months for small ruminants and pigs, 12 weeks for milk animals, 10 weeks for poultry bought at 3 days age used for eggs or meat production and 1 year for bees if the family was bought from conventional apiaries (GEO 34/2000).

The ecological products terminology has to be singularized. The concept of biological product is more or less precise since “nuances” of the environment performances can exist. Considering this relative character, the necessity that the market of these products to be controlled through legislation and monitored by mass-media, pressure groups and consumers in order to avoid abuses is imposed (source www.biblioteca.ase.ro). The reflection of these aspects can be observed in the national regulations regarding the ecological agroalimentary products:

There are considered ecological and there can be labeled as such the processed products of vegetal and animal origin designed for human consumption, which have at least 95% of the ingredients of agricultural origin, obtained or derived from products in compliance with the ecological agricultural production regulations;

The labeling and the advertising for the processed products of vegetal and animal origin designed for human consumption, prepared from one or more ingredients of vegetal and/or animal origin, which do not satisfy the ecological production demands, are including indications regarding the ecological production mode if at least 70% of the ingredients of agricultural origin are obtained or are derived from products obtained according to the ecological production regulations;

On the under conversion product label must be specified "product in conversion period to ecological agriculture" so that nobody confound it with an ecological product final certified.

Secondly, it is about performances which have to gain importance for the companies' shareholders which trough the market offer these biological products, to the entire society, but most of all to the consumers who, recognizing the importance of the ecological characteristics, will buy the products generating the development of the markets. The formation and development of the ecological products demand implies an increase of the consumers' awareness through a continuous communication between the company and the market so that the usual behavior of the consumer to be transformed into a responsible one. In Europe it is applied a strict legislative and institutional frame through which the production method and the producers are verified; this system was mainly undertook by Romania during the adhesion, the national legislation being integrally harmonized with the Regulations (CE) no.209/1991 and 138/2008. The recent communitary regulations in the agroalimentary products domain have the following advantages:

Explicitly establish the objectives, principles and production norms for the ecological agriculture allowing at the same time a certain flexibility by considering the local conditions and the development stages;

Ensure the equal application of the objectives and principles in all stages of the zooculture, aquaculture, horticulture and ecological raw materials production, and as well as in all stages of the ecological food production.

Clarify the norms regarding the GMO, especially the fact that the GMO usage in the ecological production is strictly forbidden and that the 0.9% limit in what regards the accidentally presence of the GMO can also be applied to the ecological aliments;

- Resolve the problem of disposals which make possible that the involuntary presence of GMO exceeding the 0.9% limit not to restrain the selling of these products as ecological;
- Impose the incumbent logo of the EU for the internal ecological products, but allow it to be attended with state or private organisms logos in order to promote the "commune concept" of ecological production;
- Do not forbid the applying of stricter private standards;
- Ensure limitation of the products labeling as ecological only to the aliments which contain at least 95%ecological ingredients;
- For products which are not ecological allow the specification of the ecological ingredients only in the ingredient list;
- Do not include the restaurants and canteens sector, but allow the member state to standardize it (with extension to communitary level after a reanalysis in 2011);
- Consolidate the control procedure based on the risks analysis and improve the control system through its alignment to the official EU control system of the food chain, applicable to all food products and forages, but preserving the specific elements used in the ecological production;
- Establish a new permanent import regime which will allow the third-party countries to export to EU market in identical or equivalent conditions as the ones applied to the EU producers;

- Prescribe the incumbency to indicate the farm in which the products were obtained, including for the imported products which have the EU logo;
- Create the basis for adding norms regarding the aquaculture, wines, marine algae and ecological yeasts;
- Do not bring modifications to the list of allowed substances in ecological production and impose the publication of the authorization requests for new substances and a centralized decision system regarding the exceptions;
- Form the basis for the detailed norms transfer from the old regulation to the new one, including lists of substances, control norms and other detailed norms (<http://eu-lex.europa.eu>, www.infoeuropa.ro).

Regarding the term used in Romania to designate an ecological food product it is necessary to specify that in GEO no.34/2000 as well as in other regulations the term "ecologic" it is used, similarly with "biologic", "organic" or its combinations – "organo-biological", "bio-organic" and partially with the term "natural". If the product derives from conventional agriculture, and it is obtained without using alimentary additives, than it will be named natural product (www.naturaland.ro).

The ecological product, as it is defined in the technical Romanian literature, can be considered to be "the product which answers to the consumers request and, at the same time, harmonizes their interests on short, medium and long term". This conceptualization is very close to the one of the foreign specialists in this domain. Thus, the general conception defines the ecological product as being "the product or service whose environmental and social performances are generally significantly better than those of a conventional product". It cannot be asserted that where ecological products do exist these are also commercialized. In Romania the production and the penetration of the ecological products on the market constitute the result of an explicit request, clearly outlined, from a certain segment of consumers. The autochthon market of ecological products is a nascent market being first of all influenced by the offer. Thus, the consumers' interest for this category is generated mainly by their existence on the market. It should be considered at the same time that the ecological agroalimentary products are relatively new for the Romanian market, the forming of the market assuming the changing of some mentalities and life styles, particularly those aspects related to the education and information of the becoming consumers. The focusing to ecological products on the end consumers' market is first of all sustained on the environment protection and preservation education. Obviously, the education focused towards the environment can be considered as the basis of the profound and real behavior transformations of the entire society and also the basis of the understanding of the actions necessity which consider impact on environment (www.biblioteca.ase.ro).

To developing a market for the ecological products a differentiation between the organic products and the conventional ones is in order. The ecological label can play the role of differentiating the ecological product for the consumers and also having a special importance in its promoting activity. In Romania a special legislation is applied for certifying and labeling the ecological food products, harmonized with the European legislation. The labeling of the Romanian ecological agroalimentary products is regulated by the GEO no. 34/2000 regarding the agroalimentary products, MAAP Order no. 417/2002 regarding the approval of special rules for the labeling of the ecological agroalimentary products, MAPAM Order no. 527/2003 regarding the approval of the rules for the inspection and certification system and the credence conditions of inspection and certification organisms in ecological agriculture, and MAAP Order no. 190/2006 with modifications regarding the ecological agroalimentary products labeling. According to these legislative articles a differentiation between the labeling of the processed products and the unprocessed ones is made. Thus, the labeling of the unprocessed

agricultural products must specify clearly the producer's name, his complete address, the agricultural production mode and if the product was obtained according to the ecological production rules from GEO no. 34/2000 or, if it is important, that the product submits to these rules. The label must also specify if the product was obtained or just imported by an operator which is controlled by an accredited organism of inspection and certification, specifying on the label the name and/or the code of the inspection and certification organism to whereat the operator is subscribed, the storing conditions and the minimum term of validity. In what regards the processed products of animal and vegetal origin it is unavoidable to specify on the label the followings: the producer or the processor name, their complete address, the ecological production method, the mention that at least 95% of the product's agricultural ingredients are produced or originate from products in compliance with the ecological products regions, the product or its ingredients were not subjected to treatments which involve the ionizing radiations, the product was prepared or imported by an operator which is controlled by an inspection and certification organism, the name and/or the code of the inspection and certification organism which performed the last inspection of the operator, the product was obtained without the GMO usage, the term of validity, the storage conditions and the "EU" logo. On the products subjected to the inspection and certification system it can be specified "Ecological Agriculture Ecom-System of RO control" if the stipulations of GEO 34/2000 Art. 8/4 (a-e) are respected. It will be specified on the label "product under conversion to ecological agriculture" if the product originates from an operator which is under conversion to ecological agriculture. The text must be presented in the same format, color and style with the name of the product. If the food product has less than 70% from its ingredients originated from the ecological agriculture, indications with respect to the ecological production method cannot be included. For the products with more than 70% of ingredients from the ecological agriculture, the indications about ecology are specified only in the ingredients list (ex.: "...% of agricultural ingredients were obtained according to the ecological production rules"). In March 2000 the European Commission had adopted a logo, "Organic Farming", which can be voluntary used by the producers who obtain products in accordance with the specific European Norms (www.ansv.ro, www.apc-romania.ro, <http://eur-lex.europa.eu>).

Although the legislation is precise, considering the differences which can appear in the processed products composition, the usage of a standard label is not possible, this obstructing the products recognition by the consumers. "Although the law specifies clear conditions for the ecological products storage, due to the small quantities of products in many stores and the refrigeration conditions necessary in some cases, a strict delimitation between the ecological products and the alimentary ones does not exist in the selling places. In such cases one can observe that the legislation can constitute a barrier for the ecological products marketing". (www.biblioteca.ase.ro)

According to OM 317/190/2006 the ecological labels include the characteristic logo for the controlled ecological products, named "EU" logo, with informative-advertising role which has also the MAPDR property, being registered at the State Office for Inventions and Marks. Used for the certification-identification of the ecological agroalimentary products, the "EU" logo guarantees that the products accomplish the following conditions:

- Originate from the ecological agriculture from Romania and are commercialized according to the specifications of GEO no. 34/2000 which regards the ecological agroalimentary products and to the (CE) no. 2.092/91 direction;
- Are certified by an inspection and certification organism accredited by the Agriculture, Forests and Rural Development Ministry named hereinafter M.A.P.D.R.;
- Originate from import and are certified in Romania by an inspection and certification organism accredited by M.A.P.D.R. (www.maap.ro).

Through Romania's adhesion to European Union the European ecological label replace the Romanian ecological label. To obtain the ecological label, the economic-producer agents, the importers and the merchants must require it in written from the Environment and Water Management Ministry. The product in question is evaluated by the Ministry's specialists in collaboration with those of National Commission for Conferring the Ecological Label and those of National Authority for Consumer's Protection. After conferring the label usage right, the Ministry signs a contract with the applicant in which there are stated its usage conditions. The request processing fee is of 500 Lei, no matter the number of ecological products of the applicant. For the small and medium companies, as well as for the goods producers and for the services providers, the fee reduces with 25%. The costs for testing and verifying the products during the performance evaluation process are sustained also by the applicant in accordance with the specific criteria of conferring the ecological label. After the obtainment of the usage right of the ecological label, any economic operator pays to the responsible authority an annual fee equal with 0.15% from the annual sales volume of the product in the Community. The minimum annual tax is fixed at 500 Euro (the equivalent in Lei) per product group, per economic operator and the maximum tax is the equivalent in Lei of 25.000 Euro (www.wall-street.ro).

2.2. Factors which influence the ecological agroalimentary products market in Romania

The essential feature of the Romanian market of ecological products is that the biggest part of autochthon products does not reach the Romanian market, these being exported generally as raw materials, but a high range of ecological food products are imported as end products. A SWOT analysis of this Romanian economic sector can mark out the following aspects:

A. Strong points: fertile soil, the traditional Romanian agriculture does not harm the environment (unpolluted ecological areas does exist where the ecological agriculture can be developed), the Romania's potential to develop the ecological agriculture (due to the fact that many agricultural areas were not cultivated for long periods of time, being adequate for the ecological agriculture in comparison with the areas where the chemical fertilizers have been used, and the lack of funds which leaded to desultory usage in small quantities of this type of fertilizers), the notably support offered by the authorities (ex.: proper legislation and financing offered through the foundation of the National Agency for Ecological Products), the interest of the external market for the agroalimentary products exported from Romania, the differentiation of the ecological agroalimentary products on the market, the emersion of the ecological agroalimentary products request from the Romanian consumer, etc.

The development of the ecological agroalimentary production was positively influenced by the foundation of some non-governmental specialized organizations (Bioterra IFOAM member, Agroecologia, A.R.A.D., Agri-Eco, ECORURAL, etc) which became powerful and efficient, some of them forming the National Federation for Ecological Agriculture – FNAE.

According to some studies, Romania is able to introduce in the ecological agricultural production system up to 15% from the total cultivable surface, meaning approximately 2 million hectares (www.agricultura-ecologica.ro).

B. Weak points: the lack / insufficiency of autochthon processors, the export of a large quantity of raw material (Romania exploits only 30% of the ecological agricultural production, exporting generally raw materials which are processed in countries like Germany, Switzerland or Holland and importing end products which stimulate the internal production but not the market), high prices (the most ecological products from import have prices three – four times bigger than the conventional products whereas the autochthon aliments are only 30% more expensive, but they are intended for export), the weak buying capacity of Romanian consumers, the deficient information of the producer and especially

of the consumers, the existence of genetically modified cultures (allowed in the Romanian agriculture before the adherence to EU. These cultures represented a major problem especially until 2000 because of the inexistent legislation. Until that moment the organic products market was inexistent due to the extremely low prices of the genetically modified products), difficulties in what regards the certification of the ecological products / methods production and the adequate labeling, etc.

An important factor of the ecological products market development in Romania is the consumer. The producers specify that the main problem with which they confront is the deficient information of the consumers, the majority of Romanian people prefers to buy cheaper products to the detriment of the ecological ones which are more expensive but more healthy. The consumers' lack of knowledge in what regards the ecological products represents a barrier for the Romanian market. Even with special offers which reduce the price under the real level to align with the conventional products, the vegetable producers stated that they cannot sell their products. There are small quantities of ecological vegetables, mainly at the supermarkets, which come from small producers who do not afford to export.

- C. Opportunities: the promotion of Romanian ecological products for export, the coverage of the existent market segment through identifying new export markets and consolidation of the existent markets, the module number increase of optimal exploitation through association of the agricultural and animal farms, the capturing and retention of surplus value on the national component of the value chain, the orientation of the production and sales to the primary and processed products, the increase of the non-governmental organizations influence in this sector, programs for ecological products commerce development, the diversification of the range of potentially exportable cultivated products (vegetables, fruits) and of the range of processed products (bread, pastry products), the communitary agricultural policy regarding the rural development.
- D. Threats: the modification of the fiscal policy by the state (contributions increase and subventions decrease), the decrease of the work force due to migration of the qualified personnel towards different European countries, the increase of imports from Europe or from others countries outside the communitary space, the world economic crisis.

2.3. Trends manifested on the autochthon organic food market.

Currently, the range of ecological products made in Romania includes mainly vegetal agricultural products (grain, sunflower, corn, pumpkin seed, pea, soy, cherries, sweet cherries, raspberry, blueberry, sea-buckthorn, nuts and medicinal plants), animal origin products (sheep cheese, kashkaval, eggs, milk, butter, meat and ecological honey) and some processed alimentary products (integral bread, sunflower oil, etc) (www.maap.ro, www.naturaland.ro). Although most of the autochthon ecological products are exported, an increasing share is wanted to be sold on the internal market. Thus, the ratio for the internal market is estimated to increase progressively reaching 65 – 70% during 2010 (www.maap.ro).

The Romanian market of ecological products is supplied with imported aliments from Germany, Brazil, Poland, Italy and Holland such as: brown sugar from cane, chocolate cream, natural oil, integral bread from ecological rye, soy, rice and oat milk, ecological tea and coffee, maple syrup, fruit juices, integral paste, ecological biscuits and wafers, dietetic sweets, vegetable and fruits cans. The main import products required by the Romanian consumers in 2004 were the ecological brown sugar from Brazil, the rye bread, the pudding and the vegetal milk.

The evolution of the internal market of ecological alimentary products consists in the following important stages:

The half of 2002, when after an accomplished study, SC Natura Land – the single autochthon importer specialized on ecological products – identified that this market is almost inexistent in Romania, an exception being the Dorna kashkaval. The operator takes the decision of importing from Belgium three assortments of ecological brown sugar from cane, originating from Paraguay. For this first product there were imported only a few kilos, but after one year the imports were of tones (www.naturaland.ro).

The end of 2002, when the press signalized the existence on the market of multiple alimentary products with unjustified mentions, misinforming the consumers and bringing illicit benefits to some economic agents. During this period, amid a lack of control, inspection and information, a series of conventional aliments were sold on the market with inscriptions like “bio”, “eco”, “traditional” etc., but none of them on real bases. Thus, there were affected both the consumers interest and the processors interest which actually produced ecologically and spent much to have this right to label their products as ecological. The specialized press started a campaign against aliments with false label specifications (like “BIO cheese” for some kashkaval assortments, “100% natural” for pate and vegetable cans) and with prices up to 40 – 80% higher. As a result of this campaign the ecological products drew the public attention from Romania, leading to the consumers’ education by reading with attention the product’s label and reorientating to those really healthier. The authorities understood that steady efforts to educate, inform, control and inspect are necessary to constitute a market of bio products (www.biblioteca.ase.ro).

2003 – The ecological products start to diversify and to be commercialized in many stores, both in the specialized ones (K Life Bucharest being the biggest) and trough chain stores (Mega Image, La Fourmi – which had in February 2003 a range of 30 ecological products, Gima, Selgros, Angst etc.). In may 2003 the range of products imported by Natura Land – the only specialized distributor of ecological products – increases with another 30 new products originating from Germany (chocolate, apple and orange juice, soy, rice and oat milk, soy pudding, cereal coffee, integral bread from rye, ketchup, mustard and vegetal pate) (www.naturaland.ro).

2004 – The distributors turnover on the internal market reached approximately 1 million euro and the estimations for 2005 – 2006 suggested a fast increase (3 – 6 millions euro), while exports increased to almost 15 million euro. The biggest part from the internal production is still exporting. On this market activate approx. 262 operators, the majority being producers of vegetal (146) and animal (95) products, processors (13) and only 8 with commercial attributions (1 importer and 7 exporters) (www.realitatearomaneasca.ro, www.naturaland.ro).

2005 – The market development continues by adding new products both imported and autochthon. In 2005 there were commercialized on the internal market approx. 7.700 tones of fresh vegetable and fruits obtained in ecological system and also small quantities of bread, vegetable cans, schweizer, kashkaval, butter, oil, honey, eggs, mainly through the big chain stores. The value of these transactions was estimated at approx. 3 million euro. The exports were destined to Germany, Switzerland, Holland and Italy (30% from vegetal ecological products, 20% from processed milk products and 66% from honey), according to data furnished by MADPR. At the MADPR there are registered more than 3000 operators and new specialized stores begin to emerge (www.realitatearomaneasca.ro, www.maap.ro).

2006 – a substantial increase of the number of registered operators to MADPR is observed. There are 3073 producers, 36 ecological products processors, 10 exporters, 3 importers and 7 merchants with the activity domain being transactions with alimentary ecological products.

The internal market of ecological products was estimated to app. 5.000.000 euro (www.wall-street.ro, www.maap.ro).

2007 – the number of operators registered at MADPR increases, reaching 3836, the processors number increases to 48 and importers number to 13. The lands bio-cultivated sum 166.000 hectares, registering a 15% production increase. The biological products range does not diversify significantly, the export remaining the main destination of the internal production. The production value was estimated at 100 million euro (www.wall-street.ro). The ecological products mainly sold through the organized commercial network are the eggs and the dairy products. The distribution on the internal market is made through the wholesale stores (Metro, Selgros) but especially through retail stores. The main stores which introduced ecological products are: Carrefour, Cora, Gima, La Fourmi and Mega Image. Excepting the processors who own stores, no other store follows the storage/handling/presentation rules for the ecological products. These are in the same place with the conventional products, being handled and stored together. The ecological products market reaches the 5 million euro level.

2008 – according to the data furnished by MADPR the operators number in this field increase to 4191, from which 85 are processors. The total surface certified as bio reaches 220 thousand hectares, representing app. 2% from Romania's agricultural surface. The commercialization on the internal market is made both through wholesale and retail stores. A relative differentiation between the ecological and traditional products on the presentation stands is observed. The internal market reaches a record level of 15 million euro, for 2009 being predicted a potential market of 20 million euro.

The Export of Romanian Ecological Products

High quantities of autochthon ecological products are exported. According to the data furnished by the Agriculture Ministry, 95% of the vegetal ecological products and 20% of the animal products were exported in 2004. The ecological products sold to export represent more than the internal sales (15 million euro compared to 1 million euro in which are included the imported goods). Even the Romanian market of organic products cannot have a significant growth, an evolution still exist towards a sustainable development in agriculture. As there is no sufficient demand in Romania, but the profit from the ecological products export instead of conventional ones is significantly higher, many farms chose for the ecological production allocated to external market. The yield obtained is with 20 – 50% lower in comparison with the traditional agriculture, but the export price for the ecological products can be twice – thrice higher, as the producers from the field assert. In Table 1 there are presented conclusive data furnished by the Agriculture Ministry regarding the differences between the export price of ecological and conventional products.

Table 1. Comparative export prices for ecological and conventional products, of vegetal or animal origin (www.maap.ro).

	Shep cheese	Kashk aval	Raspb erry	Sea- buckt horn	Nuts	Hone y	Grain	Sunfl ower	Pea	Corn
Ecological product price (\$/kg)	5	7	3	2	5	5	200	320	140	130
Conventional product price (\$/kg)	3	3	1	1	4	3	160	200	110	110
Price difference (%)	40	133	200	100	25	67	25	50	27	18

There can be observed significant price differences varying between 200% and 18%, the ecological products being exported at higher values in comparison with the conventional ones. The biggest price differences are registered for raspberry (200%) and for kashkaval (133%). The best sold culture plants are the sunflower and the soy obtained from the ecological agriculture, the price difference in comparison with the conventional products being of 60% and 50% respectively. Significant differences are registered also for manufactured products, 133% for kashkaval (the highest percent) and 60% for sheep cheese.

For the ecological honey and fruits 90% of the production/yield is allocated to export. The export is made especially in Western Europe (Germany) but efforts are also made to penetrate the USA market. The forest berries, ecological or not, have a higher price for export, especially if there are certified as ecological (the export volume in 2004 Ecofruct: 800 tone in Germany and Italy). Regarding the ecological medicinal plants, the representatives of the Herbarum Veronicae Import-Export company declare that, in the same way in which the Romanians are not big honey and forest berries consumers they are not tea drinkers. Moreover as the medicinal plants are ecological, the sales volume is not influenced and they are 100% exported, the main destinations being Germany, Poland and USA (www.agriculturaecologica.ro).

The Development of the Ecological Agriculture in Romania

According to the data from Agriculture Ministry and Wall Street Journal, the evolution of the certified surfaces in Romania's ecological agriculture is presented in table 2.

**Table 2. The evolution of the certified ecological agricultural surfaces in Romania
(www.maap.ro, www.wall-street.ro)**

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008
Surface (1000 ha)	17	28	43	57	75	110	170	190	221

In 2007, from the entire surface cultivated in ecological system there was obtained a quantity of products of 230 thousand tones, with 51.3% higher in comparison with the production registered in 2004. Sources of the Agriculture Ministry underline that the ecological branch has an annual increasing potential of app. 35%. Regarding the animal sector the evolution is even more spectacular, in 2007 there was registered a 130% increase of the ecological certified livestock (especially sheep and goats) in comparison with 2006 (www.maap.ro).

A favorable factor for the development of the agroalimentary ecological products in Romania is the existent possibilities for the ecological agriculture and the constant attention to exploit this potential. The particular interest for this domain is reflected also through the development strategy of the ecological agriculture and through the programs of stated actions of the Agriculture Ministry. The strategy for 2003 – 2006 included a series of actions and decisions to support the farmers during the conversion period, especially with subventions, a series of measures intended to ensure the development of the ecological products commerce and of the market in good conditions, the adequate certification of the products and the sensitization of the consumers. Thus, during 2003 and 2004, for farmers support, there were considered the following measures: the non-taxing of the agricultural fields during the conversion period; the farmers subsidizing during conversion period in order to eliminate the negative impact of reducing the agricultural production towards the realized income; the subvention of the certification and control fees during the conversion; the subvention for the conversion to ecological agriculture and production to be conferred only to the farmers that belong to producers groups to stimulate the farmers organization; the subvention of the agro-ecologic

diagnostic of the conventional farms which turn to conversion; the conferring of a global subvention to the producers from the ecological agriculture branch; the supporting by the territorial structures of the Agriculture Ministry of couples formation of farmer under conversion / ecological farmer; the conferring of a bigger subvention in the ecological agriculture for the seed buying in comparison with the seed subvention in the conventional agriculture; the inclusion of some subventions in the rectified 2003 budget for the organizations of national and county producers groups. As a result of these measures conducted by the Romanian State for the ecological agriculture support, the subventions for the ecological products are in average with 20 – 25% higher than the ones received for the classical agriculture.

Table 3. Subventions offered for some ecological products (www.wall-street.ro)

Product	Grain	Sunflower	Vegetables	Eggs	Pork	Beef
Subvention (Lei/kg)	0.06 (2000 to)	0.05 (5000 to)	0.25 (5000 to)	0.10 (/buc)	1.40	0.70

The producers from the branch were sustained in 2006 through direct subventions for those who have animals ecologically certified (milk cows, pigs, sheep/goats and bees families) and ecologically certified crops of soy, field vegetables and early potatoes, greenhouse vegetables, plantations of fruit trees and shrubs, grape vines, textile plants, medicinal and aromatic plants. Support was also conferred through the two measures of rural development of the Sapard program, but most producers did not accessed these founds because of the difficult conditions. For a good development of the organic products commercialization on the Romanian market and for the general market development there were applied during 2003 – 2004 the following measures within the development strategy of the ecological agriculture:

- the restriction of using labels with the mention natural product or any other mention which can create confusion among the consumers in what regards the production method and the product quality;
- the restriction of using during alimentary products advertising (press, radio, television, internet) of the mention natural product or any other mention which can create confusion among the consumers;
- the control of obligatory mentions on products – if it is the case, the mention that the product contain genetically modified ingredients;
- the adoption of the communitary logo on the ecological products label from Romania;
- the subvention of the ecological products for export;
- the support of national and international representation of the national structures of producers, processors, merchants at expositions and fairs;
- the constitution of marketing associative structures for the ecological products;
- the constitution of a virtual market for the ecological products offer organization.

The FNAE website links to www.greentrade.net, which is wrote in three languages and where there can be found the ecological products request and offer (website reserved to professionals from the eco branch), the constitution of some markets and pilot stores. The support of the ecological products certification was made by the Agriculture Ministry to constitute private Romanian certification structures. The first was Ecoinspect created in 2004 through an agreement between the Romanian government and Switzerland of 1 million Swiss Francs, unrepayable amount. Through this project a certification organism credible and efficient was created, with international recognition, as a result of the experience transferred from the Ecological Agriculture Institute of Switzerland to Ecoinspect.

At the building of the market strategy, made with the National Federation for Ecological Agriculture (FNAE), were considered the consumers information by sensitizing actions towards buyers at agricultural farms; the printing of brochures, folders and other mass media instruments; the constitution of a National Observer for Alimentation; the support of popularization on radio and television for groups of producers.

3. European organic food market

The European Commission experts estimate that the European market of ecological products reached in 2008 the value of 23 billion euro, showing an app. 300% increase in comparison with 2001. The ecological products ratio on the alimentary markets from the community countries is quite reduced (app. 3.5%), but for a certain category of consumers it represents a constancy on the shopping list. The main characteristics of the organic products market in Europe are:

- The surface allocated to the ecological production in 2008 was of 18 million hectares, of which app. 8 million hectares for the ecological agriculture (4.9% of total agricultural surface), registering an 220% increase in comparison with 1998;
- The biggest surfaces, in percents, allocated for the ecological agriculture are in Austria (11%), Italy (8.4%), Czech and Greece (7.2%) and the smallest surfaces are found in Ireland (0.8%), Poland (0.6%) and Malta (0.1%). In absolute values, the biggest surface allocated to the ecological agriculture is found in Italy (1.1 million hectares), followed by Germany and Spain (0.8 million hectares cumulated);
- The ecological agricultural farms represent less than 2% from the total of agricultural farms, having average surfaces of over 39 hectares. The biggest organic farms are in Slovakia (463 hectares), Czech Republic (305 hectares), Portugal (148 hectares) and Great Britain (142 hectares). The specified surfaces also include the lands under conversion process (<http://epp.eurostat.ec.europa.eu>).

The ecological products distribution in Europe is characterized by the following elements: the imports of ecological agroalimentary products are predominantly made by specialized importers; the most ecological products are concentrated at large companies (Coca Cola, Kraft, Keloggs, Dole, Heinz, Novartis, General mills, etc); the existence of important commercial relations between the community members (for example the packaging of the organic alimentary products for import in France and Germany and their re-exportation to Great Britain and Scandinavian Countries etc); the predominance of sales in supermarkets and hypermarkets; the increase of the significance and the market share for supermarkets specialized in organic products (www.safonet.org). The market of the ecological agroalimentary products from Germany has the following characteristics:

- The highest potential among the community members, the sales in 2005 were of 5100 million USD (app. 2.5% from the total sales of alimentary products);
- The sales of ecological alimentary products in supermarkets (36%) exceeded the sales from specialized shops (34%), health food shops type. A smaller quota (16%) is represented by the direct sales (www.oekolandbau.de);
- The biggest importer of ecological alimentary products from Europe;
- The German companies from the branch of organic alimentary products have a very important role in the community commerce (Aldi, Lidl, Plus);
- The development and growth of the services domain with organic agroalimentary products;
- The pronounced decrease of the demand of non-organic agroalimentary products;
- A very high level of the concurrence in this market sector;
- Imports supervised by BLF (Federal German Agency for Agriculture and Alimentation) in accordance with the European legislation (www.verbaucherministerium.de);

- The existence of powerful nongovernmental organisms for consumers, producers, processors and importers of ecological alimentary products;

Italy is the second big European market of agroalimentary products being characterized by the following elements:

- Total sales estimated at 3600 million USD in 2005, with an annual average increase of 25%, of which the internal market estimated at 1200 million euro (www.organic-europe.net);
- Over 60% of production is allocated for export, the main partners being the European partners, USA and Japan;
- The main exported products are fruits and vegetables, virgin olive oil, wines, cheese, meat, pasta etc.;
- A decline of the agricultural producers was observed during 2003 – 2004, followed by an ascending tendency starting with 2005;
- Advised consumers concentrated especially in the industrial zone (Northern Italy);
- The selling of organic alimentary products is made especially in supermarkets (over 89%) which created their own commercial ecological mark (Coop, Esselunga, Conad, Giese, Pam), but a 7% market quota is covered by 1000 specialized shops, in Naturasi franchise – franchisor system, located especially in north of country (www.eoanas.org);
- The main players of the organic products market are corporations such as Brio, Ecor, Ki, Almaverde, Alce Nero, Polli, Monini with sales of above 50 million euro in 2002;
- The increase of the catering sector with organic products, with over 100 specialized restaurants;
- The existence of a governmental program for introducing the organic food in schools.

Great Britain is the third ecological products market in Europe, after Germany and Italy, having the following essential features:

- Sales estimated at 2500 million USD in 2005 with an annual growth rate of app. 30%;
- The second importer of ecological alimentary products from Europe and the most import-dependent among the communitary members;
- The existence of a decreasing import tendency for protecting the indigenous producers, but is still estimated a high level of imports in the future;
- The increase of non-alimentary ecological products request;
- The existence of a governmental program for introducing the ecological aliments in schools (2005 – 2008);
- Advised consumers, thus existing a powerful tendency anti-GMO and for the animals protection;
- The selling of organic alimentary products is made mainly through supermarkets like Tesco, Waitrose, Sainsbury's, Marks & Spencer, COOP, Asda, Budgens (over 80% from the total sales) and only 18% through specialized health food type shops;
- The development of the services sector of ecological agroalimentary products (www.soilassociation.org).

Switzerland is the European state with the highest ecological products consumption per head. The sales of organic products in 2005 were estimated at app. 1000 million EF, being made especially through the COOP and Migros supermarkets (over 75% of the total organic products sales) (www.biosuisse.ch).

During the last period the Swiss market of organic products had a stationary evolution due to some factors such as: the high increase of the discount sales sector, the increase of the premium products segment, the consumers' orientation towards conventional or organic

alimentary products with low prices (www.ceprogol.gov.org). This tendency can lead to the reorientation of the agricultural producers to the traditional agriculture or to the discovering of shorter distribution pathways for the organic products towards the consumers (Garibay, V.S., 2007).

4. The International Market of Ecological Agroalimentary Products

In a recently made study by IFOAM it is stated that almost 31 million hectare are now certified for the ecological agriculture in the world, in comparison with the 24 million hectares in 2004. Australia keeps detaining the largest certified surface for organic agriculture of 11.8 million hectares, followed by Argentina with 3.1 million hectares, China 2.3 million hectares, USA 1.6 million hectare and Italy 1.1 million hectare (www.fibl.org). In percents, the most important surface ecologically certified is detained by Oceania (39%) followed by Europe (23%) and Latin America (19%). A conclusive dynamics evidenced by a study of the International Trade Centre (ITC) conducted during the past 8 years, registered the surface allocated for the ecological agriculture in USA (over 400.000 hectares) and in some European countries (over 110.000 hectares in Italy and 85.000 hectares in Poland). To these surfaces allocated for the ecological agriculture are added another almost 62 million hectares which accomplish the ecological standards for wild plants collecting. The organic products commercialized on the alimentary products markets represent app. 2 – 2.5% in USA, 1 – 3% in EU, 0,9 – 1% in Canada and 0,35 – 0,45% in Japan (www.intracen.org). Globally, it is determined a pronounced increase of the total selling of organic products with 15% annual average in comparison with a general increase of the annual selling of agroalimentary products of 4 – 5%. The vegetal products (fresh vegetables and fruits) represent app. 40% of the total sales of ecological agroalimentary products, having an annual rate of sales increase of 8.4%, the remaining products (milk and dairy products, bread, other products, frozen aliments and food for children) having a superior annual increasing rate of app. 36% (Kortbech-Olesen, R., 2006). The selling dynamics of ecological agroalimentary products is presented in table 4.

**Table 4. The increasing of the global sales of ecological agroalimentary products
 (www.fibl.org, www.intracen.org)**

Year	1997	2001	2003	2004	2005	2006	2007
Global sales (bill. USD)	10	19	25	27	33	37	41

During the studied period there are observed important changes in the selling system of these products, with an increase of the sales volume in supermarkets – from 3% in 1997 to over 50% in 2003 – in the detriment of specialized shops, markets and direct sales in farms. The global tendencies manifested on the agroalimentary products market are represented by: the fast increase of the demand of ecological agroalimentary products which, in many cases, exceed the offer; the demand of processed ecological agroalimentary products overreaches the demand of fresh ecological products; the concentration of the marks in the commercial companies portfolios in the producers detriment; the concentration of the sales in supermarkets. The opinion surveys made among the consumers conclude that the majority purchase these products due to reasons such as the low content of chemical substances (46%), the health benefits (40%) and less because of the commercial discounts (5%) or of the controversies related to certain aliments (9%) (www.fibl.org). These tendencies manifested in market act on the ecological agriculture producers: the commercial companies and the industrial processors require from the providers of raw material larger quantities, constant supplies, quality, the products certification and different specifications, in many cases the offered prices are inferior to the production costs; the buyers from the supermarkets are not interested in the agricultural producers; small and medium farms are disadvantaged in the relations with the sellers and with the processors of ecological agricultural raw materials.

Thus, it can be asserted that the market along with the environment and with the agricultural cultures constitute the essential points in the organization of the organic agricultural farms, determining the rules and the decisions taken by the agricultural producers such as the soils cultivation, the agricultural management, the farm biodiversity, the agricultural landscape etc. (Garibay, V.S., 2007.).

The Characteristics of the American Market of Organic Food Products

The high interest of the consumers for the organic alimentary products, manifested especially after 1990, developed new opportunities for the producers and led to the transformation of the American food industry sector. The incipient distribution of organic products was made through a small number of specialized shops. Along with the increase of the demand the selling of organic food products expands into the general food stores, supermarkets and food markets. In the sector of organic food processing occur a series of transformations imposed by the products request from the market. Thus, new producers appeared and certain old processors in the food industry introduced organic products in the offered industrial assortment. There were also allocated important surfaces for the cereal, vegetable and fruits breeding, fact which constrained the federal authorities to elaborate a policy in this field, standards for production and commerce, to extend the research activities and to help the producers. In 1992 it was adopted by the Congress (becoming effective in 2002) the National Organic Program (NOP) elaborated by the United States Department of Agriculture (USDA). The American standards for the ecological products (USDA-NOS), effective from 2002, include three sections and state the conditions, the methods, the practices and the substances used in production, crops transport and storage, animal breeding and organic raw materials processing. According to these standards the production of organic food is defined as "a production system conducted according to the Organic Food Production Act and to their rules so that it responds to the integration specific conditions of the biological crops and of the mechanical practices, to the promotion of the ecological balance and biodiversity preservations" (OFP Organic Rules and Regs, WSDA).

The American market of organic food products is in full development, in the last 10 years it registered an annual average increase of their products sales of 17 – 21 %. In 2008 the American market of ecological products reaches app. 21 billion \$. The average consumption of organic products per head reaches app. 43 \$, registering an increase of over 30% in the past 5 years. The milestones in the specialized market evolution are: the year 2000 when there were sold for the first time more organic alimentary products in the conventional food shops than any other alimentary products and the year 2005 when the number of specialized stores increased with 50% in comparison with 2000 (this number reached 30 thousand). This significant increase of the organic food demand can be justified through the insertion of the ecological label which led to a superior information and education of the consumers through the classification of the federal standards of ecological food production and commerce, psychology modifications of the American food consumer and also the increase of the bio products accessibility through the distribution migration from the small shops to the super and hyper markets. Thus, the insertion of the obligatory labeling USDA ORGANIC of the organic alimentary products conducted, in short time, to their usage as an important marketing instrument attracting the attention of the internal and foreign producers. The agriculture response at the increasing demand of ecological products was to double or almost triple the surfaces organically cultivated during a 5 – 10 years period. The response of the organic food processors at the market demand materialized in the release of over 800 new products during 2000 and over 100 new products during 2005, most of them from drinks and confectionery sectors.

The retail sales of organic alimentary products experienced an ascending dynamics with an annual average increase between 7.7% in 2001 and 25% in 2007 (www.usda.gov). The main organic products traded on the American market are vegetables and fresh/frozen fruits, animal

products (dairy products, meat and eggs) and processed products (bread, pasta, drinks, sauces, spices and packaged alimentary products). The distribution channels are represented by the specialized and traditional food shops and by the agroalimentary markets. A specific system which developed during past decade is the direct sales at the farms (www.researchandmarkets.com).

A direct sale alternative which significantly increased the American farmers profit during past years is the harvesting of the fresh vegetables by the consumers directly from the specialized farms. This method spread all over the USA territory, after 2000 appearing even guides with these types of farms. During 2005, on the USA territory, there were over 1000 farms wherefrom the consumers could directly harvest vegetables and fruits (www.ccir.ro). The studies made on the North-American market by the specialized institutions in the food sector concluded that the organic food production is more profitable than the conventional one, is closer to the environment protection requirements and the food thus obtained is healthier. These considerations, the federal subventions (quite low compared with the European one), but especially the consumers preferences for the organic food led to the orientation of an increasing number of farmers to the ecological agriculture. During 1997 app. 1.35 million acres were allocated for the organic agriculture of which over 66% were cultivated with harvesting plants and the rest with pastures. These surfaces were certified for the ecological agriculture. During 2005 the total certified surface for the organic production in USA was of almost 1 million hectares. This increase was sustained especially by the spread of the surfaces allocated to the vegetables and fruits breeding. The surfaces cultivated through organic methods with vegetables and fruits were duplicated in 1997 in comparison with 1994, reaching in 2005 at app. 350 thousand acres in 44 states. In 1997, app. 2% of the fruits and vegetables production in USA originated from the surfaces cultivated through organic methods, this percent reaching 4% in 2005. The certified surface for the organic cropping of the grain increased from 125 thousand acres (~50.6 thousand hectares) in 1997 to 250 thousand acres (~100 thousand hectares) in 2005. Significant surfaces were allocated also to the production of corn, soy, rice, barley and sunflower (www.ccir.ro).

The animal agricultural production consists in: the certification incumbency only for the farms which have annual sales of over 5000 \$, the organic milk production increased with 51% during 1995 – 1997 and doubled during 1997 – 2005. The number of cows certified for the organic milk production doubled from 1994 to 1997 and then tripled in 2005. In 1999 the certification for the organic meat production started and it was highlighted, for the first time, in 2002. Since then the number of certified animals increased significantly, especially that of cows and chickens.

The support given by the federal authorities for the organic agricultural production appeared defined for the first time in the Farm Security and Rural Investment Act from 2002. According to this law, the USDA returns to the producers from 15 states up to 75% of the certification costs or maximum 500 \$. There are provided subventions for research and for promoting the consumption of organic food products. Those who produce only organic products are also exempt of certain taxes on marketing activities.

US Consumer Traits of Organic Products

The studies made by the specialized institutes (Food Marketing Institute, Hartman Group, Walnut Acres, etc) stated that in 2000 only 11% of the consumers bought organic products, from which only 2% were constant consumers of these types of products. These percents increased at 19% and 5% respectively in 2005. The opinion surveys made between the consumers, regarding the consumption reason of organic products led to the following answers: health maintenance (66%), better taste (38%) and environment protection (26%). A small part of the consumers choose the organic products fearing the diseases of animals by using the antibiotics and hormones or fearing the exposure to certain restricted substance for

human consumption. The high price of the organic products is the main reason for which the most consumers do not buy organic aliment. The main factors considered by the consumers at the acquisition of the organic products are: the price, the quantity and the packing and also the organic product labeling. The high-income consumers and the ones with superior education tend to purchase mainly organic food products. The profile of a constant organic food consumer is that of a young family where the wife does the shopping.

Distribution Channels of Organic Products

Each product, fresh or processed, goes through a well established way from producer to consumer. The storage and transportation must ensure the maintenance of products characteristics. The distribution chain used for the vegetal organic products is generally short, with few links, such as agricultural farm – processor – distributor / wholesaler – retail seller – consumer. As a result of the high price of the organic products the farmers have enough reasons to sell products of superior quality even if they follow a longer path until they reach the consumers. The maintenance of the qualities and characteristics of the organic food products is an incumbent requirement which makes them to reach faster the consumers. The farmers must sell their products immediately after harvest, and the distributors and the wholesalers have to find the best ways for these products to reach the shops faster. The first step in the distribution chain in what regards the organic fresh fruits and vegetables is ensured by the farmer (producer) through cultivation, harvesting and preparation for transport. In some cases the producer provides the transportation and the packaging. Thus, the organic product gets either to a wholesaler or to a broker. Practically, most fresh organic products are sold through a specialized agent. Their selling in supermarkets increased from 833 million \$ in 2000 (which represents 69.4% from the total sales of fresh organic products) to 1504 million \$ in 2005 (representing 73.2%). The most sold fresh organic vegetables and fruits in 2005 were: tomatoes, salad, carrots, apples and strawberries.

The cereals and the seeds of the cultivated plants through organic methods (grain, corn, rice, soy, barley, oat and sunflower) are used mainly as raw material for the obtaining of certain organic food products. The distribution chain of these products is similar with the previous, with a slight exception - after leaving the farm the product is delivered to the processor. The best sold organic products, obtained from cereals and seeds, were the dinks (except the dairy products), their sales reached 395 million \$ in 2000 and increased up to 516 million \$ in 2005. The sales of bread and flour products obtained from organic cultivated seeds were of 848 million \$ in 2000, increasing up to 1067 million \$ in 2005. The certified surfaces ratio cultivated with cereals for the organic production increased from 1% in 1997 to 6% in 2005. The category of processed organic food products includes frozen and prepared vegetables and fruits, pasta, preserved vegetables and fruits, and jams. The processors are constrained to use at their fabrication organic certified raw material, of a certain degree, quality and size. The screening of raw material and the assistance given to the provider represent the essential elements for the processors. In the distribution chain of these products the farmers provide the raw material to the processors and in some cases the processors ensure the transportation. In this chain can also intervene a broker which distributes the products to retail shops.

The distribution chain of meat organic products follows the route: farm – processor – (wholesaler/distributor) – retail seller. Nationwide, the distribution is based on sales under an acknowledged mark; the companies owning such marks collect the raw material from certified farms. In 2000 app. 11% of the meat sold in specialized markets derived from organic production, in 2005 showing an increase of up to 23%. During 2000 there were certified app. 6700 animal heads for the organic meat production, 40% of them being located in Minnesota. In 2005 the number of animals certified for the organic production is over 12,800 heads. Regarding the poultry, in 2000 there were certified over 1 million birds, over one third being located in California. In 2005 the number of birds bred for the poultry organic production was of 2.1 million. In 2002 the exports value of organic food production was estimated at app. 200

million \$, 65% of it being delivered in Canada. In 2005 the exports increased with app. 29% in comparison with 2000, reaching 250 – 260 million \$. Other destinations of the USA exports were Japan, European Union, Taiwan, Korea, Australia and New Zealand. The most required products for export were soy beans, ingredients for processed products, fruits juices, frozen vegetables and dried fruits. The exports values are relatively low because of the massive requirement of the internal market. The organic products imports in USA, mainly from Latin America, South-East Asia and Scandinavian Countries, were estimated in 2002 at app. 1.3 – 1.5 billion \$. The annual average increase is of app. 11%, reaching in 2005 an estimated import value of 1.9 – 2.1 billion \$.

1. References

2. Garibay, B.S.,2007, *Organic supply chain- general trends*, FiBL, BIOFACH
3. Kortbech-Olesen, R., 2006, *Demand for organic product from Africa*, UNCTAD/WTO/ITC
4. Man, C., Aldescu,T., Bodiş, A.,Albert, I., 2004, *Ghid legislativ pentru agricultura ecologică*, Ed. Risoprint, Cluj –Napoca
5. Rauţa, C.F., 2007, *Marketingul ecologic, o nouă perspectivă în dezvoltare firmelor de afaceri*, Teză de doctorat, ASE Bucureşti
6. Stanciu, S.,2008, *Piata produselor ecologice*, Ed . Academica, Galati (apărut în *Alimente ecologice*, editor Costin G. M.)
7. Timiraş, C.L., 2007, *Tendenţe în marketingul produselor agroalimentare în contextul extinderii Uniunii Europene*, Teză de doctorat, ASE Bucureşti
8. *** www.agricultura-ecologica.ro
9. *** www.ansv.ro,
10. *** www.apc-romania.ro
11. ***www.biblioteca.ase.ro
12. *** www.bio-suisse.ch
13. *** www.ceprogol.gov.org
14. *** www.e-green.org
15. ***<http://europa.eu>
16. *** <http://eu-lex.europa.eu>
17. ***<http://europa.eu>
18. *** www.fibl.or
19. *** www.greentrade.net
20. ***<http://legislatie.just.ro>
21. *** www.intracen.org
22. ***www.maap.ro
23. *** www.naturaland.ro,
24. *** www.oekolandbau.de
25. *** www.organic-europe.net
26. *** www.realitatearomaneasca.ro
27. *** www.safonetwork.org
28. *** www.soilassociation.org
29. *** www.usda.gov
30. ***www.verbraucherministerium.de
31. *** www.wall-street.ro

Brief Remarks Regarding the Value in Customs of the Imported Commodity

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Abstract

The value in customs of the imported commodity is, according to the Agreement regarding the putting into application of article VII of the general Agreement for customs tariffs and trading (GATT) 1994, the transaction value, respectively the effective price paid or payable for commodity when they are sold for export, on the customs territory of the Community. When the value in customs cannot be established based on the transaction price, it is established by successive pursuance of the evaluation rules up to the first, in accordance with which this value may be established. The technical committee of evaluation in customs within the European Commission intervened in numerous times and issued guiding decisions, because in practice, the evaluation proved to be an extremely and non-unitary phenomenon. Having as starting point the commentaries of the Technical committee of evaluation in customs, we propose therefore to evidence the most important methods of establishment of the value in customs, which have to be taken into account on the customs evaluation, and which, mainly, should not be based on certain elements, like: the sale price in the Community for commodity produced in the Community, the price of commodity on the internal market of exporter country, minimum values in customs, arbitrary or fictive, etc.

Keywords: customs evaluation; transaction value; sale price; value in customs; evaluation rules

JEL Code: K34; F13

1. Common customs tariff and value in customs

The application of common customs tariff of the European Union is mainly influenced by three essential factors: kind of commodity, origin of commodity and their value in customs. The establishment of the kind and origin of commodity leads to the establishment of appropriate customs fees to the community integrate customs tariff (TARIC)¹⁴⁴ as well as of tariff preferences provided in the free exchange agreements or free trading, concluded by EU with different states or groups of states.

The TARIC is based on the combined nomenclature, composed by 10,000 codes that constitute the basic nomenclature for the Common Customs Tariff, also being the basis for the external exchanges of Community or the exchanges between the member states.

The principles of establishment of the value in customs, which are applied in the customs activity of commodity to putting in the free circulation or to import are those provided in the Agreement regarding the application of article VII of the general Agreement for customs tariffs

¹⁴⁴ The Community Integrate Customs Tariff has been regulated from the legal point of view by article 2 of the Regulation 2658/87

and trading (GATT) 1994, as well as in the Agreement at Marrakesh regarding the constitution of the Worldwide Trading Organization.

The first basis for establishment of the value in customs, in virtue of the Agreement regarding the application of article VII of the GATT Agreement is "the transaction value", as defined in Article 1. This Article has to be corroborated with Article 8, which provides, among others, adjustments of effective paid or payable price, when certain specific elements, which are considered as taking part to the value in customs are under the charge of purchaser, but they are not included in the effective paid or payable price for the imported commodity. Article 8 also provides the inclusion in the transaction value of certain provisions made by the purchaser in the favor of seller, under the form of commodity or determined services, more than under the form of money. The Articles 2 through 7 inclusive, express the methods of use for establishment of the value in customs, if this establishment cannot be made by the application of the provisions of Article 1.

When the value in customs cannot be established by the application of provisions of Article 1, the customs administration and the importer must normally advise for finding of the value basis by the application of the provisions of Articles 2 or 3. It may happen, for example, that the importer to own information regarding the value in customs of the identical or similar imported commodity by the customs administration, from the entry point in the country, not to decide correctly. On the other hand, the customs administration may have information regarding the value in customs of the identical or similar imported commodity, to which the importer does not easily have access. An advise between the two parties allows the exchange of information, by the observance of relative obligations to the trading secret, for the purpose of establishment of the correct basis for the evaluation in customs.

The Articles 5 and 6 supply two bases of establishment of the value in customs when it may not be established based on the transaction value of imported commodity or of the identical or similar imported commodity. In accordance with paragraph 1 of Article 5, the value in customs is established on basis of the price to which the commodity is sold in the condition in which they are imported, to a purchaser who is connected to the seller in the import country. The importer has also the right, on his request, that the commodity that make the object of a processing or transformation after import to be evaluated by the application of the provisions of Article 5. In accordance with Article 6, the value in customs is established based on the computed value. The two methods present certain difficulties, and, for this reason, the importer has the right, in accordance with the provisions of Article 4, to choose the order in which the two methods will be applied. Article 7 expresses the means in which it is established the value in customs, unless any of the previous articles allow it.

2. Definitive delay of establishment of the value in customs

The definitive establishment of the value in customs is delayed in accordance with the provisions of art. 57 align. (4) and (5) of Law no. 86/2006, regarding the customs Code of Romania, in the following situations:

- a) when it is necessary the adjustment of effective paid or payable price, according to art. 8 of the Agreement regarding the application of the article VII of general Agreement for customs tariffs and trading 1994, ratified by Law no. 133/1994, with further modifications, and the moment of import, it cannot be presented concluding documents that allow the exactly establishment of the amount to adjust;
- b) when the paid or payable price does not include or is suspected not to include all the payments issued or to issued as a condition of sale of the imported commodity by the

purchaser to the seller, or by the purchaser to a third party, for satisfying a liability of the seller;

c) in any other situations in which, by the establishment of value in customs, based on the transaction value, it is necessary the presentation of additional documents or justifications, regarding the exactness and reality of the stated value.

When, at the moment of performing of the import customs formalities, it ascertains that the value in customs may not be established by application of art. 1 of the agreement, even if should proceed to the delay of definitive establishment of the value in customs, the customs office will apply the provisions of art. 2 – 7 of the agreement, in the order provided by it, the value in customs this way established having a definitive character.

The delay of definitive establishment of the value in customs is decided by the chief of the customs office or by the customs agents, appointed by him, by service order, after analyzing the attached documents to the customs statement of import, as well as of other documents and information, by which the customs office is acknowledged. The delay of definitive establishment of the value in customs may be decided also as a consequence of written request of the importer, addressed to the customs office, where to justify the reasons for which this delay is required.

The delay decision of the definitive establishment of the value in customs is communicated in writing to the importer before the raising of commodity from the customs. In the case that it proceeded to the delay of the definitive establishment of the value in customs, the importer may raise the commodity from the customs, under the circumstance of supplying to the customs authorities of a sufficient warranty for insuring the encashment of the appropriate rights of import for the relevant commodity.

In the situation provided at the previous alignment, the rights of import, computed on basis of the value in customs, stated by the importer is cashed and paid to the state budget, and the warranty¹⁴⁵ established according to the provisions of the current decision is constituted at the customs office, where there are performed the customs formalities of import, before the granting of customs free.

For the establishment with a temporary title of the value in customs, the customs office takes into account, as the case may be, the following elements:

- a) the transaction value that results by the documents presented by the importer;
- b) the value of expenses which are included in the value in customs according to art. 8 of the agreement, estimated by the importer based on justifying documents and accepted by the customs office and/ or established based on other information by which the customs office is acknowledged;
- c) any amount that may be considered a part of the total payment performed or to perform as a condition of sale of the imported commodity by the purchaser to the seller or by the purchaser to a third person, to satisfy the obligation of the seller;
- d) the information included in the database of the customs authorities.

In the circumstance that there does not exist concluding elements that may be taken into account accordingly, the customs office will establish the value in customs with temporary title by the successive application of the provisions of art. 2 – 7 of the agreement.

¹⁴⁵ the sufficient term of warranty represents the quantum of the import rights, computed on basis of the value in customs, established by the customs office with a temporary title, by which it deduces the import rights, computed on basis of the value in customs, stated by the importer and paid at the state budget.

The customs office is liable to analyze the documents that the importer has to present, in accordance with art. 57 align (5) of Law no. 86/2006 regarding the customs Code of Romania and to take a decision regarding the establishment of the value in customs with definitive title within 30 days from the date of communication of these documents, except for the cases provided by align. (2) – (6), when the term is appropriately prolonged.

In the circumstance when the customs office ascertains the need of presentation by the importer of additional documents and justifications about which it considers that there are in the possession of the importer or the importer has the quality to enter in their possession, require him in writing, in the shortest time possible, but not later than 10 days from the date of reception of the documents, according to align. (1). In this case, the importer is liable to present the documents and justifications within 30 days from the date of communication, under lawful conditions of the requirement of the customs office, situation when the term for the taking up of the decision regarding the establishment with definitive title of the value in customs flows from the date of official reception of these documents and justifications.

In the circumstance when, for taking up a decision, the customs office ascertains the need of performing of a control at the headquarters of the importer and/ or at the storage place of commodity, he transmits in writing this request to the customs regional division, in the suborder of which it is, in the shortest time possible, but not later than 10 days from the date of reception of the documents. In the request addressed to the customs regional division, the customs office will notify the need of performance of the control at the headquarters of importer and/ or at the storage place of commodity, attaching all the documents regarding the import operations in his evidence, as well as the control objectives.

In the circumstance provided at the previous align., the customs regional division will analyze the request of the customs office, and, in case that it is ascertained as justified, will inform in writing both the customs office and the importer and will proceed to the performance of control at the headquarters of importer and/ or at the storage place of commodity. If the headquarters of importer and/ or at the storage place of commodity is in the competence area of other customs regional division, the control request of the customs office, as well as the documents attached to it, are re-transmitted to this division within 24 hours. This case, the term of taking up of the decision regarding the definitive establishment of the value in customs is prolonged on the justified duration of the control performed by the customs regional division, but it may not surpass 60 days.

In the circumstance that the customs regional division ascertains that for the definitive establishment of the value in customs is not justified the performance of control at the headquarters of the importer and/ or at the storage place of commodity, it will inform in writing the customs office, within 10 days from the reception of request.

The customs office, and, as the case may be, the customs regional division, have the obligation to take operatively all the necessary measures for the finalization of analysis and of the inspections that impose in every case. The maximum term of taking up of the decision regarding the definitive establishment of the value in customs may not surpass totally 160 days from the date of raising of the commodity from the customs.

The warranty is constituted in the forms provided at art. 215 and 216 of Law no. 86/2006. The constituted warranty stays on the disposition of customs authorities within the terms provided by law. In the circumstance that the warranty is constituted by discount instruments, recognized as means of payment by the State Treasury, the validity term of it has to be of minimum 175 days.

The decision regarding the definitive establishment of the value in customs is taken by the customs office by the conclusion of a control minutes of the value in customs, which establishes the availability or encashment, totally or partially, of the constituted warranty and includes the detailed description of reasons that stood at the base of measure. The control minutes of the value in customs is communicated to the importer within the terms provided for the taking up of the final decision regarding the establishment of the value in customs.

If by the control minutes of the value in customs, it is established the totally or partially encashment of warranty and it has been communicated by a banking warranty letter, the minutes is communicated with at least 15 days before the expiry of the validity term of the warranty. Against the minutes, it may express contestations according to the title IX "Resolution of contestations expressed against the administrative fiscal documents" of the Government Ordinance no. 92/2003, regarding the fiscal procedure Code, republished, with further modifications and addings.

Based on the control minutes of the value in customs, by which it establishes the totally or partially availability of warranty, the importer may require the appropriate application of the provisions of art. 221 of the Law no. 86/2006.

3. Commentaries of the technical evaluation Committee in the customs. Recommendations of unitary application of the establishment of the value in customs.

The principles upon which the identical commodity are characterized are those expressed at art. 15 of the Agreement and these refer to the physical, quality and reputation characteristics. The minor differences of aspect do not constitutes a reason that the commodity, in accordance with these definitions, not to be considered identical.

The similar commodity are commodity that, without being the same in all the respects, present similar characteristics, are composed by similar materials, which allow them to fulfill the same functions and to be interchangeable from the trading point of view.

To establish if the commodity are similar, it should be taken into account, among other factors, the quality of commodity, their reception and the existence of a fabric mark or a trademark. The Article 15 of the Agreement specifies, also, that only the commodity produced in the same country where there are produced the evaluation commodity may be taken into account as identical or similar to these commodity. The commodity that incorporate or behave engineering, studies, art or design, or plans or diagrams works, performed in the import country, are not considered as identical or similar commodity.

In which regards the commodity that make the object of a solvencies or primes to export, these are instruments of the trading policy, under the form of economic aids, granted by governments to natural or legal entities or the administrative authorities, directly or indirectly, designed for the development of production, manufacturing or export of certain products. In this respect, it is necessary to take into account the Agreement regarding the interpretation and application of articles VI, XVI and XXIII of GATT, signed at Geneva on 12th of April 1979. It therefore puts the problem in which measures the subventions are treated within the Agreement, regarding the application of Article VII of the Agreement GATT.

It is mainly about the fact that if a subventioned price may be accepted for the purpose of establishment of a transactional value in accordance with art. 1. In the case of subvention commodity, the transactional value may not be rejected unless one of the conditions specified at paragraph 1 of article 1 is fulfilled. The problem that raises is if a subvention may be

considered as a condition or a provision to which it is subordinated the sale or the price and of which value may not be established. The same time, taking into account that the fund principle of the Agreement is the transaction concluded between the purchaser and the seller, all that intervenes between them, any condition or provision has to be interpreted in such a context as an obligation that binds the purchaser to the seller. Consequently, the simple fact that the sale has been subvention, it is not sufficient that the paragraph 1 b) of article 1 to be applied.

The Article VI of the Agreement GATT defines the dumping as being the introduction of products of a country on the market of another country at an inferior price to their normal value. According to the provisions of the general introduction to the Agreement regarding the evaluation, the member states agreed that the evaluation procedure must not be used for fighting against dumping. Consequently, when a form or another of dumping is doubted or established, it must be fight against by the aid of antidumping rules in force in the import country.

By the occasion of the 10th session of the technical evaluation Committee in customs, it was adopted the Decision no. 4.1 regarding the evaluation of information supports designed for the equipments of data processing. Based on this decision, it decided that for the establishment of the value in customs of the information imported supports that include data or instruction, it only takes into account the cost or the value of information support. The value in customs does not therefore include the cost or the value of data or instruction.¹⁴⁶ This situation, it is necessary that the value of data or instruction to be distinctly invoiced by the value of the support.

In the case that, by the occasion of import, the value of data or instruction is not distinctly invoiced by the value of support, it may follow the application of article 13 of the Agreement, the importers being able to raise the commodity from the customs, by the condition of deposal of a warranty that cover the equivalent value of the rights of import, following that ulterior to produce the customs, within the terms established by law, the proof of the value in customs of the information support.

References

1. Bădescu, Ghe., Dragnea, E., Ghiță, C., *Valoarea în vamă a mărfurilor de import*, Ed.Lumina Lex, Bucharest, 1998
2. Caraiani, Ghe., Diaconu, G.Șt., *Tariful vamal integrat*, Ed. Lumina Lex, Bucharest, 2002
3. xxx *Examen des politique commerciales – Roumanie - Rapport du Secretariat (WT/TPR/S/60.03.09.1999)*
4. xxx *Communautes Europeennes – La politique douaniere de l’Union europeenne*, Office for Official Publications of the European Communities, Luxembourg, 1999
5. xxx *European Commission, Company taxation in the internal market, COM (2001) 582 final, 2002*
6. xxx *Directorate-General for Taxation and Customs Union, European Tax survey, European Commission; 2004*
7. xxx *European Commission; Directorate-General for Economic and Financial Affairs, Fiscal policy in EMU. Rules, descretion and political incentives, 2004*

¹⁴⁶ See the Order of ANAF Vicepresident no. 5720/2006 regarding the abrogation of the Decision of the general manager of the General Division of Customs no. 368/1998, regarding the evaluation of information supports for the equipments of data treatment, including data or instruction (published in the Official Gazette of Romania, Part I, no. 358/20.04.2006

Study on Motivative Factors and Satisfaction Rate of Students Concerning the Bachelor Studies in the Financial-Banking Field

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Abstract

Today, marketing is essential for each university as they have to identify the needs of potential candidates (students) and satisfy these needs so as to have a long-term cooperation between the university and its students. The rapid development of universities and increasing competition in the current academic environment require universities to provide a good level of training to differentiate from the competitors offer. The quality of a university is rated by several motivating factors, that is why it should be the starting point for any proposed change. Universities need to maximize student satisfaction, minimize their dissatisfaction and so they will improve performance (Rowley, 2003). That is why the overall objective of this study is to investigate and analyze the criteria of choice for students in the financial-banking field, extent of satisfaction regarding the chosen specialization, jobs and training opportunities offered by the Faculty of Economics within "Dunărea de Jos" University of Galati. In terms of methodology, the study was conducted as a quantitative research, using as a tool for research the questionnaire, the implementation was accomplished among students in the 2nd and 3rd year, studying financial and banking in the Faculty of Economics. Conclusions of the work will materialize in identifying the most important selection criteria, the most significant elements of influence and the most relevant sources of information used in this process.

Key words: students, higher education, satisfaction rate, financial-banking, educational marketing.

Introduction

Faculty of Economics is one of the most modern and dynamic faculties of the University "Dunarea de Jos" of Galati, which has about 14,000 students whom it prepares for college level, masters and doctoral degrees, and yet we wonder: Why it is not in the top 10? The present survey aims to identify aspects that should be improved in higher education in the Faculty of Economics, in the financial-banking field, on bachelor degree, in order to become

second to none. To learn how to improve the quality of higher education, firstly we must see the student satisfaction level, mostly in the finance-banking field (the largest specialty), addressing the following important factors related to: the services provided by teachers, library and secretarial services, cafeteria services, offered places in faculty campus, equipment in classrooms.

Development of such a study on student satisfaction is necessary to learn about the most important factors that influence students in choosing faculty, also to identify needs and expectations and determine to what extent the faculty can fulfill these expectations. Knowing these factors will allow the rating of interest for present and future studies. This paper is a study on motivating factors and student satisfaction level related to university bachelor studies, in financial-banking field, developed in order to examine the dimensions of their educational experience.

1. Educational marketing and student satisfaction studying

Ever since the early nineties, in the context of great structural transformations suffered by the Romanian society, transformation that have imposed a chain reaction of changes in mentality and practices, the urge for the reformation of higher education in Romania became obvious. Marketing is one of the instruments that can help the higher education to adapt to the changes it faces, due to technological evolution in the communications and information fields and also due to new optimizing methods for shaping the image of universities. Nowadays, design, speed and standardization are becoming more and more important means of influencing the student's choices (Kotler, 2006).

Education and scientific researching are key factors for progress and development, economical modernizing, activity that shapes characters, generates cognitive forces which manage the present and foresee the future (Price et al., 2003). The extent of applying in the higher educational facilities is closely related to the extent of development of the country, which further proves the rapidly decrease in student numbers across Europe's countries (Alves, 2005). The posture of students in the role of clients for the faculty is relatively new. Crawford (1991) used this concept for the very first time about 16 years ago. In universities across all Great Britain, this new concept regarding students was accepted some ten years later, but not totally. The students are not clients in the whole sense of the concept, thus their relationship with the university is based on a partnership, the students participate on the quality of education improvement (Yorke, 1999).

Rowley (2003) has identified various reasons for the universities to realize marketing researches, receiving thus a feedback from their students:

- Encourage student's way of learning;
- Offer the students the possibility to express their level of satisfaction regarding the educational program;
- Allow universities to measure and to impose certain indicators which would contribute on the increase of their reputation on the market;
- To keep track in order for students to be sure about their future path, this also helps improve the quality of the higher education.

A recent study developed in Italy, in one of the most prestigious and representative universities, University of Bari, has shown that the evaluation of teachers by their student highly reflects the tutor's teaching skills, which proves yet again that the students opinions should be taken into consideration. Another study, developed in Iasi, tried to identify the perceptions regarding the Romanian higher education system, and revealed that the vast majority of the students show a medium level of trust in the university promises. Comparing

the results of this study with the ones gathered in 2002 it is clear that the level of student trust in university promises has shrunk. Therefore it is wise to say that analyzing the level of satisfaction among the students has become essential.

2. Objectives and methodology

The higher education has become a very competitive domain and this is why the students nowadays have a large scale of choices and confront themselves with various complex decisions prior to reaching the right choice. In these conditions the university must identify all motivating factors that drive the students into their choices and also the level of satisfaction that they need in order to make them an offer they would be delighted to take. This here paper and research has as main objective investigating and analyzing the criteria that form the basis of student's choices in the financial-banking field, resulting in various objectives like: the importance of the criteria for choosing attending a faculty, satisfaction rates regarding the services offered by the faculty and the financial-banking field. As the instrument for gathering the information, the questionnaire has been used thus it is an essential element in realizing the research, and the method used is called the survey. Gathering information was realized through self-administrative audit and also through e-mail. The questions in the questionnaire were closed questions, dichotomyc, multidichotomyc, with single or multiple answers.

The students were asked to rank, depending on the grade of satisfaction, the services offered by the faculty, cafeteria, places in the faculty campus, services offered by the secretariat etc. Students were also able to specify their level of satisfaction regarding the field of financial-banking, taking into account the field subject matters, tutors, ways of assessment, practical knowledge etc. They had the opportunity to pick from a series of criteria: very pleased, pleased, displeased, very displeased. The population questioned in this sample was formed by students of the Faculty of Economical Sciences, years second and third, and attending financial-banking classes. This sample had 220 students and its structure is presented in the table below.

Table 1. Sample demographic profile

		Frequency	Percentage
Sex	- Feminine	121	58%
	- Masculine	89	42%
Year of Study	- 1 st	84	40%
	- 2 nd	126	60%

Concerning the methods of data analyzing, they were processed with help from the SPSS program. Univarieded analyzes were made, thus obtaining series with absolute, relative and cumulated frequencies. For better characterize the interviewed population, we used tables of frequency, obtaining in this manner a better data synthesizing as well, for presenting the results. Furthermore, in this study we suppose that a link exists between the level of satisfaction about the field of financial-banking and sex, year of study, the average the student had in the previous year and finally the domain in which the student could work in the future. A link might be present as well between the preferences students have concerning their future plans and the fields they would like to work on in the future, most of them prefer to work in the banking industry.

3. Research results

To better appreciate the importance of the satisfaction level regarding the financial-banking field we used a 4-possibility scale, where the value 1 was assigned to the meaning of "very displeased" and the value of "4" to the meaning of "very pleased". The study's results show

that the majority of the students are “pleased” with their field of expertise. The most students, 78%, are “very pleased” with the field subject matters and only 5% are “unpleased”. Regarding the field tutors, the students are “pleased” in a percentage of 67%. About 8% of the students are “very unpleased” with the practical knowledge they achieved.

Table 2. Medium grade of student satisfaction regarding the Financial-banking field

	Very unpleased(1)	Unpleased(2)	Pleased(3)	Very pleased(4)	Average
Field subject matter	0%	5%	17%	78%	3
Field tutors	3%	14%	67%	16%	3
Teacher-student interaction	3%	19%	53%	25%	3
Evaluating methods	3%	27%	58%	12%	3
Assessment methods	3%	23%	58%	17%	3
Practical knowledge achievement	8%	32%	42%	18%	3
Tutors availability for giving students extra help	4%	31%	39%	26%	3
Modern ways of instruction	2%	6%	63%	29%	3
Course content	0	19%	64%	17%	3
The efficient usage of time during the classes	3%	33%	51%	13%	3
Secretariat relationships	11%	30%	44%	15%	3

The final average of the satisfaction level (3) suggests us that the majority of the students are “pleased” with the field of financial-banking, all components included.

Table 3. Satisfaction rate regarding the services offered by the Faculty

	Very unpleased (1)	Unpleased(2)	Pleased(3)	Very pleased(4)	Average
Faculty cafeteria services	14%	15%	37%	34%	3
Faculty library services	3%	16%	53%	28%	3
Places in campus	34%	31%	18%	17%	2
Faculty secretariat services	11%	26%	50%	13%	3
Faculty bookshop services	7%	29%	49%	15%	3
IT labs equipment	3%	19%	44%	33%	3
IT labs access	2%	23%	42%	33%	3
Gym endowment	1%	9%	47%	43%	3
Recitation room endowment	5%	6%	48%	41%	3
Class allocation depending on the number of students	21%	20%	38%	21%	3

From the table above we can observe that most aspects that were taken into consideration are averages (3), but for the places in the faculty’s campus that provide students with a “very unpleased” level of satisfaction. Several other aspects that make students “very unpleased” were identified: class allocation depending on the number of students (21%), faculty secretariat services (11%), faculty cafeteria services (7%) etc. It is clear that only 41% of the students were “very pleased” with the endowment of the classes, which suggests that not the aspect but

the value of the faculty has the leading place. Library services are the most satisfying, provided the fact that most students, up to 53% are "pleased" with it. Regarding class allocation depending on the number of students, 21% are "very displeased". This undesirable result is due to the fact that the faculty has a very vast number of students enrolled, and the field of financial-banking is the very largest (about 868 students in the 2nd and 3rd year alone). The questionnaire provided them with several propositions for bettering the quality of education within the faculty. The next table illustrates the scaling of the level up to which the students agree with the propositions inserted in the questionnaire.

Table 4. Up to which extent they approve the following

	Completely approve (1)	Partial approve (2)	Partial disapprove(3)	Totally disapprove(4)	Average
In FSEGA teaching staff must improve their skills	35%	48%	17%	0	2
Students practical knowledge must be improved	67%	27%	6%	0	1
The study programs offer must vary	35%	48%	17%	0	2
Adapt the faculty to the requirements of the working market	67%	21%	8%	4%	1
Organizing conferences, trainings, workshops	73%	19%	4%	4%	1

As the table above shows us, most of the students, about 67% "totally approve" that the faculty should organize conferences, trainings and workshops, students practical knowledge must be improved and also consider that adapting the faculty to the requirements of the working market is a nowadays must. Conferences, trainings and workshops are necessary for bettering the students' practical skills and also for the adaptation of the faculty in contrast with the ever-changing working market. This illustrates only how big a link exists between these three variables. If speaking about improving teaching skills by faculty's staff and work offer diversification, students are in a partial not approval of about 17%. Another point of interest is represented by the way the students grasp their future and the plans they make for it. The future plans the students have are presented in the table below. Most of them, about 44% are certain that in the nearby future they will attend the classes of another faculty, whether 23% think they would not do a masters in another faculty.

Table 5. What are students preferences regarding their future plans?

	Certainly not(1)	Probably (2)	Of course yes(3)	Very sure(4)	Average
Job	11%	31%	41%	17%	3
Masters FB	15%	41%	28%	16%	2
Masters in another University	23%	44%	21%	12%	2
PhD	8%	49%	29%	14%	2
Other faculty	7%	29%	44%	20%	3
Other field	5%	42%	34%	19%	3

4. Variable analyze results

After analyzing the variables between the students' sex and the time when they make their choice to study in the field of financial-banking, we see that most students, whom are women, knew before applying what field they wanted to study in. After measuring the affinity coefficient (C) and the approximation sig. (P) a medium intensity bond has been observed between the two variables, because P is 0.000 (>0.05), and C is 0.330.

Table 6. Crossed analyze between students sex and the time of choosing their field

		Your sex		Total
		Feminine	Masculine	
<i>When have you decided on the Financial-banking field?</i>	Before signing in	87	34	121
	While signing in	10	24	34
	After the firs year	24	31	55
Total		121	89	210

In the table no. 7 the previous years' averages are analyzed, depending on the students' year of study. This analyse shows us that most students in second and third year have an average somewhere between 7 and 8, and the least of students have averages situated in the interval of 5 to 6. The syg (0.021) approximation and the F (2.946) statistic emphasize the low intensity bond between these two variables.

Table 7. Averages analyze depending on the year of study

		Which year are you?		Total
		2 nd	3 rd	
Last year's average?	5-6	0	3	3
	6-7	8	28	36
	7-8	34	42	76
	8-9	29	27	56
	9-10	13	26	39
Total		84	126	210

In table no. 8, we have looked into the link between the students' year of study and the decision they have made to follow the field of financial-banking. A percentage of 65% of second year students decided to pick financial-banking before signing in, in comparison with the 52% of the third year students that claimed to have done the same. Fifty-eight percent (58%) of all second and third year students decided to pick this field before signing in, 16% while signing in and 26% after the first year.

Table 8. Analyzing choice depending on the year of study

		Which year are you?		Total
		2 nd	3 rd	
<i>When have you decided on the Financial-banking field?</i>	Before signing in	55	66	121
	While signing in	65%	52%	58%
	After the firs year	13	21	34
	Before signing in	16 %	17%	16%
	While signing in	16	39	55
Total		19%	31%	26%
		84	126	210
		100.0%	100.0%	100.0%

In the next tables we have calculated the significance edge, the approximation sig., which we have noted with P, the coefficient of contingency, C, and the statistic, F in order to find out if any kind of bounds exist between certain variables. We can state that between students' sex and their level of satisfaction regarding the field subject matters, tutors and teachers' availability, efficient usage of time in classes and secretariat relationships there is a bound of

medium intensity, $P < 0.05$, C takes values between 0.3 and 0.7. A bound also links sex with the assessment and evaluation methods, practical knowledge, teachers' availability and courses' content, but with $P < 0.05$ and C between 0.1 and 0.3 it is a low intensity bound. No bound was found between sex and modern means of teaching, thus P exceeds 0.05.

Table 9. Link between sex, year of study, average and student satisfaction rate regarding the Financial-banking field

	Sex	Year of study	Last year's average
Field subject matter	P = 0.000 C = 0.349	P = 0.007 C = 0.214	P = 0.010 F = 3.398
Field tutors	P = 0.000 C = 0.368	P = 0.007 C = 0.214	P = 0.004 F = 4.029
Teacher-student interaction	P = 0.000 C = 0.348	P = 0.001 C = 0.263	P = 0.000 F = 6.210
Evaluating methods	P = 0.006 C = 0.235	$P = 0.362$ $C = 0.122$	$P = 0.858$ $F = 0.329$
Assessment methods	P = 0.027 C = 0.204	$P = 0.149$ $C = 0.157$	$P = 0.086$ $F = 2.070$
Practical knowledge achievement	P = 0.007 C = 0.210	P = 0.024 C = 0.208	P = 0.000 F = 6.040
Tutors availability for giving students extra help	P = 0.000 C = 0.294	P = 0.004 C = 0.244	$P = 0.389$ $F = 1.038$
Modern ways of instruction	$P = 0.064$ $C = 0.183$	$P = 0.209$ $C = 0.145$	P = 0.006 F = 3.676
Course content	P = 0.008 C = 0.209	$P = 0.340$ $C = 0.101$	P = 0.010 F = 3.388
The efficient usage of time during the classes	P = 0.000 C = 0.329	P = 0.038 C = 0.196	P = 0.044 F = 2.492
Secretariat relationships	P = 0.000 C = 0.351	P = 0.000 C = 0.289	$P = 0.000$ $F = 6.783$

Concerning links between the year of study and the level of satisfaction, only two medium intensity bounds were found, because no contingency coefficient exceeds the value of 0.3. No links were found between the level of satisfaction regarding assessment and evaluation methods, modern means of teaching, the content of courses and the year of study. We used the help of ANOVA to calculate the statistic F in order to see what degree of linking there is between students' average and their level of satisfaction. Surprisingly or not we found out that a high intensity link is present regarding the precedent year's average and the student-teacher interaction, practical knowledge and secretariat relationship. Low intensity bounds were also found linking average with the level of satisfaction that students have in subject matters, field tutors, content of courses, modern means of teaching and efficient usage of time in the educational activities.

Table 10. Link between sex, year of study, average and students future plans

	Sex	Year of study	Last year's average
Job	$P = 0.447$ $C = 0.087$	$P = 0.638$ $C = 0.065$	$P = 0.107$ $F = 1.926$
Masters FB	P = 0.000 C = 0.286	P = 0.000 C = 0.274	P = 0.003 F = 3.783
Masters in another University	P = 0.020 C = 0.189	$P = 0.223$ $C = 0.119$	P = 0.030 F = 1.565
PhD	P = 0.004 C = 0.222	$P = 0.214$ $C = 0.120$	$P = 0.185$ $F = 1.565$
Other faculty	P = 0.001 C = 0.325	$P = 0.419$ $C = 0.091$	P = 0.005 F = 4.072
Other field	$P = 0.313$ $C = 0.105$	P = 0.026 C = 0.183	$P = 0.069$ $F = 2.215$

In table 7, we observe that the highest level bound links the students' sex with the masters in the field of financial-banking. It is also present a high intensity bound between the year of study and the same masters program. Due to these two links we can stat that most students want to follow a masters program in the field of financial-banking after graduating from the faculty and this depends on the year of study they are in. Between last year's average and the masters program a high intensity bound prevails proving that the choosing of the masters program depends on the previous years' averages.

5. Conclusions

This study wanted to analyze the criteria of choice that students take into consideration when following the financial-banking field, the level of satisfaction of students that concerns the services offered by the faculty. A first result is reflected by the level of satisfaction that students claim to have when talking about the financial-banking field, which is a medium level, suggesting that students are somehow pleased with the specialization. About 67% of them are pleased with tutors and this is a great thing to hear keeping in mind that this reflects the professional skills of the teachers in the Faculty of Economic Science.

The need of places in the faculty's campus is highlighted by the level of satisfaction shown by the students when asked about the services that the faculty provides. The average computed at this level reveals the insatisfaction that many feel about the places within academical campuses. Another result of the research pops up an even more unpleasant fact for the students – number of classes that are allocated with regard for the number of students – 21% of the students find themselves to be very disappointed because the failure of the system to provide them what they need. Based on the propositions inserted in the questionnaires regarding the measures and actions that must be taken in order to enhance the quality of education in the faculty, most students, about 67%, were all in for more practical knowledge. With a massive 73% students concluded that they are in favor of the organization of conferences, training sessions and workshops, and believe that this would help them gain their practical knowledge. As a conclusion, the competition in the academic environment experienced constant and sustained growth and students are not just simple passive consumers in this area any more, but are starting to realize and judge the way that things are going on the educational market. Therefore a university or faculty must permanently seek the path to walk on in this stormy environment, often the best way to keep in touch with the constant changes is to measure the students' level of satisfaction and to determine the elements that are held responsible for their insatisfaction, in order to make the necessary changes.

References

1. Christou, E., Sigala, M., (2002) "Conceptualising the measurement of service quality and TQM performance for hotels: the HOSTQUAL model", *Acta Touristica*, Vol. 14, Nr.2;
2. Philip Kotler, (2006) *Conform lui Kotler, Brandbuilders*;
3. Pop N. Al., Băcilă M. F., Pop L., (2008), "Client's Satisfaction Research Premise of Customer Relationship Management", *Studia Universitatis Babeş-Bolyai Oeconomica*, LI (2);
4. Marius D. Pop, (2008) "Cercetări de marketing";
5. Price, I., Matzdorf, F., Smith, L. and Agahi, H. (2003), "The impact of facilities on student choice of university", *Facilities*, Vol. 21 No. 10, pp. 212-218.
6. Rowley, J. (1997), "Beyond service quality dimensions in higher education and towards a service contract", *Quality Assurance in Education*, Vol. 5 No. 1, pp. 7-14;
7. Rowley, J. (2003b), "Designing student feedback questionnaires", *Quality Assurance in Education*, Vol. 11 No. 3, pp. 142-9.

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Abstract

Taking into account the fast development of the Internet and the online communication channels, our paper emphasizes the different approaches adopted by the higher education institutions regarding the online communication strategies. We focused our analysis of the results from a survey undertaken on four Romanian universities and four universities from other European countries in view to reveal the differences between their academic marketing strategies. In the same time, our approach outlines the dual nature of the higher institutions: on the one hand, educational services provider and on the other hand future specialists' provider which will be able to find an adequate job.

Keywords: communication, higher education, online marketing, social networks

JEL Code: I23, M31

1. Introduction

The changes in the higher education institutions in the previous years, changes that concern the number of students, the structure of the labor market, the variety of the specializations offered now or even the strong competition both of the public institutions and especially the private ones, had effects on the way the activity of the educational marketing is seen today.

Starting with the 90's and up to the present, there is a growing interest in the Romanian education system to graduate high school, most of the young people today choosing to follow a faculty. More than that, once with the 90's, the presence on the Romanian market of the private universities is more and more increased, as they attract a high number of students by means of the educational offer and their conditions. Under these circumstances, the educational marketing at the level of the higher education institutions plays, without any doubt, an essential role in the attraction of a higher and higher number of students. In the same time, the competition of the private institutions represents an alarm signal for the public universities.

Any marketing activity, as well conceived as it would be, needs an activity of solid communication, that could ensure the visibility of the product and also determine the target public to action (in general, the acquisition of the product). If we analyze the importance of communication in the higher education institutions, it plays an important role in making the difference (considering the larger and larger market of the higher education institutions and the strong competition coming from the private universities). The aspect concerning the moment of communication should be discussed. A frequent mistake is to direct communication strictly towards the promotion of the educational offer and consequently, to develop the communication activity mostly in the recruitment period of the new students, MBA students or PhD students. In order to be more efficient, beside the message creation, communication must consider first the target public it has. According to it, the message will be created and the communication channels will be chosen. Within the higher education institutions, the two large categories of target public are represented by:

- The internal public: students, MBA students, PhD students, academic staff, auxiliary academic staff
- The external public: the future students (usually the pupils of the XII th grade), their parents (family), the school inspectorate, other universities, research centers, the business environment, mass- media ,the non-profit associations with impact in the domain, the local, regional or national administration.

With more than 1,6 billion of users in 2009, the Internet is certainly one of the elements that deeply marked the way in which communication campaigns are made. Flexibility, the high number of users, the world extension and low costs it presupposes, determined a strong development of the online means of communication in the last years.

2. Online marketing in the higher education institutions

The quick expansion of the Internet in the previous years, as well as its opportunities led to the expansion of the marketing classical activities and the online area. Often known as e-marketing, i-marketing or web marketing, the online marketing represents the marketing component that aims the development of the product policies, price, distribution and promotion by means of the Internet.

When the online marketing methods within the higher education institutions are to be applied, we can successfully appeal to methods such as: e-mail marketing, the creation of a web page and a forum, blogging or even the use of some online social networks. No matter what method would be chosen, a very important element is represented by the adaptation of the message to the aimed public and the channel by means of which it will be transmitted (the conception of a message that will be communicated by means of a blog will be less formal than the message transmitted on the web page of the institution).

The web page

It is vital for the institutions to create a 'virtual self', pleasant from an esthetic point of view, easy to use, to contain all the information that is interesting for students and not only because the web page has become a critical communication instrument. An advantage offered by such an 'online identity' is that the information can be easily changed and brought to day. In the same time, the information can be thus, easily disseminated, avoiding the necessary effort in the case of some printed materials. The web page can also present the faculty virtually by means of some image galleries, the effect being even stronger than the presentation of the images within the printed materials of promotion. Thus, we can create virtual tours of the faculty or even the live transmission of some images with activities developed in the institution. The faculties can use the web page to communicate with the other interested actors, besides providing the information of interest for students or the one that has in view the

general presentation of the institution. Therefore, the site may contain information, images or articles to support communication with the business environment that could be interested in the future graduates, supervising their evolution. In the same time, the web page may represent a way to promote the academic activities organized in the faculty (symposiums, conferences, debates, etc.). As an instrument of the online marketing, the web page can be useful in marketing survey oriented towards students. Online questionnaires can be easily applied when the students' opinion is wanted, concerning certain decisions that regard them personally. Other important aspects that mustn't be neglected in the communication by means of the web page are both the emphasis of the education quality and the quality – cost report or the employment possibilities after graduation.

The blog

The blog, shortening of the Web Log expression, appeared in 1994 as an online form of a personal journal. In the case of the higher education institutions, the blogs may represent a means of communication of the interest information for students and not only. The blog may also support communication for the promotion of the educational offer, having the advantage that besides the information provided by the faculty and presented on the blog, the bloggers can read different commentaries, thus, helping them to create a clearer image of the institution. Analyzing the blog from the benefits' point of view in the communication with the future and present students, this type of communication could help creating a closer relation between students and faculty due to reasons such as:

- The language used on blogs is usually informal, specific to the virtual communication, a language to which students can react with interest because of the age category.
- Due to their style, the students can express personal opinions regarding the information on the blog, making commentaries about it.

The online presence of a higher education institution by means of the blog helps creating a positive image in the students' mind because they can perceive this type of communication much closer to the communication they use frequently between them.

The online social networks

The development of communication by means of the Internet led to online social networks, online communities that allow the creation and development of some relations with other members of the community. Considering that more than 65% of those who use the Internet are spending now their time surfing the online social networks, as well as the fact that most of those who have a profile within a social network are young persons (18-25 years, the choice of using the social networks in the online marketing strategy within the higher education institutions comes natural.

The same as with the blogs, the advantage of using the social networks in the communication with the future and present students is given by the informal language that is used. More than that, a faculty profile within such a network could support an image of an institution that is close to the student, that understands his needs and can communicate using the same language. On the other hand, the social networks can be used by the higher education institutions in order to cultivate and maintain the relations with Alumni. This type of relation between faculty and its students or alumni also represents a point of support in being aware of belonging to a certain institution or identifying himself with it, an important aspect for the faculty in the communication strategy of the image.

The e-mail

The electronic mail or the e-mail represents one of the most accessible instruments that can be used in the online marketing due to the accessibility and easiness to get to the target public.

Other advantages of using the e-mail would be the low costs it presupposes, the message reaches the public in a very short time, the e-mail offering the possibility to personalize the message, using images, colors or even different characters for the text.

3. Comparative analysis of online marketing within the communication strategy of higher education institutions from Romania and abroad

In view to realize the comparative analysis of the online marketing implementation in the higher education institutions from Romania and abroad, we choose four Romanian universities and four universities from other European countries. The criterion used in the selection of this sample was their tradition in providing high quality educational services, their awareness and quality in research processes.

Having in view the peculiarities of the higher education institutions, their online marketing strategies are focused more on the image building, the presentation of the academic offer and the communication with the target public. In these conditions, the online environment isn't employed only for the promotion of the academic offer but especially on the building of relationships with the target public.

The online marketing features that we analyzed were:

- the web page – how is it conceived, what information must be delivered, how these information is revealed, etc.
- the social networks – if the institution has a profile in the social networks, what information it contains, what is the attitude of the visitors' profile

The reasons for choosing these elements are represented by the fact that just few universities implemented in their online marketing strategies tools like the blog or the forum. In what concerns the e-mail marketing, an approach including this tool wasn't difficult to apply.

3.1 The online marketing strategies implemented in the Romanian higher education institutions

The sample of Romanian higher education institutions contains "Babes Bolyai" University of Cluj Napoca, "Alexandru Ioan Cuza" University of Iasi, University of Bucharest and West University of Timisoara.

3.1.1 "Babes Bolyai" University from Cluj Napoca

Analyzing the web page of "Babes Bolyai" University of Cluj Napoca from the structure point of view, we can affirm that it can be easily used in view to find the necessary information, being focused on utility.

In what concerns the communication with the public target, the website provides for the interested persons information regarding the decisions made in the university (Senate resolutions, the archive of newsletters, information referring to public acquisitions, etc.), fact that reveals transparency in communication.

In view to facilitate the communication with the persons from other countries, the website can be accessed in four languages (Romanian, English, German and Hungarian). An interesting aspect regarding the communication strategy is the possibility to access a online radio station dedicated to the university's students.

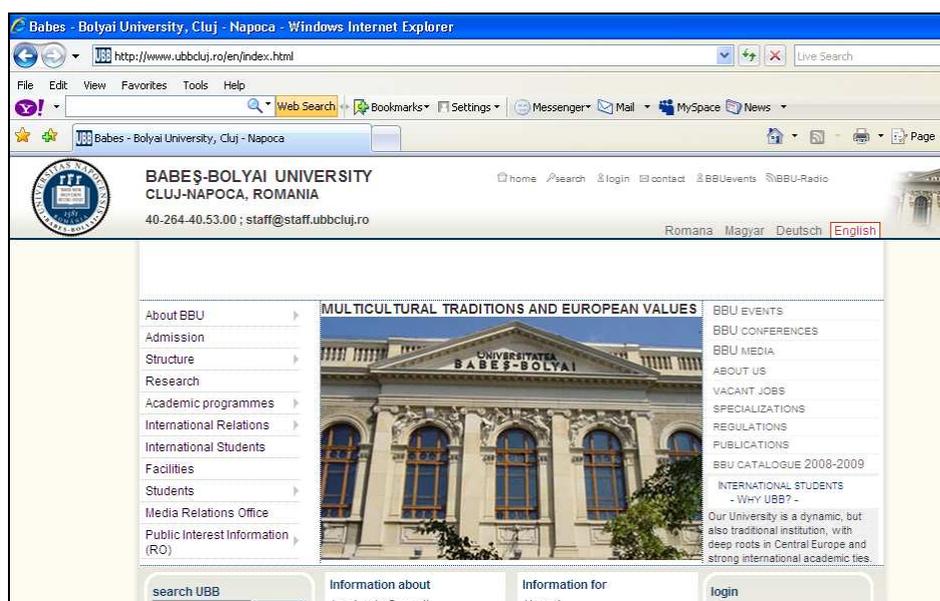


Figure no. 1 - "Babes Bolyai" University website home page

Analyzing the "Babes Bolyai" University presence in the online social networks, we observe the existence of a profile in Facebook network, even if it wasn't officially recognized. It was created in order to build discussions groups between the students and the graduates. The profile has more 700 members, which denotes the students' interest in the use of this platform for a better communication.

3.1.2 "Alexandru Ioan Cuza" University of Iasi

In what concerns the university website, we remark the same transparency in the information presentation. The data is well structured in specific menus, facilitating the access of the web page visitors. An important aspect consists of the translation of the website content in 6 languages: Romanian, English, Russian, French, Japanese and German.

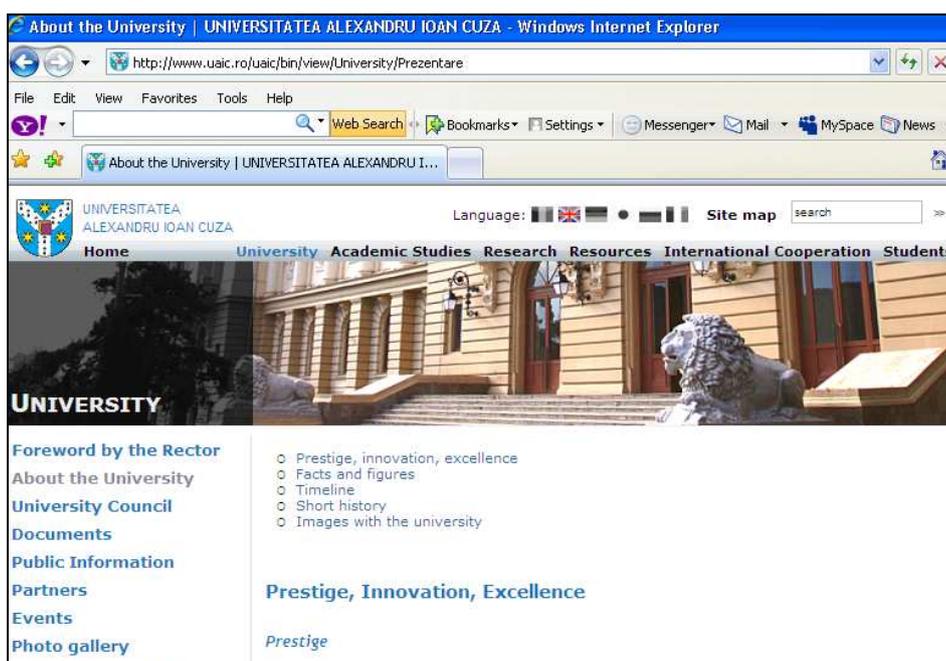


Figure no. 2 - "Alexandru Ioan Cuza" University website home page

The web designer of "Alexandru Ioan Cuza" University website implemented a forum in order to facilitate the open communication among members, the discussions being based on different topics such as academic regulations and information about bourses and university residences. The activity of the university within the social networks can't be considered representative until now. Even if we can find a profile in Facebook network, this one has a low awareness, few members and very little information concerning the university.

3.1.3 University of Bucharest

Even if the information provided by Bucharest University website are useful, well presented and easy to find, the esthetic aspect of the web page is little bit neglected. The website design is simple and the images, useful for covering the message, are few and not representative.



Figure no. 3 – Bucharest University website home page

A strength in the website building process is represented by the existence of a section which offers the opportunity to post complaints and messages by filling online questionnaires. In the same time, we consider that the communication is mainly focused on the direction of future students and actual students, emphasizing the promotion of the university academic offer. Regarding the university presence in the virtual networks, we didn't find a profile. Nevertheless, there are such profiles within different faculties, which are part of Bucharest University.

3.1.4 West University of Timisoara

The first thing that a West University of Timisoara website visitor observes is the way in which the home page was created. The design is very attractive and the relevant information is well structured in the menus. The communication reflects the same transparency that we remarked in the analysis of the other universities websites. The website content is available in three languages: Romanian, English and German.

Regarding the communication by the means of the online social networks, there are three profiles in Facebook, but the awareness degree of each of them is not high. In the same time, the information referring the university is not targeted very well, which reveal the fact that the profiles aren't designed by the institution.



Figure no. 4 – West University of Timisoara website home page

3.2 The online marketing strategies implemented in four European representative higher education institutions

In view to analyze the online marketing approach adopted by the European universities, we included in our research sample four European universities having a high notoriety on the academic services offer.

3.2.1 University Paris-Sorbonne – Paris IV, France

Even if from the esthetic point of view, the web page of this university is relative simple, without features which capture the attention, the information organization succeeds in balancing the online communication strategy.



Figure no. 5 – Paris-Sorbonne – Paris IV University website home page

The online communication facilitated by this website tools mainly focuses both on the actual and future students and on the mass-media. From the students' perspective, we remark the existence of a web portal exclusively designed for their needs which promote an informal and

targeted communication. The students can subscribe to the University website and can receive periodical newsletters with relevant information. The section dedicated to mass-media contains press releases and news e-journals regarding the university activities and its implication in the academic community. The Paris-Sorbonne – Paris IV university profile in the social networks counts more than 1.000 active members and provides an open communication among students and graduates.

3.2.2 Nottingham Trent University, Great Britain

The openness towards communication of Nottingham Trent University is revealed while a visitor accesses its webpage for the first time. The web design, without being spectacular, captures the attention by the multimedia presentation which highlights the university news. Another strength of the communication strategy is the way to present the relevant information, every message being accompanied by an image associated to a specific theme.



Figure no. 6 – Nottingham Trent University website home page

The communication strategy is focused on graduated, actual and future students; in this way. For the actual and future students, it is based on the emphasis of the opportunities linked to job careers and the possibility to study in a famous academic center. In the same time, the students can communicate their complaints to the academic staff in order to receive a feedback from them.

One of the most important elements of the differentiation strategy of Nottingham Trent University refers to the possibility to pay online the scholar fees – it's similar to online payments made by the customers on e-shops. If we take into account the involvement of Nottingham Trent University in the social networks, we remark six profiles created on Facebook, Twitter, Bebo, Flickr, Myspace and Youtube, the home page allowing a fast access to each of them.

3.2.3 University of Bologna, Italy

Even if the main menu is similar to other universities' website, the information is targeted in view to facilitate the site surfing. A peculiarity of the online communication of this university consists of the insertion of a hyperlink to a blog dedicated to the students which are involved in mobility programs as Erasmus, Leonardo, etc.

Another relevant aspect concerning the online marketing strategy is represented by the e-shop which allows the acquisition of products personalized with university's logo. The presence in the social network is well represented as it counts more than 1.000 persons involved in discussions linked to different topics.



Figure no. 7 –University of Bologna website home page

The presence in the social network is well represented as it counts more than 1.000 persons involved in discussions linked to different topics.

3.2.4 University of Wien, Austria

The menu of Wien University website is very simple but in the same time very clear as it provides quick links to the main topics: studies, research, organization, services, library catalogue and webmail. In view to facilitate the online communication, the home page offers useful hyperlinks to newsletter section or mass media and press releases section. An interesting aspect refers to the opportunities provide by the insertion of online services as e-library or consulting services. The Guided Tours, which are available in both German and English, provide an insight into the interiors of the oldest university in the German-speaking cultural area. We must also outline the hyperlink to Academic Business Incubator INiTS, which provides a lot of opportunities for the students. The university is involved in three profiles in Facebook social networks, all of them being characterized by a lot of users (students, graduates or HR representatives of the companies).

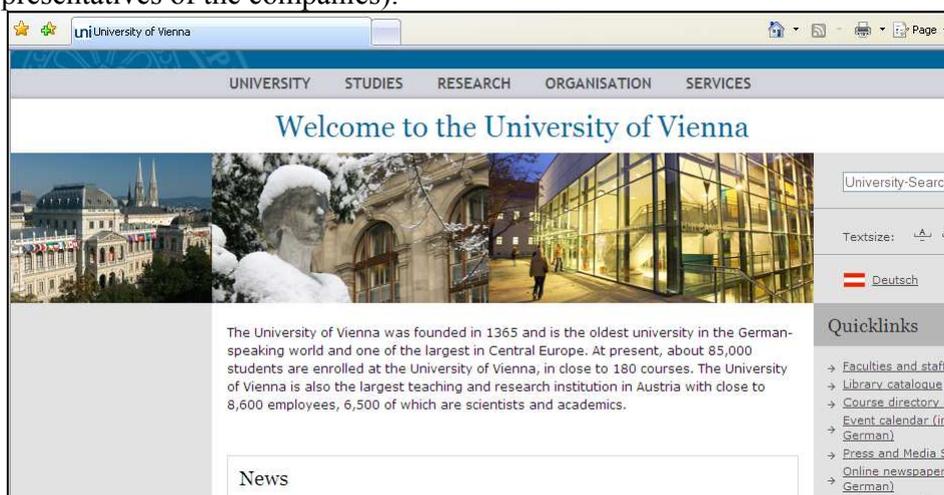


Figure no. 8 – University of Wien website home page

4. Conclusions regarding the comparative approach of higher education institutions online communication strategies

The higher penetration rate of Internet provides numerous opportunities both for the companies and the academic institutions. Our survey had as purpose the identification of the differences between Romanian universities online communication strategies and the universities of other

four European countries (Great Britain, France, Italy and Austria). Even if the survey was applied to eight universities, the results can be considered appropriate as they accomplish the objectives in the online communication strategy approach. The main menus presented in the home page of each university from the sample provides relevant information about the students, organization, international relations, admission, press releases, research section and specific quick links. The communication strategies are focused both on the actual students and the future ones and are built in order to maintain long term relationships. The importance of the involvement in social networks within the online communication strategies is higher in the universities from the European countries, but we outline the Romanian universities orientation towards this target public.

Our research reveals that few universities use the blog or forum in the communication strategies, although their advantages are emphasized in the business practice. In the same time, the personalized e-mail is frequently employed in the relationships between universities and their public target, especially in newsletters. We highlight the fact that the notorious universities from Western Europe develops real marketing strategies in the communication with the students or other stakeholders, providing different facilities like the possibility to pay online the academic fees, e-shops or presenting them internship offers or job opportunities. In our opinion, as a result of the consolidation of the partnerships between Romanian and other European countries universities and taking into account the online communication models, we are sure that the Romanian universities will reach the performances of the online communication strategies implemented in the notorious universities from Western and Central Europe.

References

1. Anctil, E., *Marketing and advertising higher education*, ASHE Higher Education Report; 2008, Vol. 34 Issue 2, p19-30, disponibil online la adresa:
<http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=34056511&site=ehost-live>, accesat în februarie 2009
2. Anctil, E., *Recommendations for Selling Higher Education*, ASHE Higher Education Report; 2008, Vol. 34 Issue 2, p89-98, disponibil online la adresa:
<http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=34056514&site=ehost-live>, accesat în februarie 2009
3. Collin, Simon, *E-marketing*, John Wiley & Sons, 2000, West Sussex, disponibil online la adresa:
<http://www.questia.com/read/113466965?title=E-Marketing>
4. Nicolescu, Luminița, *Applying marketing to higher education: scope and limits*, Management & Marketing (2009) Vol. 4, No. 2, pp. 35-44
5. ***, *Online Marketing Tools for Creative Pros*, disponibil online la adresa:
<http://www.creativepro.com/article/online-marketing-tools-creative-pros>, accesat în octombrie 2009
6. ***, *Key Marketing Methods*, disponibil online la adresa: <http://www.scribd.com/doc/20646454/Key-Marketing-Methods>, accesat în octombrie 2009
7. <http://www.ubbcluj.ro/>
8. <http://www.uaic.ro/uaic/bin/view/Main/WebHome>
9. <http://www.unibuc.ro/ro/home>
10. <http://www.uvt.ro/>
11. <http://www.ntu.ac.uk/index.cfm>
12. <http://www.unibo.it/Portale/default.htm>
13. <http://www.univie.ac.at/>
14. <http://www.paris-sorbonne.fr/fr/>