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STRATEGIES AND MARKETS FOR UNIVERSITY-ORIGINATED ORGANIZATIONAL INTELLIGENCE

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Abstract: The aim of this paper is to bring to discussion ways to diagnose university's organizational intelligence and to put forward some ways of measuring it. The main steps pursued refer to defining and describing the organizational particularities of universities, which modulate in specific ways organizational intelligence strategies implementation, applying the organizational intelligence standards to universities, and examining the features of the intelligence markets. The manner in which the paradigm of the traditional university is being changed, and finally eliminated, by the social stimuli which claim for a different type of intelligence originating in universities and which are the beneficiaries of the new model of university, as an organization in-between – preserving its idiosyncratic position, but engaging in mutually profitable alliances, is an issue we address to.

Key words: organizational intelligence, academic strategic management, intelligence markets

I. Introduction

Traditionally, universities were not seen as organizations. More likely, researchers referred to them as either *institutions*, carrying out a prominent social role (Readings, 1996), or *communities*, that is, "families" of people brought together, which were accepted for service in a certain social ceremony. This liberal philosophy of the modern age, regarding the university as an entity in charge with setting up (lat. *instituere*) and transmitting a national cultural heritage, is now in decline. The model of the "corporate university" (Aronowitz, 2000) emerges not only in the form of private organizations offering highly specialized learning and educating particular skills (e.g., McDonald's University), but also in that of old, reputed, well-established higher education institutions, which mime the managerial and marketing practices of for-profit corporations. In Lyotard's (2004) terms, the "University of Culture" was replaced by the "University of Excellence", where the logic of performance is legitimating the university, under the pressure of academic capitalism (Clegg and Steel, 2002), which asks it to become competitive by marketing its knowledge: "knowledge in the form of an informational commodity indispensable to productive power is already, and will continue to be, a major - perhaps *the* major - stake in the worldwide competition for power" (Lyotard, 2004). The "academic tribes" (Becher and Trowler, 2001), belonging to the community model of the university, can't survive, as specialized autarchies, in a society which aims at finding "overlapping patterns of unique narrowness", as Campbell first argued two generations ago. Under these conditions, "colleges and universities can and must grow smarter" (Forest, 2002), as organizations seeking to maximize both their revenue and their prestige (Strober, 2006).

Still, several particular conditions render universities as idiosyncratic institutions. In an attempt to systematize them, they are:

Multiplicity of stakeholders. Universities were reformed, from autonomous communities to organizations having stakeholders (Neave, 2002), that is, they no longer work for themselves, but have to comply with various external demands. Nowadays, a university usually has more stakeholders than a business of the same size would, which leads to a certain level of imprecision

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in defining its goals, making them appear as rather ambiguous. Baldridge et al. (2000) state that "colleges and universities have vague, ambiguous goals and they must build decision processes to grapple with a higher degree of uncertainty and conflict". This is a valid assumption for the public sector in general, since public goods are, by their nature, less well defined than private goods (Samuelson, 1954). Additionally, as Bourdieu and Johnson (1993) affirmed, universities are both positioned and position-taking. The position-taking actions of the national governments, as well as regional educational policies position universities but they, as well, adopt position-taking strategies which influence rankings and market shares, positioning them towards their stakeholders.

Problematic hierarchies. Although universities tend to act as middle sized, or large corporations, in terms of their management and marketing decisions, their managers' ability to hire or fire is limited. More than that, there isn't any clear delimitation between the technical and the institutional level of the hierarchy (Birnbaum, 1988). Professors, in charge with the technical issues of teaching and research, are also members of the administrative bodies, take part in the issuance of policies inside (University Senate, for instance), and outside (Ministry of Education, Parliament etc.) the university, which leads to an overlapping of perspectives that may not work in the university's best interest, especially when there is a mismatch between the academic goals (to invest in excellence) and the administrative goals (to cut down costs, to attract more students, to drop examination on entry etc.). The mixture of public and private elements involved also complicates the process of academic decision-making. In addition, universities are loosely coupled systems, in terms of the matching of their strategies, posted on their web-sites, with their everyday practice. In the arena, universities, moreover those from developing countries, play according to "globally institutionalized scripts of what a university ought to be" (Krücken, 2006). Romanian universities' missions, for instance, employ the same "big words" taken from their reputed Western European or American counterparts. Still, managing a university according to its mission is a more complicated task than simply adhering to some models:

> "the leader of a bureaucracy makes rational decisions, the leader of a community of equals searches for common ground and consensus, the leader of a political system uses power to craft coalitions and compromises, and the leader of a cultural system manipulates symbols to influence the way the organization creates meaning. A good academic leader is one who can do all these things, even when doing one of them is inconsistent with doing another." (Birnbaum, 1998).

Or, as one faculty dean said, "managing academics is like trying to herd cats. It is a nearly impossible task, since they all have minds of their own and go off in different directions." Reuniting lots of intelligent people, universities endanger their organizational intelligence.

Professional bureaucracies. They were defined by Mintzberg (1979) as inflexible structures, which produce standardized outputs (*i.e.*, skills), but are not good at changing their patterns, in an attempt to adapt to new demands. In other words, the "pigeonholing" process Mintzberg speaks about equals Argyris's "single loop learning" (1999): the expert diagnoses the problem which needs to be fixed, and then provides an algorithm, repetitive, of course, of addressing it. Moreover, university professors prefer individual problem-solving, instead of cooperation, which again endangers the learning status of the organization.

The transformation of university structures and patterns, in order to suit the new, entrepreneurial (Clark, 1998) paradigm, comprises, according to Brunsson and Sahlin-Andersson (2000), three levels: construction of identity ("who we are?", and hence the organizational goal of "being special"), construction of hierarchy (passage from control to co-ordination, the engagement in common projects and in the building of a shared vision), and construction of rationality, *i.e.*, of

the acquiring of adequate means for rendering the university accountable, in the "audit society"(Power, 1997). University's accountability is firmly connected with its autonomy, *i.e.* identity: although, unlike traditional times, universities have stakeholders, they admit not interfering with the knowledge-production of the university, on the condition they will benefit from the generated knowledge, and that this opportunity to benefit is made sufficiently transparent. So, societal pressures relate payment (universities, especially large research units generating knowledge are publicly funded) to performances. And universities must follow the rules of the game.

The construction of identity implies rendering the organizational goals explicit, and passing through a process of differentiation which, according to Clark (1998), is the *sine qua non* condition of a university's existence: being unlike the others. The construction of hierarchy implies designing a sound formal structure around the organizational goals, which will constitute part of the university's structural capital (Edvinsson and Malone, 1997). The paradigm of the entrepreneurial university imposes a specialization of management staff, as distinct from teaching and research staff, which leads to a clarification of the aforementioned *problematic hierarchies*. In order to fight pigeonholing, as a characteristic of professional bureaucracies which hampers organizational learning, project cooperation and networking is also included in the structural capital, as well as the university's ability to spill over knowledge to local community, to companies in the area, by means of technology transfer offices (Gibbons, 1994).

The accountability of the university is strongly connected to its capacity of managing and reporting the intangibles, as well as of creating and maintaining a market for them. The level of a university's intellectual capital provides information on that university's innovation rate and on the quality of its liaisons with the business environment (Fazlagic, 2005). In fact, the respect in which universities are thought to remain idiosyncratic, despite their advancement towards the status of organizations, is the specificity of their knowledge outputs, which seem opaque to formal measurements. But, as Stewart (1995, in *Fortune 137*, p.157) remarked, "the assets that really count are those accountants can't count." That's why IC measurement and reporting models in universities were proposed, in the last years, illustrating a trend of growing concern for the issues of university intangibles management (Sanchez et al., 2006).

II. Material and Methods

Our research is based on the adaptation of a pilot questionnaire, aiming at determining the way in which a university is fit, as far as its organizational intelligence is concerned, which was tested, for the time being, on a population of 20 members of the research and teaching personnel of a Romanian university, having between 5 and 10 years with the organization.

The premise we start from is that a university is intelligent if its strategy is an extrapolation of an algorithm with the "anytime" property, as it was defined by Boddy and Dean (1988). This means than an acceptable solution is always available, and the quality of the answer improves over time. In other words, given that individual intelligence can be defined as dynamic adaptation to niche survival ("the survival of the fittest"), organizational intelligence is the organization's ability to apply something similar to genetic algorithms (Holland, 1975), in order to creatively recombine knowledge residing within individuals and relations. Knowledge, as reproduced in universities, is metameric: it is made of a sequence of segments enchained repetitively. The genetic algorithm encompassed by the organizational intelligence of the university should be able to identify the points in which this repetitive knowledge recombines, and to artificially recreate those conditions. This way, knowledge evolves in the same manner life does.

Pushing the genetic analogy further, knowledge can be seen as composed of light chains (explicit knowledge) and heavy chains (tacit knowledge), disposed in the shape of an Y, whose junction region accounts for the flexibility of the construct. For an organization to artificially select the regions of light and heavy, respectively, chains to be activated, in the Y model of knowledge, a fitness function has to be constructed. Following the works of Albrecht (2005), the fitness function we advance for universities is:

$$F = SV \times SF \times CO \times HS \times A \times KD \times PP$$

where SV stays for *strategic vision*, SF for *shared fate*, CO for *change orientation*, HS for *"Heart and Soul"*, A for *alignment*, KD for *knowledge deployment*, and PP for *performance pressure*. To assess the strength of a university's organizational intelligence, each of these parameters have to be evaluated, by means of a questionnaire.
For *strategic vision*, the matters in focus are:

- The "strategic conversation" in the organization – plus or minus.
- The environmental scanning – plus or minus.
- Annual strategic review – present or absent.
- Value proposition – plus or minus.
- Statement of direction – present or absent.
- Correlation between statement of direction and key decisions – present or absent.
- Leaders' identification and promotion – plus or minus.

Similarly, for *shared fate*, other seven questions have to be addressed to:

- Plans and priorities sharing between management and employees – present or absent.
- Understanding of the organizational idea throughout the organization – plus or minus.
- Information sharing across departments – plus or minus.
- Sense or belonging – plus or minus.
- Employees – management partnership – present or absent.
- Employees' belief in the organization success – plus or minus.
- Projected long lasting relationship with the organization – plus or minus.

Change orientation is accounted for by:

- Issuance of new university services to keep up with the demand – plus or minus.
- Natural mechanisms to encourage innovation – present or absent.
- Employees' stimulation to find creative ways to better do their jobs – plus or minus.
- Permission to question the habitual way of getting things done – plus or minus.
- Bureaucracy – plus or minus.
- Willingness of the management to admit their mistakes and to cancel non-working strategies – plus or minus.
- Openness – plus or minus.

"Heart and Soul" measures commitment in terms of:

- Overall quality of work life, as perceived by the employees – plus or minus.
- Management's interests as perceived by the employees – plus or minus.
- Pride taken in belonging to the organization – plus or minus.
- Willingness, from the part of the employees, to spend extra effort to build organizational success – present or absent.
- Optimism regarding the future of employees' career in the organization – plus or minus.
- Management commitment – present or absent.
- Perception of managers as role models – plus or minus.

Alignment shows:

- Organizational structure appropriateness to the mission – plus or minus.
- Sense-making of rules and policies, as compared to priorities – plus or minus.
- Facilitation of employee performance – present or absent.
- Information systems as facilitators – plus or minus.
- Value creation – plus or minus.
- Authority delegation – plus or minus.
- Alignment of departments missions, as to facilitate cooperation – present or absent.

Knowledge deployment is expressed by:

- Cultural processes of knowledge sharing – present or absent.
- Managers' respect for employees' knowledge skills – plus or minus.
- Porous organizational boundaries – plus or minus.
- Information systems knowledge flows support – plus or minus.
- Continuous study of the new tendencies at the managerial level – present or absent.
- Continuous learning programs support – present or absent.
- Accurate appreciation of employees' tacit knowledge – plus or minus.

Performance pressure takes into account:

- Clear understanding of roles and responsibilities, at all levels – present or absent.
- On-going communication of performance goals and expectations – present or absent.
- Replacement of poorly performing employees – present or absent.
- Removal of failing managers – present or absent.
- Feedback to employees and recognition of their contributions – plus or minus.
- Employees' perception that their work contributes to the organization's success – plus or minus.
- Employees' perception that career success is determined by job performance – plus or minus.

Performance pressure on universities is reflected in their ability to shift the knowledge demand. A university disposes of two major demand-shifting factors: R, total R&D expenses, and M, total

marketing expenses (Tassey, 2005). If x equals R/M, the performance function may be expressed as:

$$\ln P_i = \delta \ln x_i + \delta (\alpha_0 + \alpha_1 x_1 + \ldots + \alpha_n x_n) + \varepsilon_i, \; i = 1 \ldots n.$$

By solving the model, a university may select the x (*i.e.*, the R&D and marketing expenses combination) which acceptably suits its interests. Intelligence development strategies are mirrored by the R&D costs, while sound marketing strategies, on emerging knowledge markets, reflect in marketing costs. The sources of R&D intelligence can be direct or indirect, and can reside with the personnel or with the university. Direct sources residing with the personnel are:

- personal relationships
- visiting professorships
- business experience

Direct sources residing with the university include:

- intellectual property
- titles in the library
- research reports

Indirect sources residing with the personnel:

- consultants
- experts
- editorial boards
- retired executives.

Indirect sources residing with the university:

- university market surveys
- university associations
- national and European reports.

Under the heading of *performance pressure* universities should also include the selection and loyalizing of the appropriate researchers, given that they are in a continuous competition with the business environment, which provides better opportunities for the experts, waiting just around the corner.

III. Results

In the considered university, the selection and consolidation of the research staff are performed under uncertainty and risk, with asymmetrical information owned by the two parties, the university and the researcher, respectively, so they can be regarded as a principal-agent interaction. Each of them wants to maximize its utility function, and the main challenge is to find the allocation which best suits both interests. The model proposed by Jensen and Thursby (2002) takes into account three basic alternatives a researcher has: basic research, finalized by an article, applied research, finalized by a patent, and teaching activities, evaluated by assessing the quality of teaching. Each researcher (agent) is allocated by the university (principal) a wage w and a teaching effort e. If a is the time allocated to applied research, and b the time allocated to basic research, then the constraint is $a + b + e = 1$. The basic research and the teaching activities determine the researcher's wage, while applied research is a source of additional revenues. The researchers' preferences are both financial and non-financial, consisting in research satisfaction and professional recognition, access to research networks, acceptance inside the groups of prestige which control the knowledge market, insertion in the knowledge networks on which their success depends (Cohen et al., 1998). The university's interests are to maximize the fraction of the funds attracted by researchers (grants, etc.) which go into its budget, and to allocate wages and teaching effort as to maximize its utility. Studies conducted by Stephan et al. (2002) have shown that applied and basic research are not substitutes, in other words, the fact that a researcher has more patents does not affect that researcher's commitment to basic research, but a great number of published articles is likely to result in an increase in the volume of patents. But teaching and research, both basic and applied, are substitutes, meaning that an intensive research activity will necessarily decrease the quality of teaching.

Given these findings, a university which acts intelligently has to:

a) diminish, and finally annul the teaching effort of its efficient researchers. It might seem costly, on the short term, but it's strategically cost effective.
b) encourage applied research, by investing prestige capital in it. Currently, at least in Eastern Europe universities, exclusively basic research is taken into account for promotion, *i.e.*, for prestige accumulation, situation which puts researchers in front of a university-induced choice: academic prestige, or money and business expertise? Entrepreneurial universities encourage spin-offs, community-led and community-for research, so this fake dilemma has to be solved in favour of the free choice of the researcher who, able to opt for two equally reputable activities, decides according to the time investment he/she is disposed to make, and to the particular interests he/she has at the moment.

Talking about prestige, universities must also take into account that, although knowledge is a type of good whose allocation is a non-Pareto optimal one, meaning that, not being a limited, tangible resource, the fact that one takes "more" doesn't leave the others with "less", it still is a positional good (Hirsch, 1977), as well as education. The ones who dispose of more knowledge, or are more educated, are better positioned than the others. So, we may infer from here that the amount of knowledge a university disposes of is directly correlated with the market share of the respective university. In practice, yet, things are more subtle than that.

IV. Discussions

University positioning mechanisms have suffered radical changes, especially in Eastern European countries, where the passage from the command-driven to the demand-driven (Radó, 2001) regime was abrupt. Higher education, as an instance of social sorting, desirable because it granted

access to some privileges (Bratianu and Lefter, 2001), becomes, nowadays, a victim of its own success. The liberalization of the market, and the acknowledgement of the fact that not only structure follows strategy, but also money follow students, has turned higher education into a mass process, which made universities compete for "customers" (Newson, 2004) and adapt to the consumerist attitude ("What can I do with my degree?") of their students. In other words, they are preoccupied to sell the ivory tower. There occurs the commodification of knowledge, "the phenomenon in which non-material activities are being traded for money" (Lubbers, 2001).

Still, "the consumer is always right" is a dangerous assumption for higher education (McMurtry, 2004), given that universities have also third party beneficiaries (Etzkowitz et al., 2002). So, in the dispute between *acropolis* and *agora*, the accent should be moved on some other important elements which compose a university's intelligence market.

First, universities are the most representative buyers of knowledge (Fritsch, 2003). The payment for this knowledge can be real (fees for database access, journal subscriptions, conference fees, etc.), or symbolic: citations, works in honour of a researcher, etc. By exercising this role in the economy, universities attract knowledge which is locally unavailable, and thus enrich the knowledge market. Their intelligence, in this case, plays the role of the inquisitive mind, "digging" for new (in the sense of not yet disseminated) knowledge.

Second, universities are still expected to train an intellectual labour force corresponding to some standards of the industry which, based on previous experience, has configured a profile of the university graduate, on fields of expertise. Given that science and society change, but a different pace (Nowortny, 2001), traditional universities experienced a conflict between their elitist stagnation and the changes in the skills "traded" outside, on the labour market. The Mode-1 knowledge production, for the sake of disinterested science (Rip, 2002) belonging to the elitist university, where the two roles – social and research were complementary, was replaced by Mode-2 knowledge production (Etzkowitz, 2002), were they are rather overlapping.

Third, universities engage in partnerships with industry, in order to mitigate the risks of producing knowledge which has no immediate applicability, and to increase the area of coverage of the university (Porter et al., 2005). Universities support their researchers to launch their own research companies, and the so-called "science entrepreneurship" (Lehrer and Asakawa, 2004) has become a rather common practice of these uni-business joint ventures. The success of these ventures is questionable from the point of view of the mono-specialization of their owners, and of their lack of real life marketing and management practice (Bower, 2003).

A danger still exists, in this market dynamics. A new model of market success, as it was, *mutatis mutandis*, that of the traditional university, is being embodied by the research university. But, as both funding and human resources for research are limited (here is the paradox – knowledge, which is unlimited, is still obtained with limited resources), not all universities can achieve the status of research universities. Most of them will try to emulate this model, in order to obtain a better market position, and this results in selling expectations which are not properly supported (Meek, 2001). More than that, focalizing on just one segment, being it elitist and well positioned as far as university intelligence is concerned, creates the risk of leaving the market unsaturated. It is more recommendable, for the universities, to specialize and to prioritize their interests so as to cover all the segments of the market.

In the present environment, highly competitive and turbulent, there is no golden standard towards which the strategies of all universities should converge. From the marketing point of view, the university intelligence equals the ability to determine the adequate marketing mix for appealing to prospective students, without selling overestimated expectations and without neglecting the

other major functions a university has in relation to its external environment: antenna for remote knowledge, supplier of qualified workforce, and science-based partner for industry.

V. Conclusions

Universities currently adopt corporate-like behaviours, being, thus, influenced by the same need to develop their organizational intelligence which has recently become a widespread practice in the business world. In fact, they should have been pioneers in the field, given that, although they are losing the monopoly on knowledge, universities still are accredited knowledge producers, so they are inherently involved in the field of intelligence supply and trading. It was not the case, particularly because, traditionally, the economy of higher education was far from being a free one, as it benefited from a sort of knowledge protectionism, from unaccountable autonomy. Now, as they pass from a command-driven (the requirements of the nation-state, for instance, whom universities, as institutions, have served) to a demand-driven (based on market laws) regime, universities must focus on fostering their organizational intelligence development strategies.

The first step of the process, an on-going one, is the evaluation of the present status of organizational intelligence. Since organizational intelligence is seen as an evolving, mobile feature, its measurements can't, obviously, be static. So, universities have to design adequate functions whose variables are environment-sensitive and, by optimizing these functions, to ensure that they have reached an acceptable level of organizational intelligence, a basis for future development. Of course, both the internal and the external environment of a university are complicated and complex, not to mention their idiosyncrasy, but, in order to model the dynamic equilibrium needed between the two, we isolated one main force representative for each of the domains. The university can control its internal performance by R&D expenditure, while its external performance is controlled by marketing expenditure. The optimizing problem is, thus, reduced to determining the optimal ratio between the two, in order to assess the marketability of university research and to avoid the trap of knowledge for knowledge sake, which is not a solution, any longer, in the present economic context.

Traditionally seen as an "extraordinary" good, knowledge was asserted a particular regime, which didn't involve any utility function. But now, when knowledge is the ordinary good of the knowledge economy, universities must be aware of the fact that their researchers have a life utility function, and knowledge production implies some opportunity costs, which have to be thoroughly considered. In order words, expenses with knowledge production have to provide an adequately high return on investment.

From the marketing side, a forecast on the university's position, as compared to what it used to be, is difficult to advance. What can be said, though, is that it would be recommendable to enlarge the debate between the *acropolis* and *agora*, that is, preserve the university's aura of scientific expertise, by not turning it into a slave of the market tendencies, lusting for money and indulging in research apathy, and adopt a tuning strategy, adjusting in due time, by minimum interventions, without creating major crises, the university's pace to the changes in the industry.

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