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15. December 2011

Online at <http://mpra.ub.uni-muenchen.de/36219/>
MPRA Paper No. 36219, posted 27. January 2012 / 11:15

The role of management accounting in providing Information for making decision within an entity

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ABSTRACT

The scope of this research paper is to obtain information through management accounting and cost calculation, information that helps on developing the best decisions at the level of an organization. We used as an example a case study from the manufacturing industry which helped us to better understand the efficiency with which information about the conduct of production process reach management or the leadership skills that exploit information in decision-making and in operational control of the production process

KEY WORDS

management accounting, optimization, decisions, information, cost

JEL CODES

M41, M21

1. Introduction

The precarious situation of the economy requires to major participants in economic life, policy makers in particular, to take immediate action. However, these measures delays to occur. On the economic level, the decision is at the discretion of the manager. Therefore, a manager can not achieve its intended objectives, without taking into account information obtained from management accounting.

For efficient management of the economic entities having as its object of activity the production of goods, information is needed to calculate product costs. Cost accounting techniques are being applied to collect information on production, to allocate specific spending lots of product and unit cost calculation. Also, as the deployment of production and generation of costs, strict quality control procedures are being applied to compare actual costs with planned costs. Through these methods it can be determined the efficiency of exploitation activity and management. Finally, managers need special financial reports and analysis to substantiate their decisions. Therefore, at the base of management decisions must stand the analysis of alternative lines of action. The objective of this paper is to contribute to a better understanding of the role of information in the entity's management in its decision making to achieve the desired performance. We talk about the economy, efficiency and effectiveness of all activities.

2. Literature review

Development of production of goods and the competitive market economy had a strong impact on the evolution of management accounting. Because the market belonged entirely to the producer's the role of management accounting was to calculate costs. They allowed manufacturers continuously to adapt to changes in cost prices. Over time competition increased, there were many changes in the market from farm to fork. All this had a major impact on management accounting system, which turned to forecast the level and structure towards control operating costs as well. Countries that have a developed market economy own a management system in entities composed of an information system consisting of applications, concepts and techniques characteristic.

In Anglo-Saxon area, management accounting includes all information "valued" that managers need, and not only information on costs, recognizing that the general subject of management accounting relating to economic resources mobilized not only in their consumption (Briciu, 2010). Management accounting has as primary objective the cost calculation, modeling the formation of value inside the establishment. It presents information expressed in financial terms, but also non-financial, for operational decisions.

Planning the future activities of an entity, decisions that managers take within the entities (purchasing decisions, pricing decisions) are closely related to knowledge of *costs*. Cost accounting has a huge impact on the quality of decisions made by managers.

Ebbeken et al. define cost as "an expense or an amount of expenditure associated with (and recognized) a resource consumption, a place of business, a product produced or reporting period".

Bernard Y, Colli J.C. (1994), define cost as "*amount expressed in general in currency, of the necessary expenditure for the purchase or production of a good or service.*" According to specialists Glautier M. and Underdown B. (2001) "*cost is the monetary expression of the effort that an entity must do to achieve its objectives*". From the perspective of the process of acquisition of information necessary to support decisions and to a better understanding of reality, economic manager must take into account the acquisition cost and time information which implies it. In this theoretical framework, pure and perfect information is perceived as a mere fiction, and traditional microeconomics appears overwhelmed in chapter about competition. Imperfect competition theory authors, including H. G. Stigler and Leibenstein exploit the traditional fundamentals of pure and perfect competition, but develop the imperfect information for a series of specific situations from economic reality and which many economists ignore.

For Stigler, searching for information will be prosecuted if the marginal cost of search is marginally lower than the yield obtained for finding the best situation. Marginal cost depends on the initial endowment of information, meaning the previous purchase of a stock of knowledge.

Agencies that have an informational advantage enjoyed in general of a gain situation. Information economy is not perfectly finished, or satisfactory (Gregory, 2009).

3. Research methodology

Regarding research methodology, below we make a short presentation of it so that the reader could be able to easier understand the work content and the way it was designed. Formally, any research consists of four parts: consulting the literature, developing theories, testing theories and concepts of reflection and integration. Given the theme addressed by us, research focused on two levels, both a theoretical approach to the issues and a practical approach, applied. In the first part of the research conducted we focused on presenting a synthesis of existing literature in the field, and in this work we focused on documentary research on management accounting and cost calculation.

Our approach was based on descriptive research combined with empirical research considering that the objectives will be achieved. However, the work involves an explanatory and prescriptive approach because they explain certain mechanisms, concepts and are offered solutions simultaneously. In our study we called as research methods the document analysis, the observation and the case study. We consulted specialized literature, etc., articles, publications. In the last part of our work we tried to present conclusions following the analysis of conducted study.

4. Information provided by management accounting in manufacturing industry in Romania

For efficient management of any organization, managers should be provided with an adequate information system, which gives the relevant information to facilitate decision making

The manufacturing industry and specialty of ice cream from Romania has proven to be a highly complex area in which change quickly succeed, and in these circumstances successful business in the ice cream market depends overwhelmingly on the quality and diversity of assortment of the obtained products. In a market economy, the consumer is the central actor of all economic activities, which converge to the full satisfaction of his desires. Against the backdrop of contemporary economic development recorded sharp growth rates involved in the manufacturing sector, diversification is driven by constant changes in population structure related to needs requirements and to the degree of civilization and cultural level. Thus, a dynamic market, governed by the laws of competition, knowledge and monitoring costs becomes imperative.

In the ice cream industry and ice cream specialties, under current conditions, the efficiency of production depends, among other things, on the efficiency with which information about the conduct of production process reach management or the leadership skills that exploit that information in decision-making and in operational control of the production process. Thus, their achievement is somehow required for the adoption of systems, methods and techniques of budgeting, collection and allocation of costs of production and cost controlling to enable efficiency, simplicity, and economy.

4.1. Various options for obtaining accounting information in managerial accounting

As a result, standard cost method, standard single cost we believe is appropriate in pursuing this line of business costs, on the grounds that mere operation method replaces the actual data collection and registration for comparison at the end of the reporting period, providing an analytical character, operational and forecast information, ultimately allowing growth.

This option allows setting the actual effective costs deviations from standard costs during production process, costs per items of calculation and on causes, which facilitates budgetary control of costs and decision making at all levels on management hierarchy line. Otherwise it eliminates the workload caused by the operation of production inventory in the calculation accounts obtained only at standard cost; it is allowed its determination through the method of accounting. Deviations of effective expenses from the standard ones, determined simultaneously with the process of production have a higher signification than the calculated deviation at the end of the reporting period, leading to late decisions.

One of the main players in the manufacture and marketing of ice cream makes a wide assortment of products from ice cream and ice cream specialties. These products are made in a single production sector. Production is based on the raw milk powder, whey powder, sugar, Ingres, coconut oil, flavors, topping and other ingredients that vary from variety to variety (toppings, peanuts, and fruit pectin). In carrying out these products is respected a specific production cycle that is extended over a relatively long period of time. This refers to a mixing tank ingredients high capacity of 2400 kg. Every are being produced more varieties. The mixture of ingredients takes place in the same cell, is subject to the same job, but from the moment of dosage, in the freezer, is divided the mixture range. Thus, mixture is pasteurized to 63 degrees Celsius to 66 degrees Celsius for 20-30 minutes. Homogenization occurs at a temperature of 63-75 degrees Celsius. Following this operation, the material has cooled to 3 degrees and 5 degrees maturation at 0-4 for 3-4 hours. After maturing are being introduced colors and flavors. „Freezer” is the freezing operation (50-60% of water), ice cream temperature out of the freezer ranging between -5 and -6.5 degrees Celsius. After leaving the freezer, ice cream is portioned and packed. An important operation is hardening ice (deep freezing), which is done at -25 ...- 40 degrees for 24 to 30 hours. Storage takes place at a temperature of -25 degrees for 4-6 months.

In our study we present an example, the creation of three products, namely, A, B, C, that are the products with the higher percentage of the turnover of the entity, as such, production will not be done only on these products as I outlined above. Following careful analysis of data collected on them we obtained the situation according to the table 1.

We believe that the case study allows the following conclusions (table 2.1., 2.2., and 2.3.):

Table 2.1. Situation of deviations for raw materials and their causes

Study feature	Deviations		Causes	
	Quantity	Price	Objectives	Subjective
Product A	+99,76	+ 1.155,84	- perishable raw materials, improper storage - the current market situation determine the change (increase) in raw material prices	- recipe for failure by workers - quick purchase orders to meet a loss of discount
Product B	- 7.310,00	1.190,00	- to supply raw material considered necessary to predict, because production is so varied, but this product is one of the "stars" - the current market situation determine the change (increase) in raw material prices	- it was closely observed the compliance of the recipe by workers, directly productive workers are specialized for this product over time, there are no new recruits - quick purchase orders to meet a loss of discount
Product C	- 240,80	+602,00	- compliance storage of raw materials - the current market situation determine the change (increase) in raw material prices	- compliance of the recipe by the workers directly involved - quick purchase orders to meet a loss of discount
Total	7.451,04	2.947,84		

Table 2.2. Situation of deviations for labor and their causes

Study feature	Deviations		Causes	
	Time	The tariff	Objectives	Subjective
Product A	+3.784,00	+1.032,00	- the framing of new staff employed in key points of the production process - increased tariff somewhat imposed by market prices and the specialization of staff	- using a different hourly rate for workers depending on the length of the production process - deviation derived from a policy that entity is using, to reward older employees
Product B	0,00	-850,00	- there were no deviations from the planned time because there were no workers or changed working conditions - although there has been a tariff increase, the deviation is due to employment in the production of new workers	- increasing employee motivation as a result of incentives received from the management - deviation derived from a policy that entity is using, to reward older employees
Product C	0,00	+120,40	- there were no deviations from the planned time because there were no workers or changed working conditions - increased tariff somewhat imposed by market prices and the specialization of staff	- increasing employee motivation as a result of incentives received from the management - deviation derived from a policy that entity is using, to reward older employees
Total	3.784,00	302,40		

Table 2.3. Situation of deviations for indirect expenses and their causes

Study feature	Deviations			Causes	
	Volume	Capacity	Efficiency	Objectives	Subjective
Product A	-15,37	+4,14	+11,84	-reduce the costs with electricity, equipment repairs, but only up to a point where a slight increase is known	- increased costs with indirect productive staff
Product B	-4,77	+1,82	+5,18	- scrap material losses, increase energy and water costs	- yield reduction due to new employment (non-completer equals timely training courses)
Product C	-7,49	-3,29	-9,36	- Cost reduction with energy, water equipment repairs	- Cost reduction with indirect productive staff
Total	-27,63	2,67	10,33		

4.2. Management optimization using information from Standard Cost method

Although the concept is based on total cost of production using the classification of expenses in direct and indirect, standard cost method also uses the classification of production expenses in fixed and variable, which allows analysis of costs in relation to volume production. Analysis of deviations from standard costs is not sufficient for adequate management decisions. Thus, we can have Direct Costing method in question in this case the calculation of key indicators correlated with the identification of deviations and their causes. The two can be the basis for rational decisions adopted by the entity's management.

Direct Costing can provide entity manager information that is of particular importance in formulating decisions about future activities. This method provides a basis for cost projections for the study of the effects of planned changes in production volume, resulting from changes in economic conditions or certain management actions open, such as price changes, increasing or decreasing stocks or special promotional activities (Briciu, 2006).

These indicators (Briciu, 2006) are calculated as follows:

Gross margin contribution:

$$G_{mu} = S_{pu} - V_{cu} \quad (1)$$

Where, S_{pu} – Sales price per unit;

V_{cu} – Variable cost per unit (total variable costs/quantity manufactured).

Total entity gross contribution

$$TGC = T - TVC \quad (2)$$

Where, TGC - Total entity gross contribution;

T - Turnover;

TVC - total variable costs.

Break-even point

$$B_{ep} = \frac{TFC}{C_{mu}}$$

(3)

Where, TFC - Total fixed costs;

C_{mu} – Contribution margin per unit.

This break-even point indicate the extent to which any sale of additional sales is bringing benefits, but also as a reduction in sales, generating losses in the same structures. It is the point where the economic and financial results are zero. Although the break-even point shows the time from where the business become profitable, we must not forget that a doubling of production

capacity, for instance, will not lead to duplication of benefits as any excess of the optimum production capacity will lead to further growth benefits. However due to the fact that in economic practice, changes in production costs and sales volume are not carried out linearly, following the emergence of influential factors.

Coverage factor

$$Cf = \frac{TGC}{T} \times 100 \quad (4)$$

The coverage factor expresses the percentage contribution of each product to cover fixed costs and obtaining the benefit of interest for current decisions on selling. The entity orients its policy by manufacturing and selling products with the highest coverage factor.

Dynamic safety factor

$$Dsf = \frac{TB}{TGC} \times 100 \quad (5)$$

Where, TB – total benefit;

Dynamic safety factor shows with how much the sales are relatively lower for the enterprise to reach the equilibrium point. Any decrease over this coefficient will make the unit enter in the losses area.

Range safety

$$R_S = T - t (B_{ef}) \quad (6)$$

Where, t (B_{ef}) – Turnover at break-even point.

Range safety represents in absolute size, the sales decline so far as they can not enter into the losses. In this case we already know the data presented previous, plus the following (numbers correspond to 1 kg of ice):

Table 3. The situation of the analyzed products

Elements	Products		
	A	B	C
Unit cost	2,08	0,98	1,27
Unit selling price	2,80	1,70	1,80
Gross contribution unit	1,04	0,1	0,63

Table 4. Indicators provided by Direct Costing method

Indicators	Total	Products		
		A	B	C
Equilibrium point (unit)	110.398	40.980	33.418	36.000
Coverage factor (%)	29,11	37,32	15,02	35,00
Dynamic safety factor (%)	52,5	51,23	55,8	50,47
Range safety	20.850	13.444	2.042	5.364

Thus, if we follow the data in the table, we find that the equilibrium point is at a sales volume of 110,939 units, the coverage factor is 29.11%, dynamic safety factor is 52.5% and range safety is 20,850 pieces.

Entity may take further decisions as to increase Malgra's production because it has the largest coverage factor. It may also consider selling price increases for some products, reducing both fixed and variable costs, etc. All these issues are addressed below.

4.3. Optimization of the results

Practical ways to maximize the profit within the entity consists in taking appropriate decisions. In this regard, the entity used to establish methods for determining the organization's objectives to pursue, the financial impact monitoring activities and, ultimately, profit optimization.

Optimization must follow complex directions as: optimizing cost, production optimization, revenue optimization, optimization of employment costs, and optimization of logistics.

Assumptions on profit optimization are presented in the table below:

- We will consider reducing the retail price of 0.20 at Malgrat product because marketing studies found that similar products have a lower sales price. As a result, the coverage factor will decrease to 32.5%, dynamic safety factor will decrease to 45.27% and dynamic range safety is 12,347 pieces.

- Increase of the physical volume of production and distribution by 10%. In this case the coverage factor remains at its level of 29.11%, the equilibrium point remains unchanged at 110,398 units, dynamic safety factor increases to 53.52% and the range safety increases to 25 900.

- Reduce variable costs by 5% for each of the three products by reducing transport costs, staff dealing with certain phases whose work was taken over by machines, this will change the coverage factor, dynamic safety factor, range safety increases and decreases the equilibrium point.

- Reducing fixed costs by 5% by reducing security personnel to replace them with staff from the entity and the reduction of employees from the administrative apparatus. The coverage factor will not change, but will increase the equilibrium point value, the range safety and dynamic safety factor.

- Change in the production and dissolution, the increase amount of product upwards by a higher coverage factor. Malgra product will increase production to 10%. The coverage factor will increase, sales volume will be greater, and the other two indicators dynamic safety factor and range safety will also increase.

All these changes are presented in the table below:

Table 5. Optimization assumptions

Explanations	Initial situation	Optimization factors					
		Sales price fall	Increase physical volume of production and dissolution	Reducing variable costs	Reducing fixed costs	Change in the production and dissolution	Final statement as a result of the action of all the factors
1) Dissolution volume sales price:							
a)Product A	82.880	76.960	91.168	82.880	82.880	91.168	92.730
b)Product B	41.194	41.194	45.314	41.194	41.194	39.134	44.210
c)Product C	30.960	30.960	34.056	18.920	18.920	30.960	32.880
Total:	155.034	149.114	170.534	142.994	142.994	161.262	169.820
2)Variable expenses:							
a)Product A	13.472	13.472	15.116	12.798	13.472	14.819	15.254
b)Product B	10.101	10.101	11.110	9.596	10.101	9.596	11.350
c)Product C	7.009	7.009	7.710	6.659	7.009	7.009	7.820
Total:	30.582	30.582	33.936	29.053	30.582	31.424	34.424
3)Contribution cover:							
a)Product A	7.733	6.583	8.506	8.382	7.733	9.805	9.870
b)Product B	529	529	582	1.029	529	529	609
c)Product C	3.780	3.780	4.158	4.131	3.780	3780	4020
Total:	12.042	10.892	13.246	13.542	12.042	14.114	14.499
4)Coverage factor:							
a)Product A	37,32%	34,22%	37,32%	40,51%	37,32%	43%	36,94%
b)Product B	15,02%	15,02%	15,02%	19,03%	15,02%	15,02%	19,03%
c)Product C	35%	35%	35%	38,25%	35%	35%	38,25%
Total:	29,11%	28,08%	29,11%	32,60%	29,11%	31,01%	31,41%
5)Dynamic safety factor	52,5%	50,32%	53,52%	57,80%	56,30%	59,10%	60,04%
6)Range safety	20.850	19.752	25.900	22.955	21.890	29.840	34.672

Optimizing the outcome is the cornerstone for any manager. Maximize profits, reduce costs of achieving the main activity, labor productivity growth is the way forward in any activity that is intended to be prosperous, the coordinates of the management of each entity.

On the one hand it comes to reducing consumption of raw materials while the material resources are increasingly fewer and secondly discuss the fierce market competition, under these circumstances entity must retain market position, at least, but also finding ways to improve its performance.

Savings are achieved through optimization of raw materials, fuels and energy shortens the time for execution of various works, fixed costs are reduced, variable costs volume is closely followed etc.

5. Conclusions

Any specific organization or any distinct activity has a feature information system which should provide complete information of the body in sufficient quantities, fair and at the level of efficiency required by consumers of information.

Therefore we believe that the information system is under the base system object or system, or in other words, economic and social body and the two entities have a common goal, namely the continuous growth of the basic efficiency of system.

Accounting for the economic information system is both a data source and one of its basic components.

In making decisions accounting must be understood as an information system that allows the production and dissemination of information for necessary decisions.

We believe that by using information, managers can control entity's activity on each field and can act on it in real time. In terms of modern activities, information becomes very important within the entities.

Objective of each activity is to increase the efficiency of basic system, which is why managers need timely information as concrete as possible for decision-making within an entity. From here it starts the necessity of improving management accounting

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