

**Predrag Pravdić** <sup>1)</sup>

1) Faculty of mechanical engineering Kragujevac-industrial engineering, University of Kragujevac, e-mail: ntrifun@sbb.rs

## INTEGRATION OF ENVIRONMENTAL AND SOCIAL ASPECTS INTO 4 PERSPECTIVES OD BSC

**Abstract:** Environmental and social aspects should be included in the frame of 4 already existing perspectives through strategic elements, objectives and measures. Using this method, environmental and social aspects become an integral part of standard BSC and they will be automatically integrated inside the cause-effect chain that has the financial perspective at the top of its hierarchy. Ecological and social aspects could be integrated into BSC on three ways: First ecological and social aspects could be integrated into four exist perspectives. Second, it is possible to create new (fifth and/or sixth perspectives) which obtained these elements. Third it is possible to create special sustainability scorecard.

**Keywords:** Balanced Scorecard, environmental and social aspects

### 1. INTRODUCTION

The issue of quality is present in the theory and practice of modern management, especially the last few decades. Quality of products and services has grown into a competitive weapon of many companies around the world. In addition the winners will be those organizations that fail to develop an innovative culture in which employees will enjoy the changes and to be given of such changes. See quality management as a solution to existing problems and the current bad situation. Management, with great enthusiasm, creating teams to identify problems and solve them. As a result, there is a high activity, but very little is done to improve the processes that produce what the sales organization. Managers need to mobilize the knowledge and creativity of the entire organization. Situations in which managers are employees available to put the necessary resources and encourage them to take specific actions, almost always result in

better production processes and products. Allowing employees, individually or in teams, participate in decisions that affect their work, and the same users, managers make a wide maneuvering space for the improvement of quality.[2]

Implementing the model requires teams of people who are experts in their organizations, who want to be the bearers of change and who need a general model of change and analytical approach, based on the theory of progress so far. Performance measurement of results demonstrating to us after a specified time, whether our cause/the resulting model meets or does not meet the rejection of the results we anticipated.[1,2] Measuring the impact of performance shows that you are either not reached a higher moral purpose which we sought. Leadership based on values in the dynamic marketing environment, strategy, companies should always be returned for re-establishing the values and vision, and the effectiveness and efficiency based on the results of strategic thinking. If the result of strategic

thinking is an effective strategic plan, from which we obtain an effective operational plans, then our business plans, which are the result of the latter, and the results arising from the business plans are outputs of the highest possible performance [1,2,3] The balanced scorecard is a strategic planning and management system that is used extensively in business and industry, government, and nonprofit organizations worldwide to align business activities to the vision and strategy of the organization, improve internal and external communications, and monitor organization performance against strategic goals [3,4]. It was originated by Robert Kaplan (Harvard Business School) and David Norton as a performance measurement framework that added strategic non-financial performance measures to traditional financial metrics to give managers and executives a more 'balanced' view of organizational performance. While the phrase balanced scorecard was coined in the early 1990s, the roots of the this type of approach are deep, and include the pioneering work of General Electric on performance measurement reporting in the 1950's and the work of French process engineers (who created the *Tableau de Bord* – literally, a "dashboard" of performance measures) in the early part of the 20th century.

The balanced scorecard has evolved from its early use as a simple performance measurement framework to a full strategic planning and management system. The "new" balanced scorecard transforms an organization's strategic plan from an attractive but passive document into the "marching orders" for the organization on a daily basis. It provides a framework that not only provides performance measurements, but helps planners identify what should be done and measured. It enables executives to truly execute their strategies. [6]

This new approach to strategic management was first detailed in a series

of articles and books by Kaplan and Norton. Recognizing some of the weaknesses and vagueness of previous management approaches, the balanced scorecard approach provides a clear prescription as to what companies should measure in order to 'balance' the financial perspective.[7] The balanced scorecard is a management system (not only a measurement system) that enables organizations to clarify their vision and strategy and translate them into action. It provides feedback around both the internal business processes and external outcomes in order to continuously improve strategic performance and results. When fully deployed, the balanced scorecard transforms strategic planning from an academic exercise into the nerve center of an enterprise. [4,5,6]

Kaplan and Norton describe the innovation of the balanced scorecard as follows:

"The balanced scorecard retains traditional financial measures. But financial measures tell the story of past events, an adequate story for industrial age companies for which investments in long-term capabilities and customer relationships were not critical for success."

## 2. BSC PERSPECTIVES

The balanced scorecard suggests that we view the organization from four perspectives, and to develop metrics, collect data and analyze it relative to each of these perspectives:

### *The Learning & Growth Perspective*

This perspective includes employee training and corporate cultural attitudes related to both individual and corporate self-improvement. In a knowledge-worker organization, people the only repository of knowledge are the main resource. In the current climate of rapid technological change, it is becoming necessary for

knowledge workers to be in a continuous learning mode. Metrics can be put into place to guide managers in focusing training funds where they can help the most. In any case, learning and growth constitute the essential foundation for success of any knowledge-worker organization. [9,10]

Kaplan and Norton emphasize that 'learning' is more than 'training'; it also includes things like mentors and tutors within the organization, as well as that ease of communication among workers that allows them to readily get help on a problem when it is needed. It also includes technological tools; what the Baldrige criteria call "high performance work systems." [9]

#### ***The Business Process Perspective***

This perspective refers to internal business processes. Metrics based on this perspective allow the managers to know how well their business is running, and whether its products and services conform to customer requirements (the mission). These metrics have to be carefully designed by those who know these processes most intimately; with our unique missions these are not something that can be developed by outside consultants. [1,2,5]

#### ***The Customer Perspective***

Recent management philosophy has shown an increasing realization of the importance of customer focus and customer satisfaction in any business. These are leading indicators: if customers are not satisfied, they will eventually find other suppliers that will meet their needs. Poor performance from this perspective is thus a leading indicator of future decline, even though the current financial picture may look good. [3,4]

In developing metrics for satisfaction, customers should be analyzed in terms of kinds of customers and the kinds of processes for which we are providing a

product or service to those customer groups.

#### ***The Financial Perspective***

Kaplan and Norton do not disregard the traditional need for financial data. Timely and accurate funding data will always be a priority, and managers will do whatever necessary to provide it. In fact, often there is more than enough handling and processing of financial data. With the implementation of a corporate database, it is hoped that more of the processing can be centralized and automated. But the point is that the current emphasis on financials leads to the "unbalanced" situation with regard to other perspectives. There is perhaps a need to include additional financial-related data, such as risk assessment and cost-benefit data, in this category. [1,2,9]

#### ***Strategy Mapping***

Strategy maps are communication tools used to tell a story of how value is created for the organization. They show a logical, step-by-step connection between strategic objectives (shown as ovals on the map) in the form of a cause-and-effect chain. Generally speaking, improving performance in the objectives found in the Learning & Growth perspective (the bottom row) enables the organization to improve its Internal Process perspective Objectives (the next row up), which in turn enables the organization to create desirable results in the Customer and Financial perspectives.

### **3. BALANCED SCORECARD SOFTWARE**

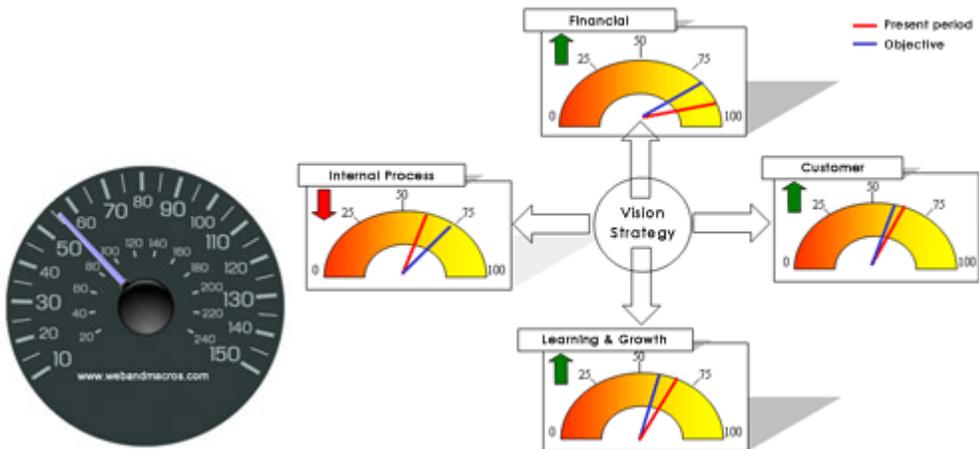
The balanced scorecard is not a piece of software. Unfortunately, many people believe that implementing software amounts to implementing a balanced scorecard. Once a scorecard has been developed and implemented,

however, performance management software can be used to get the right performance information to the right people at the right time. Automation adds structure and discipline to implementing the Balanced Scorecard system, helps transform disparate corporate data into information and knowledge, and helps communicate performance information.

The BSC is a management tool that allows to monitor the indicators, the fulfilment of the strategy developed by the direction, at the same time it helps you to take fast decisions and guess the right to reach objectives.

If we want an academic definition, it has to be mentioned the normative “UNE 66174 OF NOVEMBER 2003“ in the section 3.8. It provides the following definition:

“Balanced Scorecard is a tool of management which facilitates making decisions and gathers a coherent set of indicators which provide high directives and the responsible functions. It is also a comprehensive vision of the business and its area of responsibility. The information contributed by the BSC allows to focus on the directive equipment, on the units of business, on the resources and the processes with the strategies and organization”.



Picture 1. The management indicators are usually represented by speedometer graphics

It is no in the definition where the main errors are found but in the planning of this strategy and in its deficient execution. The BSC is nothing new, it just indicate an organized way to carry out our tasks. As it is said in the previous paragraph the BSC is not a new tool, it has been previously developed in Europe and specially in France, where it called “tableau of Bord “.

The balanced scorecard advocates a top-down approach to business

performance management, starting with business strategic intent expressed through the organization down to operationally relevant targets. The focus with Balance Scorecard approach is on the link and/or influences between it various components, which include business strategy, perspectives, objectives, measures, initiatives and milestones as well as softer contextual information. [7,8]

To survive and prosper in today's world, companies can no longer manage

using financial measures alone. You have to track non-financial measures such as speed of response and product quality; externally focused measures, such as

customer satisfaction and brand preference; and forward looking measures, such as idea management and employee satisfaction. [7,9].



Picture 2. The tree of business

The Balanced Scorecard is an important tool of your strategic management system. It uses performance measurements within a framework of strategic hypotheses that enables you to learn what works best in your organization.

#### 4. ORGANIZATIONAL BALANCED SCORECARD

The organizational balanced scorecard encompasses the organizational mission, vision, core values, critical success factors, objectives, performance measures, targets and improvement actions. This corporate scorecard is communicated and translated into all business unit balanced scorecards, team balanced scorecards and the performance plans of individual employees and their personal balanced scorecards. In connection with this policy deployment,

each employee is stimulated to contribute to the shared organizational strategy.

#### A Range of Strategic and Operational Measures

The measures used to manage the performance of a business comprise a range of strategic measures. The include the following:

**Strategic measures :** market attractiveness (industry structure, growth, concentration, innovation, customer power, logistical complexity) and competitive strength (relative market share, relative quality; intellectual property, customer coverage).

**Organizational measures:** culture, leanness, incentives, training and development, structure, purpose, process.

**Operational measures:** customer satisfaction, product or service excellence,

capacity utilization, capital intensity, productivity, outsourcing.

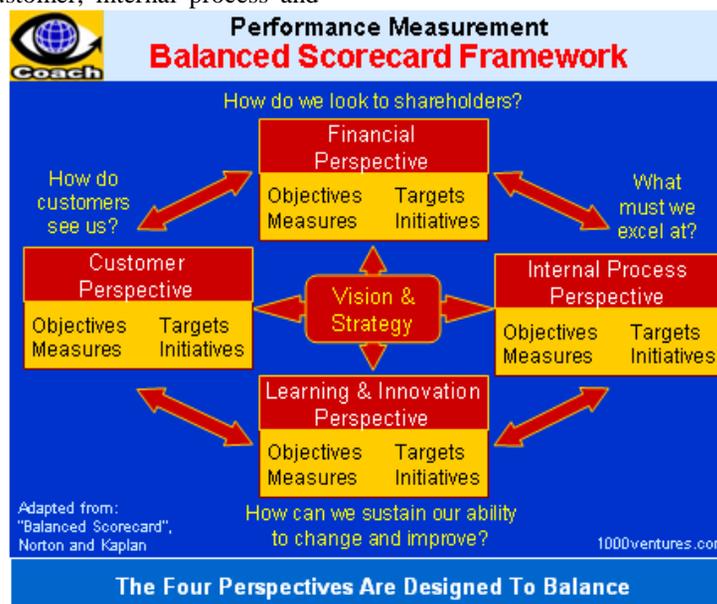
Depending on the emphasis placed on different measures in an organization, its information and performance measures can vary between operational fixed (for example, the 99% replenishment rate on the shelves of a Sainsbury's store) and strategic flexible (for example, Microsoft's goal of standards ownership on the information superhighway).

### A Framework for Designing a Set of Measures

The Balanced for designing a set of measures for activities chosen by you as being the key drivers of your business. By having four distinct perspectives (financial, customer, internal process and

innovation and learning) it promotes a more holistic balanced view of any organization. By creating your own measures under each of these headings, no important area would be missed. [8]

The Balanced Scorecards itself is just a framework and it doesn't say what the specific measures should be. "That is a matter for people within the organization to decide, and the set of measures for each organization (or even sections within the same organization) will be different. Much of the success of the scorecard depends on how the measures are agreed, the way they are implemented and how they are acted upon. So, the process of designing the scorecard is just as important as the scorecard itself." [9].



Picture 3. Balanced Scorecard Framework

## 5. APPROACHES OF INTEGRATION EMS INTO BSC

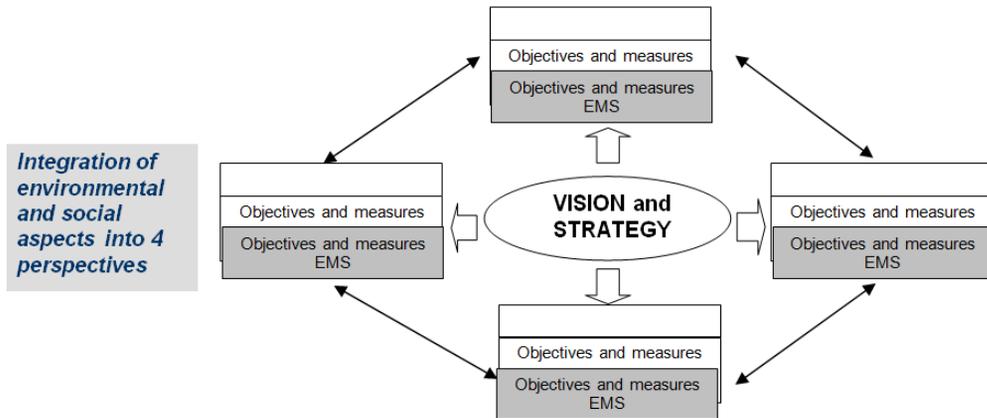
Ecological and social aspects could be integrated into BSC on three ways: First ecological and social aspects could be integrated into four exist perspectives. Second, it is possible to create new (fifth

and/or sixth perspectives) which obtained these elements. Third it is possible to create special sustainability scorecard.

Environmental and social aspects should be included in the frame of 4 already existing perspectives through strategic elements, objectives and measures. Using this method, environmental and social aspects become

an integral part of standard BSC and they will be automatically integrated inside the cause-effect chain that has the financial

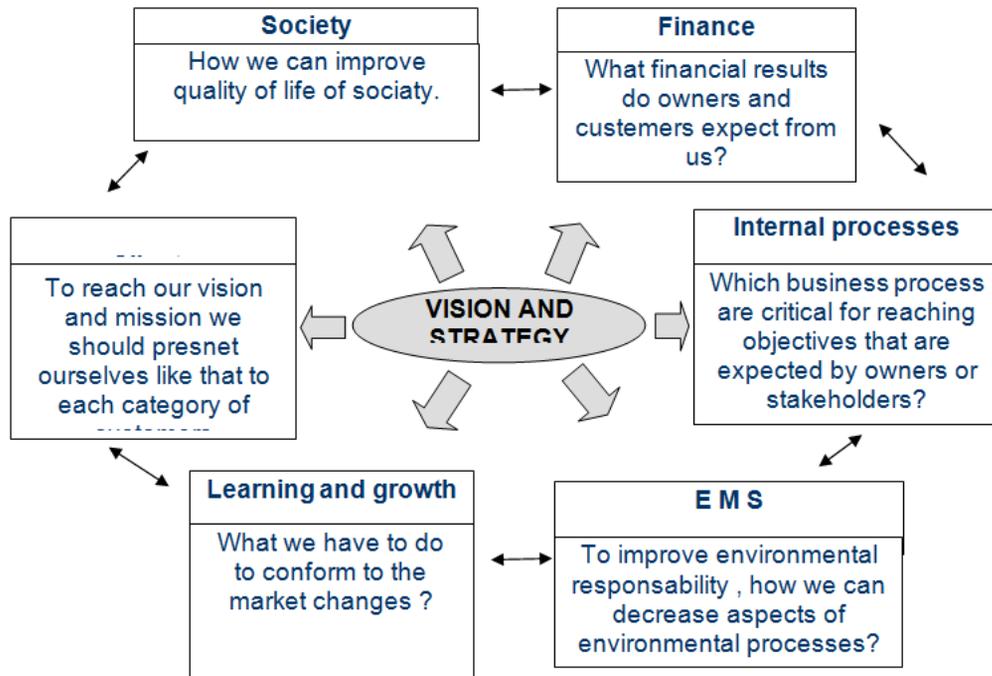
perspective at the top of its hierarchy.



Picture 4. Integration of environmental and social aspects into 4 perspectives

Environmental and social aspects are not completely integrated in market changes in the previous model. The reason for this is because these aspects are not

market oriented. Moreover, from the point of many organizations, environmental and social aspects are a peripheral concern.

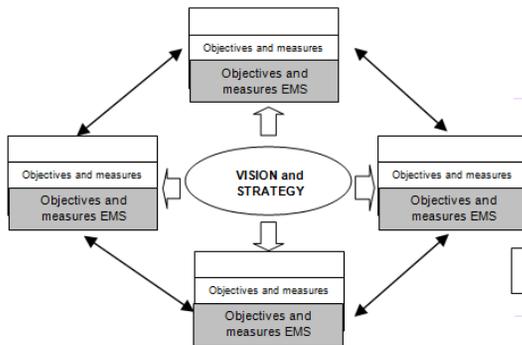


Picture 5. Appending new environmental/social perspectives

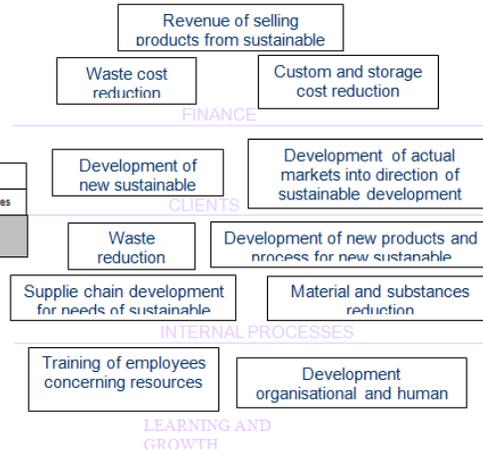
The creation of new perspectives creates a more clear picture about the

integration of environmental and social aspects in the standard structure of BSC

that is primarily market oriented. Elements of added perspectives should be connected



with all other perspectives and not only with the financial perspective.



Picture 6. Creation of induced environmental/social scorecard

If we observe the division of SBSC we can conclude that most organisations adopt the first possibility, moreover we can see the integration of environmental aspects into already existing perspectives. In this case the sustainable aspects could be found in all four perspectives. For example the customer perspective could include external stakeholders as a transactor, customers, loan organisations, government, environmental organisations, stakeholders, ... On the other side the financial perspective could include complaints and costs concerning environmental protection. Other perspectives could include environmental and social aspects.

It is important to mention that environmental and social aspects could be included inside the 4 already existing perspectives of conventional BSC while at the same time it could be created as an additional perspective. Those two types do not exclude each other.

The choice of how to include those aspects depends on the definition of strategic environmental and social aspects during the process of defining the SBSC. On the other hand, the creation of special environmental scorecard would completely

include all elements of EMS throughout the full management system but in this way there is the possibility of creating a parallel system which could be neglected during the business. With good linkage with BSC an organization could reach good results concerning EMS organization.

The choice of how to include those aspects depends on the definition of strategic environmental and social aspects during the process of defining the SBSC. On the other hand, the creation of special environmental scorecard would completely include all elements of EMS throughout the full management system but in this way there is the possibility of creating a parallel system which could be neglected during the business. With good linkage with BSC an organization could reach good results concerning EMS organization.

The actions relating to environmental protection have to include identified environmental aspects of organisation. It is not a rare case that an organisation during the choice of this small number of actions, choose ones that are easy to measure, and in this way they could eliminate actions that are strategically important but that are

not easy for quantification (environmental and social).

After selection of indicators, the organisation has to analyze the cause-effect links of indicators. The majority of authors consider cause-effect links of SBSC as in this figure, where everything is oriented around financial gain.



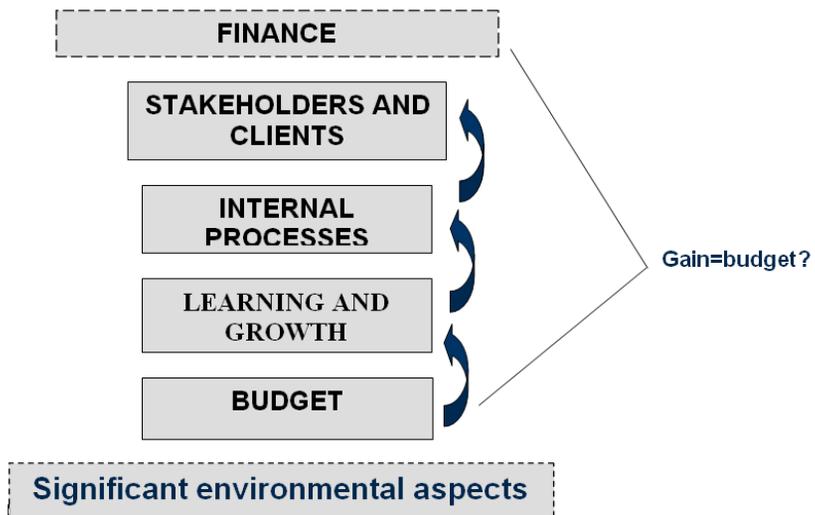
*Picture 7. The cause-effect links of indicators*

**6. CAUSATIVE RELATIONS  
 SBSC-A**

Therefore, the essential point is that a strategic map is established so that investment in environmental protection drives to financial gain and that all investment in environmental protection that does not reach financial gain is not retained.

SBSC created like this is easy to involve in already existing BSC because the disposition of perspectives is identical and the strategy is of course oriented to the financial gain of the organisation.

The concept of BSC for non-profit organisations is oriented to reach the defined mission of the organisation in the context of its disposable budget and in this sense customer perspective is most important. Is it possible to reach a better effect for environmental protection of organisations if they define their budget like non profit organisations and create a SBSC map starting with the financial perspective, through learning and development, internal processes, till stakeholders satisfaction that also leads to financial gain.



*Picture 8. Causative relations SBSC on non profit BSC base*

To avoid the budget assigned for environmental protection being treated as a

cost, it is important to join this correlation also with financial perspectives and consider possible advantages from stakeholder satisfaction relating to this case.

This model of SBSC is not easy to implement inside an already existing BSC because of quite different strategic concepts and dispersion of perspectives. Therefore, the strategic map of SBSC defined like this does not induct connection as a standard BSC, but it could assure a better relationship concerning environment than a system that is only oriented to financial gain. Budget definition is done upon the identification of important environment aspects. This model of SBSC is appropriate until the budget and financial gain reach quite main level after what the cause - effect relation of objectives could be oriented to financial perspective and realized complete fusion with BSC of organisation. Furthermore, the system could exist independently and connect some environmental activities with the management system, but as an independent part. Its aim is usually measurement of performance and improvement.

SBSC is a tool that gives a good chance for the integration of environmental and social objectives and actions into an existing management system.

SBSC does not present a substitute for other systems such as ISO 14000, but in any case it does help the promotion of methods of sustainable development inside the organisation's processes and connect

them with a traditional management system.

## 6. CONCLUSION

Management processes directed primarily to the user and thus improve the efficiency and effectiveness of operations in order to isupunjenja and exceeding user demands and expectations. So that organizations realize the benefits and benefits on all levels, as compared with external partners and business environment, as well as internally within the organization. But in practice, systems for managing corporate change often point to the shortcomings and lack of commitment at the level of corporate governance in order to improve the efficiency of the process. Taking into account the problems they face at the same company, Balanced Scorecard - BSC stands out as especially suitable tool for the management of corporate change. BSC translates mission and strategy of the organization in the comprehensive set of measures that provide a framework for the implementation of the strategy. BSC makes it possible to establish a model in the organization, so that the strategic aspects of the observed set relevant objectives and include features that will be measured. BSC aims to improve business processes for a streamlined process can improve product quality to customer satisfaction. So satisfied and loyal customer is a guarantee of higher profits.

## REFERENCES

- [1] Swain M., K. Krumwiede, and T. Eaton. 1999. Effects of balanced scorecard performance measures on decision process and decision quality. Working paper, Brigham Young University.
- [2] Lipe, M., and S. Salterio. 2000. The balanced scorecard: Judgmental effects of common and unique performance measures. *The Accounting Review* (July): 283-298.

- [3] Kaplan, R. S., and D. P. Norton. 2001b. Transforming the balanced scorecard from performance measurement to strategic management: Part I. Accounting Horizons (March): 87-104.
- [4] Sustainability and performance management – a case of implementation of sustainable Balanced Scorecard in a food processing company, [http://www.licom.pt/ea2007/papers/EAA2007\\_0111\\_final.pdf](http://www.licom.pt/ea2007/papers/EAA2007_0111_final.pdf)
- [5] Jost Hamschmidt, Thomas Dyllick, "ISO 14001: Profitable - Yes! But is it Eco - effective?", Greener management International, Vol 34/2002.
- [6] Frank Figge, Tobias Hahn, Stefan Schaltegger, Marcus Wagner "The Sustainability Balanced Scorecard - Theory and Application of a Tool for Value-Based Sustainability Management"
- [7] Nils-Goran Olve, Jan Roy, Magnus Wetter, Performance drivers, A Practical Guide to using the Balanced Scorecard, John Wiley and sons, 2004
- [8] Kaplan, Robert S., Norton, David P.: The Strategy-Focused Organization, Harvard Business School/2000
- [9] Kaplan, R. S. and D. P. Norton. 2001. The Strategy-Focused Organization: How Balanced Scorecard Companies Thrive in the New Business Environment. Boston, MA: Harvard Business School Press.
- [10] Donelan, J. G. and E. A. Kaplan. 1998. Value Chain Analysis: A Strategic Approach To Cost Management. Journal of Cost Management (March/April): 7-15.
- [11] Port, O. "The Kings of Quality." Business Week, 2004.
- [12] Sustainability and performance management – a case of implementation of sustainable balanced scorecard in a food processing company, [http://www.licom.pt/ea2007/papers/EAA2007\\_0111\\_final.pdf](http://www.licom.pt/ea2007/papers/EAA2007_0111_final.pdf)
- [13] Rowland-Jones, R., Pryde, M. and Cresser, M. (2005). "An evaluation of current environmental management systems as indicators of environmental performance." Management of Environmental Quality 16(3): 211-219.
- [14] O'Dwyer, B. and Owen, D. (2005). "Assurance statement practice in environmental, social and sustainability reporting: a critical evaluation." British Accounting Review 37: 205-229.
- [15] Graham Hubbard "Sustainable organisation performance: Towards a practical measurement system", Monash Business Review, Volume 2, Issue 3 – November 2006
- [16] Prakash, A. and M. Potoski. 2005. "Covenants with Weak Swords: ISO 14001 and Facilities Environmental Performance." Journal of Policy Analysis and Management 24
- [17] Kang, Y. 2005. "Third Party Inspections on Environmental and Safety Regulation: Theory and Empirical Evidence." Ph.D. Dissertation. Philadelphia PA: University of Pennsylvania.
- [18] Dahlstrom, K., Howes, C., Leinster, O., & Skea, J. 2003. "Environmental Management Systems and Company Performance." European Environment 13: 187–203
- [19] Matthews, D. H. 2001. Assessment and Design of Industrial Environmental Management Systems. Ph.D. Dissertation. Pittsburgh, PA: Carnegie-Mellon University.
- [20] Haitao Yin and Peter Schmeidler "Does ISO 14001 Certification Enhance Environmental Performance? Conditions under which Environmental Performance Improvement Occurs" Wharton Risk Center Working Paper #07-07, March 2007
- [21] Jost Hamschmidt, Thomas Dyllick, "ISO 14001: Profitable - Yes! But is it Eco - effective?", Greener management International, Vol 34/2002.
- [22] Andrews, R. N., J. Charm, H. Habicht, T. Knowlton, M. Sale and V. Tschinkel. 2001. "Third-Party Auditing of Environmental Management Systems: U.S. Registration Practices for ISO 14001." <http://www.ndol.org/documents/emsreport.pdf>.

- [23] Delmas, M. 2000. "Barriers and Incentives to the adoption of ISO 14001 in the United States." Duke Environmental Law and Policy Forum Fall: 1-38.
- [24] Naveh, E. and A. A. Marcus. 2004. "When Does the ISO 9000 Quality Assurance Standard Lead to Performance Improvement? Assimilation and Going Beyond." IEEE Transactions on Engineering Management 51 (3): 352-363
- [25] Thomas Bieker, Thomas Dyllick, Carl-Ulrich Gminder, Kai Hockerts "Towards a Sustainability Balanced Scorecard linking environmental and social sustainability to Business strategy",  
[http://www.iwoe.unisg.ch/org/iwo/web.nsf/1f29e779b01d72c8c12569f50045e85c/af0f51dab5ad967ec12569f2003c7416/\\$FILE/BS&E%20Conference%202001%20Bieker,%20Dyllick,%20Gminder,%20Hockerts.pdf](http://www.iwoe.unisg.ch/org/iwo/web.nsf/1f29e779b01d72c8c12569f50045e85c/af0f51dab5ad967ec12569f2003c7416/$FILE/BS&E%20Conference%202001%20Bieker,%20Dyllick,%20Gminder,%20Hockerts.pdf)