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## Enterprise Performance through Synchronized Management Accounting

Rebeca Ioana BOSTAN<sup>1\*</sup>

### *Abstract*

*In the dynamics of modern society, it is necessary to implement methods of continuous improvement, as the traditional accounting tools currently used show their limits.*

*The modern management of any enterprise requires the establishment of strategies that enable the enterprise to gain the benefits in the long run as a result of its action in a particular economic and social environment. Synchronized management accounting, developed by Goldratt, Ohno, Deming, and others is a philosophy of continuous system improvement. It refers in particular to continuous improvement methods, such as lean management and constraint theory. These tools and methods that compose them must not be opposed, but taken into account in a complementary manner. Does synchronized management accounting differ from traditional approaches for continuous improvement. Synchronous management methods, techniques, and tools apply in many areas of enterprise management to identify and influence elements that limit system performance, resulting in continuous performance improvements.*

*The underlying hypothesis is that if all processes in an economic entity are improved and optimized, the system as a whole will have optimum performance. Unfortunately, this hypothesis ignores the effects of interdependencies, process linkages within an organization.*

*The purpose of this scientific paper is to highlight the importance of synchronized management accounting. Using management accounting identifies and influences elements that limit system performance, resulting in continuous improvements in performance.*

**Keywords:** *management accounting; decision making; accounting tools.*

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## 1. Introduction

Nowadays, the complexity of the organization's leadership forces the managers to look at the performance of the organization at different angles of view: either profitability or productivity, or customer satisfaction or employee satisfaction [1:455].

The word performance is Latin, but its meaning comes from English. In Latin, the word performance, consists of completing a proposed activity. To perform involves doing something that requires skill or skill [2:28]. Performance translates the way an organization achieves the goals that have been proposed to it. The concept of performance is associated with three notions [3]: economic (obtaining the necessary resources at the lowest cost), efficiency (maximizing the obtained results, starting from a given amount of resources, or minimizing the amount of resources for a predetermined result) and effectiveness (the results achieved to achieve the expected results).

If we look at the enterprise as the main actor of economic activity, the primary criterion for dynamic characterization is the efficiency with which the actions to attract, choose destinations, actual use and recovery of investment resources have been carried out. Thus, the performance of the enterprises is reflected by a causal relationship that is established between the imposed efforts and the effects induced by the activity of an enterprise.

Organizations live and die as systems, not as processes [4:1-4]. Their successes or failures depend on the quality of the interactions between the processes of the organizations. In addition, systems are analogous to chains or chain networks: their performance is limited by the performance of the weakest link, their governing element. This means, by extension that regardless of the effort made to improve the processes, only the improvements to the weakest link will produce a visible improvement of the system. The weakest link is the constraint of the system.

## 2. Problem Statement

### 2.1. Literature review

Synchronized management accounting has been remarkably addressed by author Pierre Jaeck. Pierre Jaeck's author addresses synchronized management and, in particular, the synchronized accounting of management, proposing to re-establish the links between the goals of an organization. customer satisfaction, minimum inventory, product quality, profits, shareholder remuneration, employee motivation, supplier reliability,

and information management system through five main objectives: recalls the definition and objectives of managerial accounting; shows the weaknesses of traditional management accounting methods and tools; Demonstrates the incompatibilities of traditional management with new production methods; developing a systemic approach to managerial accounting, an efficient alternative for synchronization with other functions [5:9].

## ***2.2. Considerations regarding synchronized accounting***

Synchronized management strengthens its power through everyone's creativity. All employees of a company and its partners, such as customers or suppliers, are sources of process, product and service improvement. Removing dysfunctions across the value chain and creating a higher value for the end customer generates gains that can be shared by all chain actors. But people will not increase value if their suggestions are not asked. In other words, without an organizational culture of co-operation, synchronized management will be condemned to failure. Synchronized management requires a cultural change, but also a management system and accounting system. A change of culture that is not supported by an adequate accounting system and performance indicators would inevitably be condemned to failure. A fundamental principle of synchronized management is continuous improvement.

In the *Lost Relevance*, published in 1987, Johnson and Kaplan have found that accounting management practices have stalled since the 1920s. But twenty years later, management accounting has changed a lot, including ABM (activity-based management) balance sheet. However, despite these developments, it is often seen as an obstacle to synchronized management because it involves accounting responses to accounting questions.

Suppose a company develops a sustainable strategy that requires the adoption of synchronized management. Appropriate performance indicators should favour choices that are in line with the strategy and actions that will lead to good results. Management indicators, which are applied in the field of accounting management, can be a positive force for the implementation of synchronized management, but they can also be counterproductive.

In fact, the same cultural issues, which make the necessary trans-sectoral transformations necessary in organizations that have adopted a synchronized management, create opposition between accountants and management controllers.

Many companies use tools (total quality management, reengineering business processes, six-sigma) that can be associated with synchronized

management. However, most strive to implement this approach and achieve tangible results.

Regarding synchronized management, most managers are first thinking about the Toyota production system and are only projecting their production demand. They can then train factory managers without touching the rest of the organization. Or, they see the synchronized management as a set of tools that they choose and use according to their preferences, thinking that they have implemented it as a whole.

Accounting officers and management controllers show great reticence in their timing; they try to adopt a part of a philosophy that must be seen as a whole. It's like developing new parts for a car and do not consider the impact on other parts, hoping the vehicle will work satisfactorily. For professionals, synchronized management is a new management system that faces a change in the accounting system.

For Corbett, traditional methods and synchronized management accounting differ fundamentally, as traditional methods claim that local efficiency will produce global efficiency [6]. Traditional methods are based on the assumption that maximizing resource use will deliver better results. For synchronized management accounting, this search for maximum use of resources does not correspond to a systemic vision of the organization.

The main differences or contradictions between synchronized management accounting and traditional management accounting can be summarized as follows:

- For Just In Time systems, congestion management (synchronization) considers as variables only the total variable costs according to the flow (value of production and sale) of the organization.
- Traditional control systems focus on internal and local efficiency, on potential optimization factors.
- With synchronized management, fixed costs can't be allocated to products or services.
- Regarding JIT, management's timing considers stocks to be in the passive column of company accounting until sales.
- Synchronized management highlights constraints in budget decisions [7].

### ***2.3. Performance measurement metrics you use by applying synchronized accounting***

To reduce the gap between profit, return on investment, cash flow and local indicators, synchronized management proposes the use of three indicators. These indicators should be purely financial to demonstrate the

company's progress towards its objectives. So you have to answer three questions: "How much money is generated by the company? What is the amount of money blocked by the company? These indicators are evocative but these aspects need to be transformed into formal definitions [8:19].

Synchronized management indicators are [4:121]:

- Marginal revenue: The rhythm in which the system generates money through sales. More precisely, this means fresh money coming from outside its own walls. It represents the turnover of less completely variable costs (which varies only when sales vary - especially raw materials - completely variable cost).

- Investment (I): The financial resources that the system invests in to generate profit. The investment can be divided into two categories: (1) stock of materials, work in progress, finished products and (2) other assets of the enterprise. The value of inventories of goods and finished products is the total variable cost.

One of the objectives of this evaluation system is to eliminate the generation of the profit generated by the cost allocation process. This methodology makes it impossible to increase short-term profit by increasing stockpiles of finished products.

- Operating Expenses or Operating Expenses: Expenditures of the system to use investments and generate marginal revenue. The theory of constraints does not classify expenses as fixed, variable, direct or indirect. Expenses are other costs other than fully variable costs. The increase or decrease of these is analyzed on a case-by-case basis and their impact on profit is taken into account. Synchronized Accounting considers these three indicators as sufficient to manage an organization. Links to profit and return on investment are as follows:

- Profit = Marginal Income - Expenses Exploitation
- Cash-flow = Marginal Income-Exploitation Expenses +/- Investment
- Rentability of Investment = (Marginal Income - Exploitation Expenses / Investment).

An ideal decision is a decision that involves increasing Marginal Income and lowering Exploitation Expenses and Decreasing Investments. However, any decision that has a positive impact on return on investment is a decision that leads the organization to its goal. The justice of peace, the fundamental indicator is the return on investment. Return on investment is a performance concept in any form of investment. For shareholders, the end goal of the enterprise is expressed in ROI [9].

Many authors have developed the benefits of managing accounting synchronized with cash flow operations.

T. Corbett reminds us that synchronized management accounting is used to answer three questions: what is the impact of a flow decision - the marginal revenue generated by the organization when it sells a unit of product or service?

What is the impact of this decision on investments and stocks? What is the impact of the decision on running costs? The answer to these three questions, irrespective of the decision, makes it possible to predict the impact on the profitability of the organization. To answer these three questions, we do not need to allocate product costs.

### **3. Research Questions/Aims of the research**

This scientific approach was designed to demonstrate the importance and role of synchronized management accounting. The main hypothesis of this paper is: Can synchronous management accounting be used to achieve economic performance for businesses?

### **4. Research Methods**

The scientific approach has been based on the study of specialized literature and on practical experiences in the meat industrialization economic entities. We also took into consideration the interpretation of the specialists in this field, but also the elaboration of some examples on the topic debated in order to understand more eloquently the importance of the synchronized management accounting. The methodology used has combined qualitative research with quantitative research. The paper focuses on a deductive approach from general to particular, combining quantitative and qualitative studies.

### **5. Findings**

#### ***5.1. Priorities of synchronized management***

Analyze the application of synchronized accounting in the specialty section of an economic entity of meat industrialization. Within this section a wide range of assortments are made, with well-tailored technological flows. From this range of products we will analyze the "pressed ham" product, whose manufacturing process involves the following 13 preparations:



preparation of the raw material (100 kg / hour), injecting the meat (140 kg / hour), meat massaging kg / hour), maturing the meat (50 kg / h), kneading the meat (50 kg / hour), filling the molds (20 kg / hour), folding the polyethylene foil (50 kg / hour), pasteurization (60 kg / hour), cooling (80 kg / hour), removal of molds (20 kg / hour), product packaging and labeling (70 kg / hour).

The raw material is taken over at the first resource level, gradually scrolls all the operations to the last resource, after which the finished product is ready for sale. The number of each operation represents the average capacity of each resource in units / hour. This organization sells the "pressed ham" product at a price of 30 Euro / kg and a material cost of 14 Euro / kg. Thus, the unit rate has a value of 16 Euro / kg. Organization resources work 8 hours / day, 22 days / month, exactly 176 hours / month.

The resources used for the operation of filling shapes and removing forms limits the capacity of the organization; is the constraint of the system. The total marginal income per month is 19.712 Euro. To improve the performance of this organization, it is necessary to focus on resources used to fill forms and remove shapes. Improving the performance of other resources will have no impact on the overall performance of the system and will therefore be counterproductive.

To analyze a proposal and evaluate decisions, we need to use three indicators of constraint theory (marginal income, exploitation churns and investment).

One person proposes to optimize the resource used for the "kneading" operation, which allows it to improve its capacity from 50 kg to 100 kg units per hour, which requires an investment of 9.000 Euro. Therefore, it is necessary to quantify the impact of accepting this proposal on the organization's objective and to calculate the impact on investment, marginal income and operating expenses.

The marginal revenue will increase because the system can produce 100 kg / hour, as the investment increased by 9.000 Euro and the operational expenses will increase by 75 Euro/ month due to the depreciation of the investment. As the marginal income increases, the organization decides to approve this project. Another project is proposed within the organization. The resources used for the filling and shaping operations can be optimized and can range from a capacity of 20 kg to 25 kg / hour. But in this case, the capacity of the resources used for packaging and labeling the product will drop from 70kg to 60kg per hour. The necessary investment is 3.000 Euro.

The monthly marginal income will increase by 14.080 Euro, the operating expenses will increase by 25 Euro / month, and the investment

will increase by 3.000 Euro. Therefore, the profit will increase to 14.055 Euro/month.

Another important decision is how to manage other resources within the organization. The theory of constraint does not measure local efficiency, except system constraint. In the example above, unconditioned resources will have moments of rest if they are treated in accordance with the constraints theory. For the efficiency of other resources to be 100%, they must be fed with raw materials and materials at a rate of 10 units / hour. This will not increase marginal revenue, but will increase the level of investment as stocks will grow at a rate of 3 units per hour. If the investment grows, operating costs also increase due to the cost of additional inventories. Looking for efficiency with non-binding resources leads the organization in the opposite direction to its goal! It is therefore possible to conclude that the rest periods of non-appearing resources are necessary. This is the reason why the third step in the process of continuous improvement of the theory of constraints is to subordinate the rest of the organization to the decision to exploit the constraint.

Subordinating means rigorously asking for what is needed by constraint and nothing more. Non-syndicated resources would not contribute to achieving the organization's goal if they produced 100% of the time spent. In constraint, this would reduce profit. Constraint determines the production rate. Consumption of raw material and materials is controlled by the constraint rhythm. In order to calculate the impact of decisions on the three constraints theory indicators, it is necessary to understand the influence of constraint on these indicators.

To increase marginal revenue, it is necessary to increase the price and / or the quantity sold and/or reduce completely variable costs. Constraint on a system plays a fundamental role in increasing marginal income.

To reduce the investment indicator, the company is forced to sell something bought without increasing the level of other investment. In order to lower operating costs, it is sufficient to reduce the costs. These three indicators give the organization's managers different priorities. The first indicator is marginal income. The goal is always to increase marginal income, as it is the only indicator that has no limits. Investment and operating costs need to be diminished and therefore have a limit that is zero.

## ***5.2. The main difference between addressing constraints and traditional approach: costs***

The main difference between the traditional approach and the constraints approach is to reduce costs. The theory of constraints considers

that there is a level of cost reduction, of which the effects on the organization are contrary to its objectives. Any business activity requires fixed costs to produce and sell its products and services. The theory of constraints considers them as operating costs: the sum of costs, whether a unit is produced or not. A certain level of operating expenses is necessary to drive an organization to a certain level of production. We can consider it the same for investment. Therefore, there is a limit of practice (well above zero) below which the organization is unable to produce value for customers. For companies that are still working on a mass model, it is certainly possible to reduce operating and investment costs. But these are, in essence, savings that can only be made once. Finally, all the "fat" was eliminated and only the "muscles" remain. Continuing to reduce operating and investment costs will prevent the organization from achieving its goals.

Reducing costs or increasing marginal revenue?

An economy of meat industrialization has a turnover of 50.000 Euro and that production is loaded at 70% of its capacity. The variable costs amount to 20.000 Euro. The operating expenses amount to 20.000 Euro and the stocks amount to 7.000 Euro (materials, final products, finished products). Now, let's look at the two possibilities of cost reduction and marginal revenue growth. What is the best decision? Let's assume that in a year, this economic entity would conscientiously implement a Lean program. Workload of resources would be close to 100%. The company would save 10.000 Euro in operating expenses. This 10.000 Euro will come directly to feed the result. Additionally, the company will reduce inventory levels by 6.000 Euro. What will happen in the second year if things went well in the first year? Now, the potential for marginal revenue growth is taken into account. Let's say that the turnover of 50.000 Euro comes from 100 customers. The company manages to convince 100 new customers across the country, which allows the turnover to be threefold. Variable costs will increase (60.000 Euro) and the company will have to employ 50% more employees. The level of investment will, at the same time, range from 7.000 Euro to 21.000 Euro. Now, the potential for increasing marginal revenue can be considered. Although the costs have increased by 50.000 Euro, the turnover increase reaches 10.000 Euro. Therefore, the potential for profit growth reaches 60.000 Euro without making any rationalization efforts. Even if these estimates are optimistic at 30%, the result will be increased by 10.000 Euro compared to the cost reduction solution. From a practical point of view, such an increase in sales volumes will certainly require improvements in Lean's inherent reliability and quality to attract 200 new customers. But, as Womack and Jones have said, if you can deliver with greater reliability, you do not have to respect the prices of tableware.

Moreover, considering that marginal income is the first of the indicators, which forces managers to appreciate the system as a whole, because it is possible to increase marginal income only by optimizing the constrained resource. Focus on marginal income helps managers avoid optimizing their departments without taking into account the purpose of the system as a whole. The theory of constraints does not calculate product costs. Goldratt says it is not necessary. Constraints are essential classifications that replace the role of products [10]. It is necessary to assess the impact of a decision, not of a product [8].

When deciding, it is necessary to answer the following three questions:

- How much will the marginal income change?
- How much will change the investment?
- How much will the operating expenses change?

Now, to answer these three questions, especially at first, we need to understand the reality between the constraint of the system and the products or services provided by the organization. The available constraint time is limited. Different products use the availability of constraint differently. A product may require five minutes of constraint, while another requires half an hour. It seems obvious that the product that lasts only five minutes should take precedence! We also want to increase the marginal income of the organization. Different products have different marginal incomes. A product with a marginal income of 1000 Euro must take precedence over a product with a marginal income of 400 Euro. As you can see, it is about improving the product with the highest marginal income and using the least constrained resources. So, we will have a problem comparing two products - one that has a marginally higher income, the other that uses the slightest constraint. How to decide? To resolve this conflict, it is necessary to adopt a relative indicator that takes into account both parameters. To determine which product contributes most to the organization's goal, marginal revenue will be shared at the time the constraint is used. This indicator is called "marginal revenue per consumption unit of constraint".

**Table 1.** Example of the marginal income per consumption unit of constraint indicator

	Smoked pork neck	Smoked pork chicken
Marginal revenue per unit of product (Euro)	12	14

Minutes of using the constraint	2	4
Marginal Income / Constraint Period	6	3,5

In this case, the company sells two products: smoked pork neck and smoked pork chicken. The smoked pork neck product is less constrained than the smoked pork product, but the pig fat product has a higher flow. Managers must decide what item to produce as a priority. The indicator „marginal revenue per consumption unit of constraint” indicates that by manufacturing pig product, the company grows its marginal income by 6 Euro per minute, and by manufacturing the pig pasta product, the increase is only 3,5 Euro per minute.

In order to better understand this indicator, we must believe that the company sells its limited resources, the resources of the constrained resource. In the previous example, one of the hypotheses is that the market is expanding; more precisely demand is higher than the supply. In this case, marginal revenue per consumption unit of constraint makes sense.

If an organization has a capacity that exceeds market demand, constraint becomes the market. In this case, the priority criterion is the marginal revenue per unit produced because no internal resource limits marginal income. Selling a product or service whose price is higher than fully variable costs and does not increase operating expenses thus contributes to profit growth. The underlying assumption is that the operating costs of the organization do not vary in proportion to the volume of production, especially when capacities are available. The position of constraint theory is that supervisory functions, like other unconstrained resources, can produce more without additional resources.

The theory of constraints does not establish any correlation between production volumes or any other system variable and running costs. The decision maker must be able to estimate the impact on operating costs.

When the market demands more than the current production capacity of the organization, constraint theory recommends marginal margin use on the constraint unit to focus on products that contribute to the company's goal. This does not mean that marketing issues need to be forgotten. Some products, even if they are not important when considering their flow per consumption unit of constraint, must be sold for reasons of market satisfaction. Whatever the decision, it is necessary to quantify its impact on the three indicators of the theory of constraints as well as the profitability and return on investments.

## 6. Conclusions

To make the link between managers' local actions and the organization's goal, constraint theory uses three indicators: marginal income, investment, and operational expenditure. In this case, in order to make a decision, it is necessary to quantify the impact on the three indicators, which are directly related to the profit and return on investments. Applying management accounting is simple, easy to implement and extremely useful as long as the organization in question has made the transition from the world of costs to the synchronized world. By applying it, quick decisions are made that have a direct impact on the purpose of the organization.

The role of constraint is decisive for quantifying the impact of a decision on the three indicators. Therefore, in order to identify the product that contributes most to the benefit of the organization, constraint theory recommends using marginal revenue per consumption unit of constraint when the capacity of this resource is less than market demand.

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