THE BALANCED SCORECARD AS A METHOD OF THE LOGISTICS CONTROLLING

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Abstract

Nowadays the main objective of logistics is to optimize the management process of product flow. The completion of logistics functions in the enterprise requires an increasing amount of various information, which allows costs and proper functioning of logistics processes to be specified. This fosters the development of controlling logistics which the main task is to support a logistics management. Logistics controlling through the coordination of planning, control, monitoring, collection, and processing of information, ensures an efficient achievement of specified objectives for logistics at the strategic and operational level. The effectiveness of the enterprise depends on the ability to gain and maintain a competitive advantage on the market that is to identify and exploit emerging business opportunities faster than competitors and the direction of the management system for increased efficiency. Modern companies must nowadays combine efficiency and competitiveness on the global market with sensitivity to the needs of local customers. Therefore, one of the key issues of logistics controlling is the measurement and assessment of the efficiency of logistics processes.

In this paper the Balanced Scorecard approach is presented and a possibility to implement it in the enterprise as a tool of logistics controlling. This method can highly increased an efficiency of logistics processes.

Keywords: Balanced Scorecard, logistics controlling, strategy, decision-making process

1.   INTRODUCTION

Along with the rapid globalization of markets, there is also technological globalization, which is manifested itself in new products and research capabilities. The life cycle of each product and the entire technology is now radically reduced [1]. Constantly improving information technologies allow quick, easy and affordable access to information and knowledge resources, which has not only significantly increased the pace of technological changes, but has also become the basis for increased efficiency and productivity [2], [3], [4]. The most significant changes in the management of the company include increased role of strategy and change the orientation of the product to customer focus and his needs. Enterprises need improvement and implementation of innovative management systems. Comprehensive measurement and assessment of enterprise activity play significant role in these conditions [5], [6].

The effectiveness of the enterprise depends on the ability to gain and maintain a competitive advantage on the market that is to identify and exploit emerging business opportunities faster than competitors and the direction of the management system for increased efficiency and innovation, which lead to the growth of the company value. Maintaining long-term competitive advantage allows the decision making process in the company to be, at the same time, based on strategy, business process management, risk management processes and information [7], [8].

Modern companies must combine efficiency and competitiveness on the global market with sensitivity to the needs of local customers. The enterprise must now be seen as a collective of people striving to achieve common goals using a specific business strategy. Enterprises need a management system, which will facilitate the process of formulation and realization of the strategy [9], [10].

Nowadays the main objective of logistics is to optimize the management process of product flow. The completion of logistics functions in the enterprise requires an increasing amount of various information, which allows costs and proper functioning of logistics processes to be specified. This fosters the development of controlling logistics which the main task is to support a logistics management. Logistics controlling through the coordination of planning, control, monitoring, collection, and processing of information, ensures an efficient achievement of specified objectives for logistics at the strategic and operational level. Therefore, one of the key issues of logistics controlling is the measurement and assessment of the efficiency of logistics processes.

In this paper the Balanced Scorecard approach is presented and a possibility to implement it in the transport enterprise as a tool of logistics controlling. This method can highly increased an efficiency of logistics processes, because allows main strategic objectives within the business process perspective to be measured, assessed and quickly realize.

2.   PERSPECTIVES IN THE BALANCED SCORECARD APPROACH

The concept of the Balanced Scorecard as a management method appeared in the 1990's, when it was noticed that there had been major changes in the business environment. There was a new, very important factor - information. In a competitive market, the management of this resource is now a key to the survival of the organization and the possibilities of its development [11]. To properly assess the performance of the company, managers must use integrated operational and financial measures that comprehensively evaluate the different aspects of the business - a role which can be met by the Balanced Scorecard method. Nowadays this method is one of the most popular modern concepts of measuring the efficiency of the enterprises in the world. The philosophy of BSC is shown in **Fig. 1**.
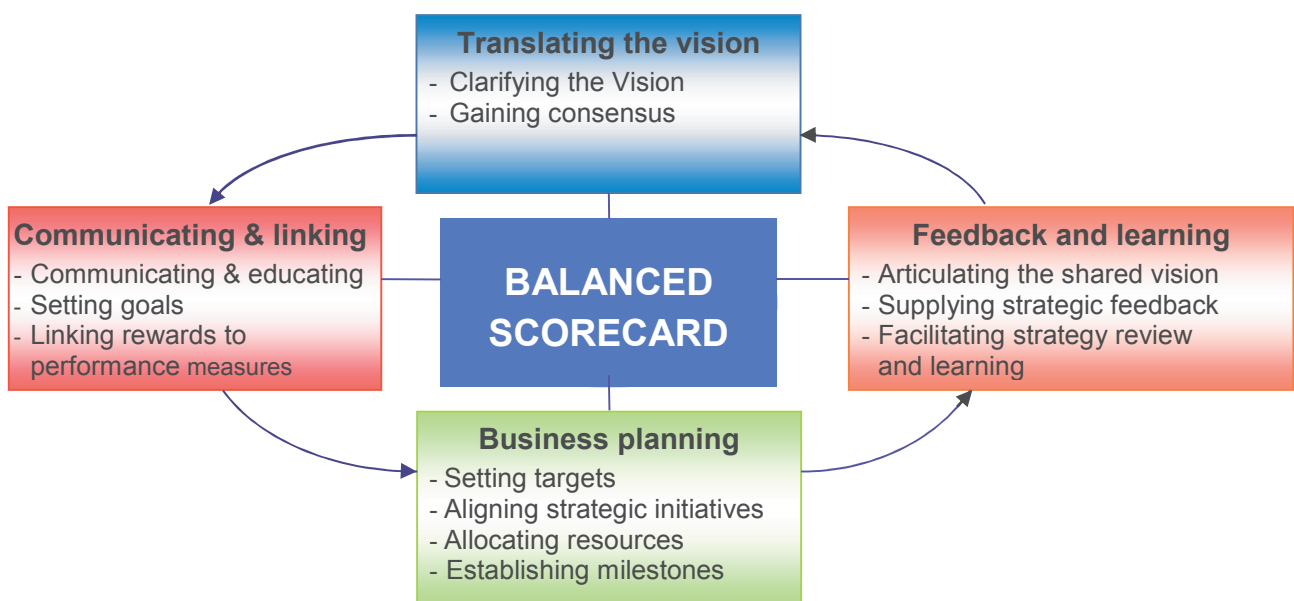

Fig. 1 The main principles of the BSC methodology [12]

Traditional methods of evaluation and control are based on the analysis of financial results deviations, while modern systems complement financial measures with other measures relating to quality, performance, duration of the operating cycle, the rate of production, and sales rates. The Balanced Scorecard is a multi-dimensional structure and balances short-term objectives with long-term objectives. BSC allows the performance of the company to be analyzed and evaluated through the establishment of objectives, initiatives and performance metrics. It enables communication of strategy at all levels of organizational management and allocation of sub-targets of individual elements of the organization (personnel, responsibility centers, etc.) to the overriding objective - strategy [12].

Four perspectives are typically defined in BSC [12]:

- financial perspective;
- customer perspective;
- internal business processes perspective;
- learning and growth perspective.

Many companies modify the BSC, expanding it with additional perspectives including partner cooperation, employees, suppliers or environment [8] and society (e.g. Corporate Social Responsibility concept), etc. The four main perspectives must therefore be regarded as a model rather than the norm [11]. In each perspective are measurements of various aspects of the company, each of which provides different information. They must be considered together, because together they form a view of the strategy realization.

Enterprises need to use a tool that will be able to hand over to employees the enterprise strategy in a clear and easy to read way. One of these tools is the strategy map. A strategy map shows the combination of strategic objectives set out in the four perspectives, the causal relationships leading to the implementation of the strategy. It shows how the performance of the one-perspective (cause) affects the achievement of the next perspective (effect) [13]. An example of a strategy map for the transport company is shown in **Fig. 2**.
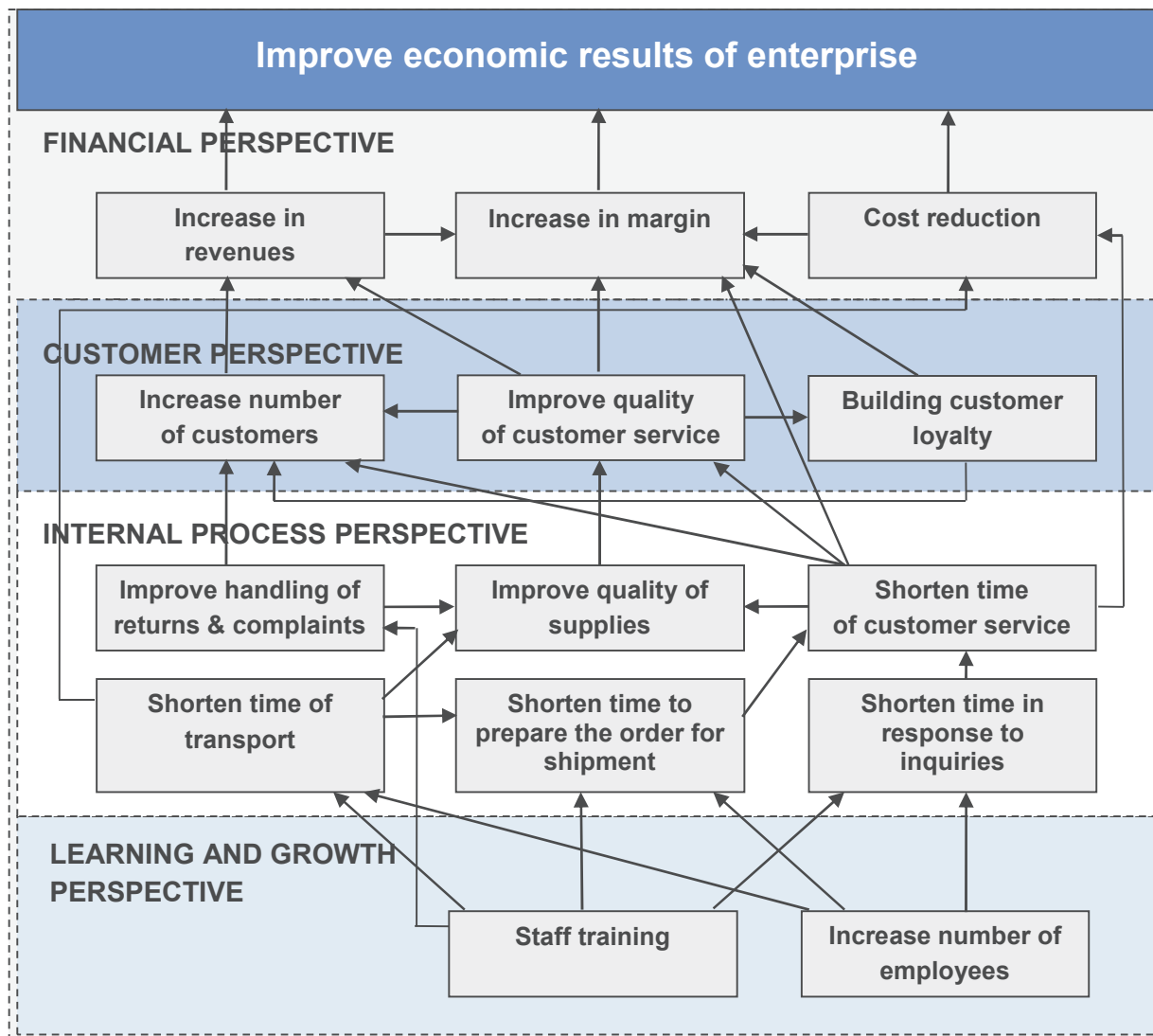

Fig. 2 The strategy map for the transport enterprise [14]

An application of the Balanced Scorecard method in transport enterprises is justified and can give invaluable benefits. One of the key factor is the internal business processes perspective. This perspective and its relationship with the customer perspective give huge opportunities to improve logistics processes according to the requirements of the customer. Figure 2 shows an example of the strategic objectives for the transport company. Applying the BSC causes a strong pressure in the company on the improvement of logistics processes, but towards the needs of customers, which is a very valuable solution for all transport companies. In this way, they avoid changes that do not bring tangible benefits to the customer and the company in the form of financial benefits (included in the financial perspective).

3.   MEASUREMENT SYSTEM IN BSC AND ITS IMPLEMENTATION IN TRANSPORT COMPANIES

In the Balanced Scorecard approach the measurement system is based on Key Performance Indicators, also known as KPI's, which is a composition of selected indicators relating to the comprehensive measurement of the current activities of the organization and its performance. The company should measure and control only what confirms their efforts and its strategic direction. KPI's should be very clearly linked to business strategy and relate to the key areas. Therefore, it should prepare for their determination, creating a strategy map of the organization. The main objective of determining the KPI is to show the workers why the strategy is important and help in understanding these areas.

The essence of KPI's is to select the most important indicators to rationalize and simplify decision-making, paying attention to the strategically most important areas of the organization. KPI's, which should be selected on the stage of identifying key areas and strategic objectives of the company, help an organization to define and measure progress toward organizational goals and make the management of enterprise easier.

The number of strategic objectives and measures is a matter of convention. The experience of BSC implementations in enterprises, as reported in literature, shows that the number of strategic objectives should remain within the limits of 10-25. For any one of the strategic objectives, more than one measure can be assigned. However, in such cases, giving adequate weight to individual displays and presenting a synthetic measure is proposed. A Balanced Scorecard typically contains between 16 and 28 different measures grouped into four-to-six categories. There are both financial (e.g. sales growth, debt ratios, etc.) and non-financial measures (e.g. customer satisfaction, cycle time, etc.) [15].

Of great importance in the design of the measurement system in the BSC is sustainability measures in several aspects. Consequential measures that measure the final result of the action taken should be balanced with leading measures, indicating whether the measures taken by the company are designed to achieve this result. Measures resulting in lower levels are usually measures leading to the achievement of the objectives at higher levels (e.g. shorten time of customer service causes a quality of customer service improving; building customer loyalty can be a measure for the resulting quality of customer service improving and at the same time a leading measure for financial revenue growth and increase of margin, etc. - see Figure 2).

KPI's not only relate to items that are easy to measure (e.g. participation, number, frequency, etc.), but also allow areas which are difficult to measure (such as organizational culture, the potential for cooperation, quality of relationships with customers, etc.) to be controlled. These activities cannot be measured, but can be evaluated using any scale (e.g. the description of KPI's in the form of number of activities that relate to intangible assets). KPI's should be treated more as "indicators", rather than a specific measure.

A sample set of KPIs to evaluate the customer service process in a transport company is presented below. A customer service is one of the key area in transport enterprises. For this reason, the improvement of customer service quality is one of the most important and common strategic objectives in transport companies. Customers expect quick, professional service and this factor and the price determine mostly the choice of the operator. Based on extensive research and thorough analysis highlights measures and targets, which are presented in **Table 1**.

Table 1 Example indicators to assess, control and monitor of the quality of customer service in transport enterprises [14]

Factor	Indicators	Target value
Delivery time	Timely delivery - Percentage of deliveries within the period T	100%
	Percentage of deliveries that are ready for delivery within 24 hours of placing an order	90%
Reliability	Percentage of supply, in which the whole range was ordered in accordance with the order	100%
	Percentage of supply, in which the whole range was delivered without any damage	100%
	Percentage of supply, in which all goods have been delivered in terms of their usefulness	100%
Communication	Percentage of supply, where the client could monitor the level of realization	100%
	Percentage of supply, in which the client has received notification after each stage of the order	100%
	Timely availability of customer service staff in period T	T x Cp*
Comfort	Percentage of supply which, until dispatched could change ordered range	100%
	Percentage of supply, in which the client can choose more than one type of packaging	100%
	Percentage of supply, in which the client can determine the different frequency of the supplied goods	100%

*Cp - daily working time of enterprise or 12 hours

4. CONCLUSION

The BSC methodology creates an infrastructure for strategic management activities and introduces four new management processes (see Figure 1.) that, separately and in combination, contribute to linking long-term strategic objectives and short-term actions. BSC helps managers understand numerous interrelationships and causal effects. This understanding can help to transcend traditional notions regarding functional barriers and improve decision-making and problem solving.

Currently is observed a strong pressure to improve processes in transport companies as shown by numerous studies, analysis of the literature and practice of logistics companies. However, the improvement should be closely related to the needs of customers and at the same time give tangible financial benefits for the company. This is an extremely difficult task which can be realized through an implementation of the Balanced Scorecard as a method of logistic controlling to transport companies. Planning key strategic objectives in the four different perspectives and their cause-effect connections are the perfect solution to ensure selection of the best strategic objectives for transport company. In contrast, a measurement of their realization using KPI's and the continuous monitoring and control enable to quickly achieve them, which greatly improves the efficiency of the implementation strategy of the transport company and at the same time as the efficiency of logistics processes.

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