Performance Measurements, Critical Facts to Business Growth – Exemplification on Automotive Industry

Ilinca HOTĂRAN[1]
Andreea Ileana ZAMFIR[2]

ABSTRACT
An important consideration in the process of modeling business processes is that in order to improve, you must define the current state of work. Accordingly, the general argument for business growth based on performance measurement is that in order to improve the process in the future, you must know how activities are conducted in the present. The article presents the key elements of performance measurements in relation to business growth, taking also into account main challenges and obstacles. The author based the research upon a larger study of increasing performance, developed inside four companies from an extended supply chain in automotive industry, relating the theoretical discoveries in the field with the real business experience.

KEYWORDS: *performance, measurements, processes, automotive industry*

JEL CLASSIFICATION: *M20, O1*

1. THE ROLE OF PERFORMANCE MEASUREMENTS IN BUSINESS

Trying to run an organization without accessing relevant information and pertinent performance is like driving a car or flying a plane, without instruction. The information is provided by different types of gauges, warning lights and alarms and the list of performance measurements gives you the necessary foundation for decision making process.

In order to do their work effectively, the personnel inside organizations need to have access to information in a timely manner and accurately. Business functions are better integrated, the link between organization and its suppliers and stakeholders is stronger, internal processes are more efficient, if organizations have information systems that can provide this type of information. (Cioana & Hotaran, 2011)

Although information is different every time, it is still invaluable. When investigating the performance measurements used in organizations, specialists in the field reveal a long list of different application areas (Andersen & Henriksen, 2004):

- monitoring the overall performance levels of the organization;
- setting the strategic directions and the use of measurements to ensure optimum direction;

[1] The Bucharest University of Economic Studies, Romania, E-mail: ilinca.hotaran@man.ase.ro
[2] The Bucharest University of Economic Studies, Romania,
E-mail: zamfir_andreea_ileana@yahoo.com

- using average or absolute performance levels to interpret detailed operational plan of activities and processes;
- forecasting through performance indicators;
- undertaking regular assessments;
- using performance indicators by groups or organizations to promote desired change;
- incentives, bonuses or other payments based on certain performance parameters. The best practices in incentive granting strategies are based on the attitude of the organization members with a view to the achievement of the established target. In this respect, the „focus on participant" plays a significant role by trying to understand the psychological process of participant stimulation and motivation within an incentive granting program. (Dinu & Ciora, 2012)
- using performance measurement to determine which process needs improvement;
- evaluation of projects to improve monitoring;
- benchmarking.

As we can see, many of this area are relevant to business growth. Every process has established a specific level of performance. This analysis gives us a useful insight into the causes of lower performance.

2. IMPLEMENTING A PERFORMANCE MEASUREMENT SYSTEM

Even though the term of performance measurement system appears in general use of management system, its context can be of any size and complexity. This section talks about how to ensure that a performance measurement system facilitates development efforts.

We should mention that in the last few years, we have used several computer-based measurement systems. Many organizations have invested too much time and too much money to implement very complex systems that often do not work, and when they work, are too complex and there is no real use of all their capabilities.

Following Spitzer (2007), technology has a share of 10 percent in a performance measurement system and the rest is the method of using the system: the measurement context with its purpose, integration and interactivity measurement. We emphasize that the information about performance measurements is useful for improving goals.

Andersen and Fagerhaug (2001) have outlined an eight steps process for creating and implementing all types of performance measurement system.

The eight steps of the process are:

1. To understand and structure business processes. This is the first step of the design process, whose goal is to force those in charge of it to develop a performance measurement system. It is useful to review organization's competitive position, environment and not ultimately the business process.
2. To develop a set of priorities for business performance. This step refers to the understanding of stakeholders and the measures upon their expectations.

3. To understand the current system of performance measurement. If a performance measurement system already exists, then this step is rather a matter of revising, because the parties may be refused by the new system.
4. To develop performance indicators. The most important element of performance measurement system is to establish the set of performance indicators which will be used to organize business processes.
5. To decide how to collect required data. The main goal of this step is finding solutions for collecting the data needed to define performance indicators.
6. To design and report results. In this step, you decide how performance measurements are presented to users, how should be used in management processes and how people will be entitled to use the data.
7. To test and adjust performance measurement system.
8. To implement performance measurement system. At this stage, the system is eventually put into use.

As a conclusion, we mention that above the process analysis, it is necessary to question the performance indicators that form the foundation of this system.

2. 1. Performance Measurements

There are many types of measurements that can help you see how the process evolves. For example:

- Inputs measurements (quality measurements, cost measurements, consistency with requirements)
- Process measurements (measure different elements of the process)
- Output measurements (measure the outcome of the process)
  - Production: How many of the products meet customer requirements
  - Quality: Products or services meet customer requirements?
  - Cost: How much it costs to make the product or service? It can be compared with the competition?
  - Customer satisfaction: How satisfied are customers in relation to product or service?

The concept of business growth requires measuring the performance as a whole rather than individual performance. Even if measurements differ from case to case, the main focus remains at continuous improvement of customer service. End customers are not interested in the time required to move materials between supply chain members or the costs associated with this process. They are interested in the time their order will be processed and the final price of the product or service.

A good performance measurement is also a tool that allows action: it not only helps to identify the causes of the problem, but also to eliminate them so that the relationship between the organization and customers should not be destroyed forever.

Performance is measured once per week or per month. When you want to make the transition from a performance analysis for a period of 3 months to an annual review, the need for a coherent and appropriate strategy appears.

2.2. Methods for measuring performance – challenges and opportunities

Some classical problems related to performance measurement methods, include:

- Strategy and measurement methods are not connected: many measurement systems are not derived from the business strategy and thus they do not support the company's activity;
- Special attention only at financial metrics: many companies rely solely on financial metrics, which unfortunately illustrates more the results of past actions than future performance;
- Too many isolated and inconsistent measurement systems: some companies pay great attention to product handling efficiency and load time, when customers value other performance measurements.

3. CASE STUDY – THE AUTOMOTIVE COMPANY VOLVO

Both the literature and strategies already implemented to the companies, they do not present a clear definition of the term performance.

The research of this article is based on a case study regarding performance measurements in companies from automotive manufacturing, companies analyzed in relation to their suppliers. (Hotaran, 2011)

Following the interviews and direct contact with companies in the automotive industry, we have identified different opinions on this term. Mr. Markus Billock, Lean Manager at Autoliv Company, factory in Goteborg, states that "performance is a system where you do not have lost and stock". From the point of view of Mr. Nicklas Höjer, Logistic Manager at International Automotive Components plant, performance is defined as the cost associated to three factors: stocks of materials, transportation and human force. At the same question, Volvo Trucks representatives from Sweden, Markus Strömberg - Acting Manager for Logistics Preparation and Sourcing Process, Stefan Karlsson - Inbound Process Manager and Marcelo Da Silva - Volvo Production System, responded by making a direct link between performance and projects targeting products, being aware that if one element in the chain fail to fulfill its tasks, the entire supply chain will malfunction.

In our point of view, performance translates into the ability to create value for suppliers and customers now and in the future as a company's profitability is best reflected in value. The most important activities carried out to improve performance can be achieved, in our opinion, by reducing cycle time and cost savings, as will be presented in the following sections.

According to information provided by Automotive News, automakers are busy taking initiatives based on production control and their association with the possibility of making significant savings. Automotive equipment manufacturers try to streamline their supply chain and increase efficiency by rationalizing the supply base. These tests are based on combining new supply solutions, global sourcing, full service supply process, design for manufacture and assembly, as well as outsourcing activities.

Scenario planning is a method used to establish a vision for the future in order to pursue new activities. It is used for strategic purposes and tests the performance indicators of the company.

Volvo production model is Built To Order. Thus, the customer or the dealer places the command in the command virtual bank, which operates on all system requirements: feasibility control, order booking, information on current order.

Inside the production network, actors are assembly factories, assembly external service providers, suppliers complying with the terms of Built To Order strategies. They issue requests related to machine configuration, command configuration and its control.

Thus, BTO supply chain process is based on flexibility and responsiveness to customers. However, setting limits on the variety of cars allows automobile manufacturers to control the range of choices that customers are able to make. Regarding this issue, we can affirm that in some cases it is beneficial for the companies to be rigid, without compliance to their customers. (Ul-Haq & Nadeem, 2010)

3.1. Increasing performance through performance measurements related to costs – development trends

At the production factory in Goteborg, all trucks manufactured by Volvo Trucks are produced upon requests issued by clients. Thus, the individual may express wishes about specific characteristics of the truck and he is not forced to choose between final versions of the product. This is a competitive advantage for Volvo, but very demanding for the production department. The Department of Production Engineering and Logistics has attempted a series of calculations for internal data handling, but most of the data used were outdated. Because Volvo wants to explore different ways to use materials internally, it requires a proper costing model, based on performance measurements.

Rather than focusing on each activity separately, the objective of an organization should be to reduce the total cost of the logistics process. Total cost is the key performance measurement and managers should be able to consider all logistics costs at the same time, as reducing the cost of a single isolated could mean an increase in amounts invested elsewhere.

The first step to developing a procedure for determining the cost is to analyze the major processes associated with it. But before you start the process it is essential to provide adequate training to staff. When the processes are identified, the company must create a value stream map of the processes associated to supply chain logistics function. (Collins, Su & Lin, 2001)

At the production factory in Gothenburg there is not a model of cost calculation associated with handling material, as it results from the discussion with Mr. Stefan Karlsson, Inbound Process Manager at Volvo Trucks division.

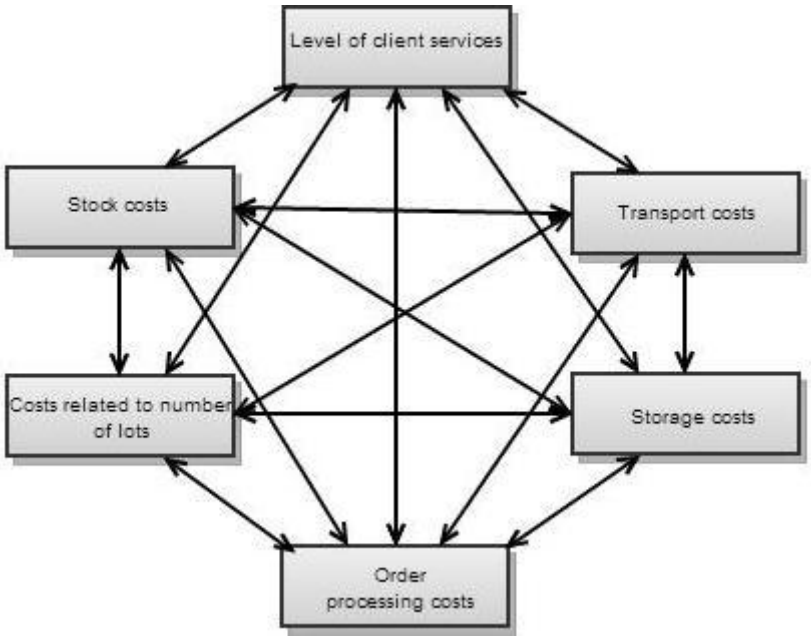

Figure 1. Influence of logistics activities on the overall cost
Source: adapted from Hotaran (2011)

3.1.1. Ways to reduce costs

While it is not the main element, most companies tend to develop supply chain in order to reduce costs.

In this case, there are many ways to reduce costs, such as:

- Reduce resources, i.e. personnel, capital or material costs;
- Increase productivity of existing resources in order to reduce the cost per unit of product;
- Reduce development time of a product;
- Build processes to support the development of strategic plans.

It is important, however, to carefully consider in each company if cost savings will help the organization to achieve its objectives. If we consider the cost savings of extended supply chain, we can not talk about reducing the cost of one department or one company, because costs are spread throughout the chain. Cost is considered an effect of a cause and is seen as a signal for the existence of root causes throughout the supply chain. It should not be approached as a cause in itself.

The key element in how management is able to reduce the value of cost is to identify areas where problems occur. In this way we are able to identify on which indicators to act with solutions for improvement. We present several situations that can lead to increased costs:

- Lack of clarity. Current systems for cost reduction only increase the level of confusion. It is important for supply chain management to find the optimum

level that can be achieved throughout the entire system. Questions that a preliminary analysis of the company must answer, are: How the lack of clarity can evolve? How much we have to emphasize details when analyzing costs? How can we do this analysis without going into a state of obscurity?

- Variability. In the current situation we can not afford to respond to variability of processes by simply using unqualified people. We also can not base our activity upon the ability to adapt to time. A key issue to be addressed in order to make effective improvement activities is to analyze the situation in which partners in the supply chain have different production cycles and this creates variability.
- Product design. To eliminate the additional costs of this phase, we propose that the management team to carry out a detailed analysis on the optimal timing of estimating cost, taking into account the new product design. A key question concerns the ability of organizations to estimate from the first stage of design if the product will record success or not.
- Transfer of information. The lack of communication can create incompatible systems or effectively stop the development of a system. Lack of information transmission increases costs, coordination errors and delays in production. It is essential to establish how we can reduce costs through better mobility of information.
- Weak link. When we talk about supply chain management, we mainly take into account its weak links and how they can affect the entire business.
- Random consequences. This includes those cost-cutting efforts that have taken a wrong turn. Most often these events occur because companies do not know the difference between the lowest price and the lowest cost when selecting their suppliers. Other examples of such random effects are increasing of the procurement process, system complexity, and difficulty in isolating weak links, reduced quality and quantity of services for the customers. (Ayers, 2006)

CONCLUSIONS

It is obvious how easily the negative effects propagate and multiply within the supply chain. The lack of clear identification of performance factors, lack of integration of risk management and lack of integration of the company's extended supply chain to senior suppliers brings enormous losses in times of economic crisis. Also, a starting point for an improvement strategy is increased awareness of the range of customers, and of own activity field specialization

The Volvo Trucks company is one of the most stable companies in the automotive industry in Europe. At the same time, we have identified a lack of essential disaster prevention methods, and also a need for simplification and improvement of specific processes. Their supply chain works effectively as long as nothing unexpected happens. They do not take into account negative influencing factors.

There are two basic ways to evaluate an activity and increase its performance: counting and appreciation. Counting is generally recognized as the best measurement method because it is more objective.

Appreciation is generally considered to be more subjective and ranks second to the counting for the method of measuring the business. However, if counting is not possible in some cases, the assessment may be useful for improving the activity. (Marin, 2009)

This article is only a part of the analysis regarding how performance measurements can influence business growth.

For future research we consider that it should be an opportunity to analyze the challenges and proposals to improve performance by increasing social responsibility. One of the main challenges associated with the present economic and social environment is represented by the broad impact that companies have on the society at large. In this sense, the theoretical and practical evidence is strong offering reasons and examples for companies to become socially responsible or to consolidate their corporate social responsibility (CSR) policies. (Iamandi & Munteanu, 2011)

REFERENCES

Andersen, B., & Fagerhaug, T. (2001). *Performance measurement explained: designing and implementing your state-of-the-art system*. Milwaukee. ASQ Quality Press

Andersen, B., & Henriksen B. (2004). Performance measurement system success depends on design alignment with the core purpose of its implementation. *Proceedings from PMA 2004 – Public and Private Conference*. Performance Measurement Association. Edinburgh. July 28-30

Ayers, J. B. (2006). *Handbook of supply chain management.* The St. Lucie Press Series on Resource Management APICS. Auerbach Publications. 2 edition

Cioana, G. A., & Hotaran I. (2011). Management information systems an approach inside and outside the organizational boundaries. *Proceedings of the International Conference, Accounting and Management Information Systems*. pp 1090-1109

Collins, J., Su, R., & Lin, B. (2001). Supply chain costing: an activity-based perspective. *International Journal of Physical Distribution & Logistics Management* 31(10), 702-713

Dinu, E.M., & Ciora, C. (2012). Best practices in incentive compensation from the perspective of value-based management. *Revista Amfiteatru Economic 31*

Hotaran, I. (2011). *Posibilitati de crestere a performantei lantului de furnizare extins – exemplificare pe industria auto*. Bucuresti. Academia de Studii Economice

Iamandi, I. E., & Munteanu, S.M. (2011). Reporting about corporate social responsibility in romania: challenges and opportunities in an European context, *Paper presented at ICEA-FAA 2011, the 3th edition of "The International Conference on Economics and Administration". Cartea Studențească Publishing House*. Bucharest. pp 360-374

Marin, I. (2009). About performance and evaluation of employee performance. *Economia. Seria Management,* 12(2), 260-272

Spitzer, D. R. (2007). *Transforming Performance Measurement: Rethinking the Way We Measure And Drive Organizational Success*. Amacom New York

Ul-Haq F., & Nadeem M. (2010). *Build-to-Order Supply Chain in Automotive Industry*. Master's thesis within International Logistics & Supply Chain Management. Jönköping International Business School. Sweden