Improving the Competitiveness of Organizations by Using a Link between Established Quality Management System and Balanced Scorecard

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Abstract

The paper entitled "Improving the competitiveness of organizations by using a link between established Quality Management System and Balanced Scorecard" deals with increase of corporation's performance by using of modern methods which should support the growth of efficiency. The goal of this thesis is to project the procedure of the Quality Management System's implementation by using of the Balanced Scorecard. Especially the interface between the both concepts should lead to a focus on a long-term financial corporation's efficiency which's dominating for the increase and the maintenance of a sufficient level of its competitiveness. The inputs that are supporting the long-term efficiency aren't only the ones based on financial basis but the most of them are non-monetary that could be identified, measured and managed by using of a concepts of Quality Management System and Balanced Scorecard. Projected methodology will be verified by the case studies in conditions of the particular corporation.

Keywords

Corporation's performance, competitiveness, optimization of management system, Balanced Scorecard, Quality Management System

1. Introduction

During last few years the competitiveness around the world is distinctively changing. Along this phenomenon it is possible to see that since 90´s until today a proper concept is being searched for to measure corporate efficiency and competitiveness level. This process is by Young and O'Byrne (2001) described as „war of indicators"where each approach is proving its correctness, simplicity and suitability in real environment.

More and more the opinions exist, criticizing use of fiscal indicators only for corporate efficiency management. This leads to new approach, where long-term view into corporation's efficiency is used, with the aim toward competitiveness as well. This approach is stressing also non-fiscal indicators. Quality, customer satisfaction, innovation and market share are strongly influencing corporation efficiency and cannot be ignored (Kaplan and Norton 2001, Hammer 2002, Eccles 1998). Greatly known example of such concept is a Balanced Scorecard (BSC), linking-up fiscal and non-fiscal indicators (Anotai 2006).

Modern indicators are not observing the efficiency only, but are forming conditions for corporate competitiveness as well. Since the efficiency is measured within longer periods of time, (year, quarter), ties toward operative management must exist,, which is opening a unique opportunity for use of internationally recognized standards of all indicators observed during the industrial production processes (Eccles 1998, Frigo and Krumwiede 1999). Only indicators used in this manner can contribute the corporation competitiveness (Nenadál et al. 2005).

2. Theoretical Background (Corporation's competitiveness, Balanced Scorecard, Quality management system)

2.1 Corporation's competitiveness

Competitiveness is playing the basic part in the existing economical, political and social transformation of developing countries and countries with the developed infrastructure as well. 21st century will be knowledge, information and innovation-oriented economy, based on information's, mastery, new ideas and expertise. Advanced and applied system of quality management it thus becoming decisive factor of commercial success, mainly for industrial production (Lingle and Schiemann 1996, Mintzberg et al. 1998).

It is thus necessary to focus on management system introduction into corporations' life, since its irreplaceable part during the level of competitiveness growth around the world.

Competitiveness growth during the industrial production process involves firstly (Lawrie and Cobbold 2002):

- Production of new item or existing item in new quality.
- New production process introduction.
- Use of new, unknown source of material or semi-finished product.
- Formation of new production ways.
- Use of new market.

Above listing of steps leading to the introduction of the industrial corporation on market is strongly influenced by the introduction of quality management system.

According to prof. Valenta, a new product has a special position. Product innovations and changes are aimed toward satisfying new, higher customer needs, toward new, or they are greatly different by the design and/or use-defined parameters to satisfy the customer (Lehn and Makhija 1996).

During the European Council meeting in Lisbon in 2000 a strategic target was defined, obligatory for all EU members (Matýska and Šiška 2007): EU countries will became until 2010 the most competitive and most dynamic knowledge-based economy, based on the educated society, able to keep sustainable growth with more and better jobs and strengthened social cohesion. To reach this strategic target it is necessary to aim the efforts toward the sectors crucial for this task. They are education, research and development and innovation. Only established and consistent system of quality management can help us all to prosperity and sustainable economy growth.

Eight years after Lisbon Strategy the results are of mixed value. As of the strategic target, to become the most competitive and dynamical economy of the world, Euro zone economy is slowing-down. Europe must renew its base for competitiveness, increase the growth potential and efficiency, must strengthen social cohesion and concentrate on knowledge, innovation and human resources optimization.
This doctoral thesis shall concentrate on optimizing quality management system within the corporation and its distinct share on competitiveness and transnational context.

Weak parts of existing competitive environment during 2005-2009 (Mařík a Maříková 2005, Nenadál et al. 2005) are:

- Legislative environment is not generally friendly for increase of research and development and introduction of their results
- Leading industry is not purposefully working with research, especially academic one, and research laboratories are not motivated to cooperate with reality.
- Other policy is not coordinated, (such an industrial policy, state policy for research and development, educational policy) with the political reality.
- Support of innovation from state institutions is not sufficient.
- Very low number of innovation-oriented corporations.
- Intellectual property protection is not sufficient.
- Little knowledge of modern management systems.
- Low productivity of labor, compared with EU average.

This list of weak points within Czech and Slovak competitive environment cannot be considered as a final one. Only conclusions can be pointed out, that it can be regarded as the way for economical/political changes.

2.2 Balanced Scorecard (BSC)

Niven (2006) is stating that *Harvard Business Review* recently pointed-out BSC as one of the 75 most influential ideas in 20century business.
The balanced scorecard has recently been considered a proper tool for evaluating and designing the objectives of corporate sustainability. BSC can be defined as a strategic system to measure corporation efficiency, connecting fiscal and non-fiscal efficiency indicators. BSC is not just one collection of such indicators, but is serving the strategy transfer into the interconnected array of indicators, thus defining long-term strategic targets and ways of gaining them (Nikolaou and Tsalis 2013).

Article shall describe a developed system of quality management and its influence on industry increased competitiveness and changes as of their management. Corporate environment has changed during the last period and within the corporation´s management as well. Original approach is not able to catch-up with new aspects of this management changes. New concepts are introduced, mostly connected with criticized old means. Niven (2005, 2006) is stressing reasons for introducing BSC:

- Fiscal indicators and their limits- he is saying that the fiscal indicators are not in accord with today business environment. Fiscal indicators are excellent in apprising the past and are fiscal-oriented. Fiscal indicators are missing the long-term view and are to-much concentrated on short-term one. And those indicators are not forming the ties toward all corporate levels.
- Growing importance of tangible assets-tangible assets importance is growing and is up to 75% value, but they are not indicated in accounting. They can be: very high quality products and services, motivated employees, flexible and predictable internal processes, satisfied and loyal customers (Nenadál et al. 2005, Vlček 2002).

Horváth (2002) extended this list by:

- *Enforcing the strategy* – in reality it is difficult to push- trough a new strategy, its sharing a communication
- *Need for transparent reporting* – most of the information's are coming from the operative controlling only. Missing are information's about strategy and long-term view.

BSC is measuring the corporation efficiency by four balanced perspectives (Kaplan and Norton 1992, Kaplan and Norton 2001), (see Figure 1).

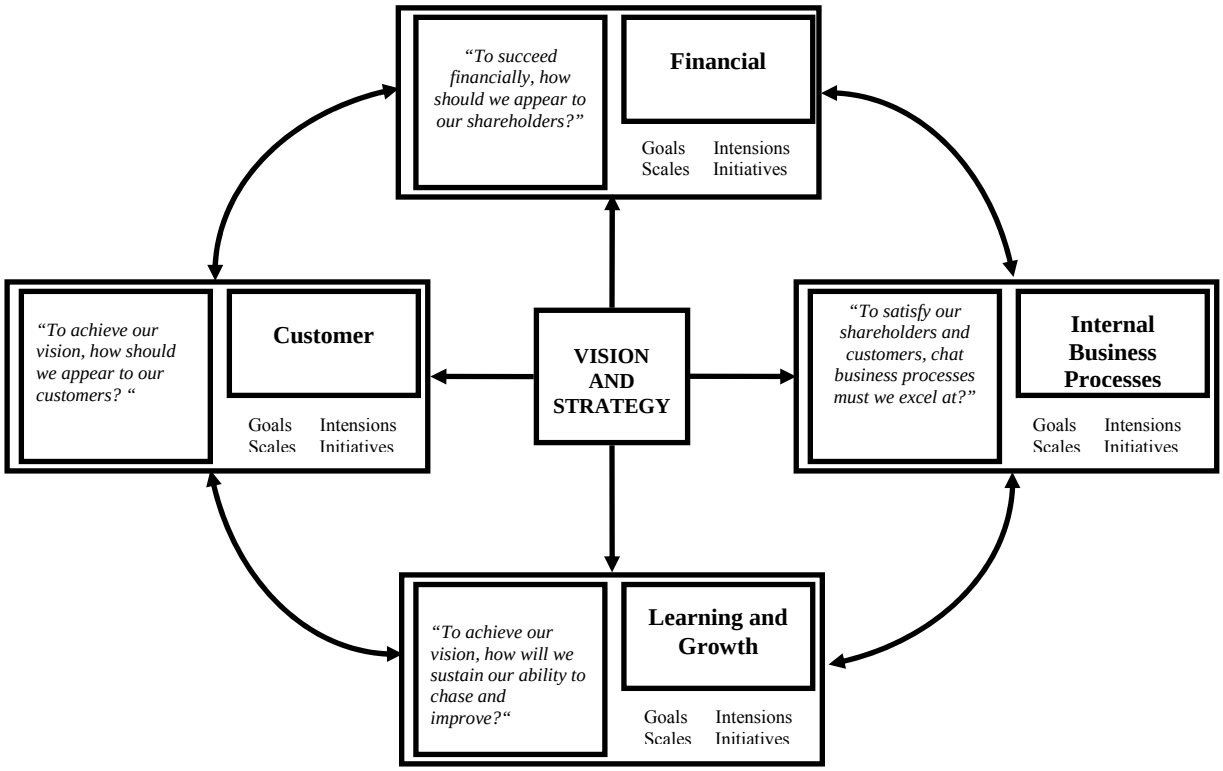

Figure 1: Balanced Scorecard (Hallman 2005,Niven 2006)

Basic problem in managing business today is its multidimensional, which can be seen in combinations of different procedures, concepts, thinking, systems, technologies and tooling, implemented into such business to reach important strategic targets and visions, and to reach efficient level of works in all phases of management. To make BSC fully functioning, the BSC idea project must be introduced, consisting of following documents (Remeš 2005):

- BSC target inside the given business and its benefits for management.
- Mission and vision of given business for 1 to 5 years ahead.
- Diagram of basic strategy.
- Goals, measures and values for next 5 years.
- Achieved targets control system.
- List of responsible circles and action plans.

During the developing period BSC became the key system of management, serving as a basic frame to organize important managerial tasks.

2.3 System of Quality Management (SQM)

Diversity of different task in business and non-profit corporations by the time requested line of different alternatives of quality management. Today around the world crystallized three basic concepts of quality management.

- Concept of sector standards.
- Concept ISO.
- Concept TQM.

Here as a concept we perceive strategic targets, which in different environment and with different intensity are developing quality management systems. Such concepts are differing by their demand of human knowledge and resources, and on which involved parties they are oriented.

3. Need for solving the problem of interconnection between BSC and SQM

Reason for solving the above problem is always permanent push to increase competitiveness. To increase corporation competitiveness and efficiency it is necessary to use those right managerial concepts, allowing efficiency increase. Interconnection of both concepts allows better management of key efficiency indicators, thus improving the competitiveness. Combining both systems shall allow elimination of excessive concentration on short-term competitiveness.

Need for solution is based on some actual trends. As a basic target is corporation competitiveness. To manage business prosperity, fiscal indicators only are not sufficient. Stronger position is gaining non-fiscal indicators of efficiency. Important role in efficiency management is the use of strategy and its implementation.

For managing non-fiscal factors is advisable for example use of Balanced Scorecard concept. Interconnection of both concepts will allow for the complex management system, supporting the basic target,-corporation competitiveness on the market- and at the same time promoting strong orientation toward strategy toward managing non-fiscal efficiency factors.

Expert articles is mentioning that interconnection of both principles is possible and even advantageous. But authors are not presenting any concrete example of such approach or complex system of competitiveness management. Since this it exist a need to solve this issue, develop the methodology for both systems interconnection and mainly to offer own way of implementation.

As it was stated in Introduction, interconnection will allow thoroughly implement the corporate competitiveness management. Following is a discussion about possibility of interconnection of both systems and finding advantages.
Two systems relation can be described here:
BSC and SQM systems can be described as complementary. When both of them are implemented, the efficiency of strategic management will improve significantly.

Methodology base for both system interconnections is undemanding. SQM can become a part of business strategy and subsequently became uniquely peak indicator for BSC fiscal perspective. But by this the interconnection is not over, other perspectives toward SQM must be interconnected, using non-fiscal indicators the way which will allow for targeted and balanced business management. This is just first part of interconnection. Bonuses for managers shall be discussed as well.
But closer methodology to implement both systems interconnection still does not exists.

According to Horváth (2002) the approach of *business efficiency indicators* is helpful in seeking the strategy and its quantitative assessment, BSC helps in strategy implementation. The result is very strong interconnection of both systems.

Connecting BSC and SQM into *Integrated Management Quality Scorecard* is bringing three advantages. Improving and implementing SQM will became the peak target in corporation success. That is SQM is the top of the pyramid. Strategy and operational excellence yields to the goal to improve quality system management. Another advantage is the time, included in BSC. Managers are responsible for improvements in SQM both in short and long-term periods. Planning in BSC include short-term horizon of one year, but longer periods of time, 3 to 5 years as well. This allows managers to set activities, leading in long-term toward improvements in SQM. Third point securing the integration are strategic actions, indicators and targets leading to fulfilling the strategy and are directly tied to the 8D reports.

Wide overview of advantages, coming from BSC and Value management is presented by Michel (Kolumber 2008).

To make business competitiveness reality, right concept must be chosen, allowing all parts of value management. In this case Balanced Scorecard and economical added value concepts were selected, since the economical added value is a value indicator and balanced Scorecard is making strategic planning using fiscal and non-fiscal indicators. Reciprocal use of both principles will allow the application of value management and add the growth of value for business owners and stockholders, market-makers.

4. Methodology

Successful implementation of research tasks requires adequate methodology Science methods usually are complementary and combining. In this article mostly **normative** approach is used, offering theoretical steps: „how long this shall last“. Such approach is applied in proposals for the methodology in BSC concept for corporation management and its interconnection with the quality management. For this research the quantitative one is being used.

Quantitative research is applied during questionnaire survey, aimed on section of efficiency mainly within businesses in Europe. Its results are compared with similar Czech and Slovak research. Trends in part of tools improving the efficiency are analyzed using foreign research results. Researches of 45 enterprises are bringing the picture of actual trends in managing the corporate efficiency. Corporations can be divided into four sections, according to their main activity. More than half of them are with the industrial one. Then there are corporations with the aim on trade and services (16%), financial corporations (11%) and those with other activities. Selection is therefore differentiated, increasing the survey credibility.

Businesses are categorized according to their size, explained by their turnover or number of employees, or other criteria. During the survey first to mentioned characteristics were researched. Number of employees is presented in 4 basic categories, based on business size. Biggest share (39%) is with the business having 1 to 10 employees. More than 36% businesses are with 11 to 50. Category of businesses between 51 to 250 employees is with 8%, nearly 17% with more than 250 of them.

According to their turnover businesses are divided into 3 categories. Biggest representation is by the ones with 10 mil € turnover (78%). 11% is with turnover between 3 to 10 mil. €, and the third ones are with the yearly turnover of up to 3 mil. € is the same size (11%).

5. DISCUSION AND CONCLUSION (Actual situation assessment and recognition of weak points within today approach- based on questionnaire survey)

- Corporations are working with long-term target, mainly in the form of profits, efficiency indicators, not sufficiently corresponding with the target given.
- Modern approach is spread around Europe with the management and measurement of efficiency tools such as QMS and BSC. It is positive, that about half of the corporations know about above principles. BSC it here with the great potential for use in Eastern Europe. Number of indicators used with BSC is between 16 and 25. In fiscal perspective mainly traditional profit indicators are represented, total and own capital, liquidity, indebted cash-flow.
- System of measuring and managing efficiency is by part of the corporations tied with the system of rewards

- Corporation competitiveness is according to surveyed European managers mostly influenced by fiscal indicators. Mainly they are long-term profit-making, profit margin, investment efficiency and sales growth. Results are pointing to great persistence of traditional fiscal indicators such as fiscal profit.
- Cost of quality is strongly influenced by qualified workforce and its financial stability.
- Within research of QSM tools in European and overseas context there is still dominating use of G-8D. Important moment for corporations is that they in G-8D reports in all cases are assessing the corrections within horizon of one month and in all of them stating that number of dissimilar products decreased percentile. 90% success is presented by corporations in task correcting measures, defined in each strategic target with corresponding BSC perspectives.
- Clearly, from non-fiscal indicators the efficient system of customer relationship is the leading one. And it is needed to say, that the corporations certification is the common phenomena.

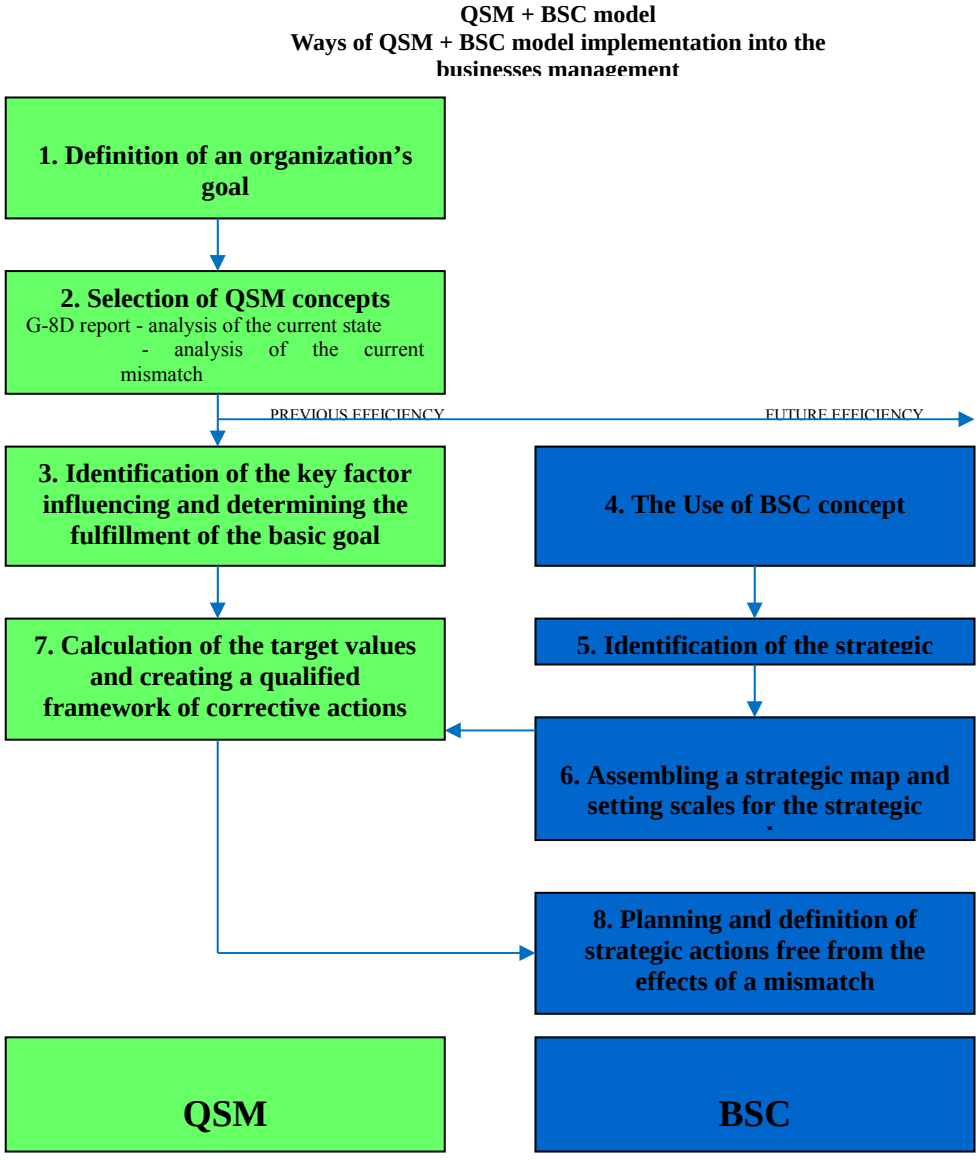

Figure 2: Scheme of a BSC + QSM model implementation (own model)

The Implementation procedure is divided into eight basic steps (Kolumber 2008). The left part of the figure shows the steps that are related to the concept of QSM. The right part shows the steps belonging to the concept of BSC. The steps are interconnected according to these arrows, see Figure 2.

Advantages and disadvantages of designed SMQ + BSC model
Advantages:

- It is a dynamic model, since there exists the periodical actualization (G-8D report).
- It has the projection of presenting high efficiency, since it is tied to the basic enterprise goal-the growth of business value. To reach this target BSC is used, allowing the management of activities, leading to the growth of business competitiveness.
- It is concentrating on long-term business output. It means that it is not favoring short-term decisions from long-term ones.
- It includes detailed measuring of business efficiency according to its basic goal.
- It improves communication with the investor.
- It allows the integration of other systems.

Disadvantages:

- Implementation is more complicated than if using QMS or BSC separately.
- Business is valued with the future EVA figures, with the endless guessing, but the future EVA figures is based often on subjective expectations, frequently highly distorted. Then there is a risk that the management will perceive future expectations with other sight than the shareholders.

Implementing methodology was established for QSM-BSC model. This model was verified with the case-study within the selected corporation. Results of this case-study are manifesting that the QSM-BSC model implementation leads in given corporations into significant growth of value.

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Biography

Petr Briš habilitated at VŠB – Technical University of Ostrava in the branch of industrial systems management (the title Assoc. Prof.). He is a holder of the certificate Quality Manager in compliance with ČSN EN ISO/IEC 17 024.He worked as an independent research worker at research institute, vocational assistant at university, director of a small company, research worker at university, senior lecturer at university. At present he works as a pedagogical-research worker – senior lecturer at the Department of Production Management - Industrial Engineering. He has experience in working on the research projects in the field of industrial systems management (focused on transfer of technologies, innovations, quality management, and complete enterprise integration). Forenamed areas of research are included in his dissertation and habilitation work as well as in domestic and foreign publications. Beside of that he operated and operates as a main solver, coordinator or co-operator of many research projects.

Štefan Kolumber graduated from the Faculty of Technology in Zlin, Brno University of Technology, study course Technology of Textile, Leather, Rubber and Plastic Materials with specialization in enterprise economics. The title CSc. (PhD.) he obtained at Tomas Bata University in Zlin. At present he works as a Vice-chairman of the Board and Chief Executive Officer of NOVESTA a. s. (Slovak Republic).