

Proposing an Incorporated model of Balanced Scorecard and Hoshin Kanri based on TQM (Case Study: MSC)

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Abstract

The Balanced scorecard(BSC) is taken into account not only as a tool for measuring total performance but also as a management system with strategic approach. Also BSC has been used in many firms around the world and now its weaknesses and strengths have been revealed. For example, insufficient organizational infrastructures; weakness in defining quantitative indicators and the influence of each group of indicators in achieving objectives; & subjective integration done by users about outcomes resulted from BSC are some implementation challenges in companies. In this paper, by combining BSC and Hosin Kanri, we propose a new balanced approach which eliminates these problems and helps companies to work and produce better performance. The proposed model is implemented in Isfahan's Mobarakeh Steel Company (MSC) and the results will be analyzed.

Keywords

Hoshin Kanri, Balanced Scorecard, Performance evaluation, Model

1. Introduction

Performance evaluation is an essential function in each organization traditionally, organization measured their performance on short-term financial measures, and however the balanced scorecard approach extends this to include measures of performance relating to customer, internal processes and learning & growth needs of their people (Chavan 2009). A key feature of the BSC is its emphasis on linking the performance measures with business unit strategy (Otley 1999).

Nowadays, the balanced scorecard is taken into account not only as a tool for measuring total performance but also as a management system with strategic approach. So it has been used in many firms around the world and its weaknesses and strengths have been revealed.

In this paper by literature review we introduce some challenges which firms face to during implementation of BSC. Then we propose a new model combined of BSC and hoshin kanri for elimination of these problems. Also the proposed model is executed in Isfahan's Mobarakeh Steel Company (MSC)and the results will be analyzed.

2. Literature Review

The Balanced Scorecard is not without limitations. Many studies investigate the limitations of the concept in general (Butler et al 1997; Epstein and Manzoni 1998; Schneiderman 1999; Norreklit2000). In special, examining potential conflict and disagreement that may result from top management's bias in performance evaluation within the context of the BSC is significant for at least three reasons. First, the study is important given that, as noted earlier, features specific to the BSC are expected to lessen the likelihood of bias and thus, conflict and disagreement in performance evaluation. However,contrary to expectations, recent field studies (e.g., Ittner2003; Malina&Selto 2001) document disagreement and conflict between top management and divisional managers when using the BSC to evaluate the latter's performance. In order to obtain the intended benefits of the BSC, it is important to understand the nature of biases that may result in conflict, and investigate ways in which the biases can be mitigated.Contrary to the foregoing expectations, two recent field studies (Ittner et al. 2003a; Malina and Selto 2001) provide evidence of bias and conflict in performance evaluation among firms that have adopted the BSC. Malina and Selto (2001) studied divisional managers of a large international manufacturing company that adopted a BSC. They observed significant

conflict and tension between top and middle management regarding performance evaluation of the latter. The study also documented the inaccuracy or subjectivity of the BSC measures, top-down instead of participative communication about the BSC, and the use of inappropriate benchmarks for evaluation. More importantly, the findings of the field studies (Ittner et al. 2003a; Malina and Selto, 2001) suggest that the unique features of the BSC, such as its comprehensive and strategically linked measures, may not be sufficient to overcome performance evaluation bias that can result in disagreement and conflict between raters and ratees. Research by Lipe and Salterio (2000, 2002) suggests that the benefits of the BSC may not be obtained because of raters' cognitive biases and limitations. For example, Lipe and Salterio (2000) found that supervisors' evaluation of divisional managers' performance using BSC was based only on common measures across different business units, and not on the measures that were unique to particular business units. Abran and Buglione (2003) argue that the traditional BSC cannot integrate the perspectives automatically into a consolidated view and thus the frameworks do not tackle the contribution of each goal to the whole BSC. The BSC does not provide a technique to estimate quantitatively how much each perspective contributes, either in relative or in absolute terms, nor does it estimate the relative importance of indicators under the same perspective. The consolidation, in practice, has to be carried out intuitively by the users of the BSC.

Also Kanji (2002), has noted balanced scorecard is only a conceptual model and it is very difficult to elaborate this based on the methodology provided by Kaplan and Norton without previous thorough practical experience; the focus of traditional balanced scorecard tends to be too much on lagging indicators that show final results only. Many of the measurement systems, such as European Foundation for Quality Management are more balanced and provide equal attention to leading and lagging indicators; We might note that people tend to be not balanced but rather focused: they are mostly concentrating on as few things as possible in order to manage these as well as possible. Therefore it might be unnatural to try to build a balanced set of measures to any person.

3. Proposing a New Model

Implications of academic papers and experimental evidences address the opportunities for improving and or eliminating weaknesses in BSC implementation phase. Hoshin kanri is one of the useful techniques that could be integrated with BSC for this purpose. So, in next part we identify hoshin kanri.

3.1. Hoshin Kanri

Hoshin kanri is described by Akao (1991) as a systematic approach that integrates the entire organization's daily activities with its strategic goals. The "daily activities" incorporate not only operations, but also everything that is necessary for an organization's routine management of its mission. Hoshin kanri perceives the strategic management of an organization as a process and implements process control activities to strategic management.

Hoshin enables consensus planning and execution between all levels of the organization, as shown in Figure 1. The Hoshin plan aligns the strategic vision, strategy, and actions of the organization. The actions of senior management, middle management, and the implementation teams (all levels of the organization) are aligned around the common Hoshin plan. Hoshin kanri flows top management's goals through lower levels of an organization. In each level, the policy is translated to objectives & actions for level lower than. So by using hoshin kanri, we can transform top management's goals into a set of policies & activities which are understandable, clear, consistent & achievable for each level of organization.

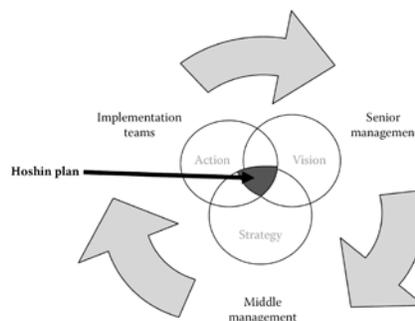


Figure 1: Hoshin plan alignment

3.2. Proposed model

Figure 2 shows the proposed model. This model consists of main following elements:

- Identify of mission, core values & vision of organization.
- Identify of long term objectives & strategies.
- Describe of operational objectives by hoshin kanri model.
- Transfer operational objectives to BSC model.
- Verify the strategies alignment with managerial and executive reviews.
- Continuous reflection of effectiveness of activities done by hoshin kanri model.

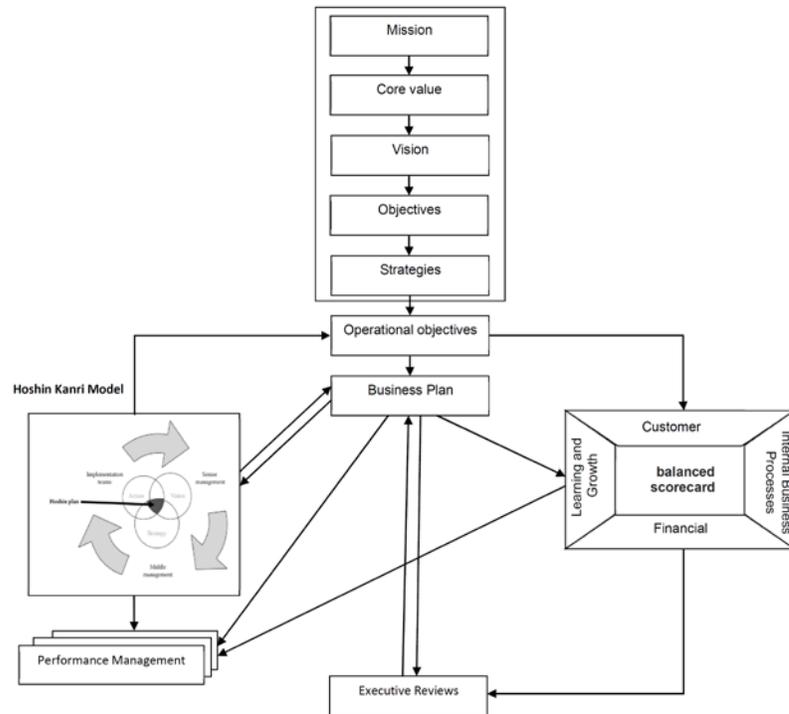


Figure 2: Proposed model combined of BSC & hoshinkanri

The proposed model provides the organizational infrastructure for implementation of BSC model and reception of the actual results. Hoshin kanri involves the implementation and execution of strategic objectives. It starts at the senior level with a medium-term plan, designed in the form of objectives set for three successive years. These are normally grouped as QCDE objectives in a similar manner to the four perspectives of the scorecard. This is the QCDE grouping of objectives used in hoshin kanri, where quality objectives and measures (Q), are comparable to those in the scorecard's customer perspective, because customers ultimately define what quality means; cost (C), similarly covers financial objectives and measures; delivery (D), covers process objectives in a similar way to the internal business perspective, and education (E), objectives resemble learning and growth and cover people-based objectives and measures. This similarity of objective categorization is unacknowledged in the scorecard and hoshin kanri literatures.

4. Implementation of Proposed Model in Esfahan's Mobarakeh Steel Company (MSC)

4.1 Mobarakeh Steel Company – An Overview

Isfahan's Mobarakeh Steel Company is the largest Iranian industrial complex located 75 kilometers to the southwest of the city of Esfahan on a plot of land 35 square kilometers in area. It has a production capacity of 7.5 million ton

of various hot and cold rolled flat steel products, tinned, galvanized, and color coated ranging in thickness from 0.18 to 16 millimeters.

With the introduction of company's steel products to the market and the gradual increase of production up to the nominal capacity of 2.4 million tons a major part of this strategic need of country was satisfied. In the years after reaching the nominal capacity, to meet the increasing demands of domestic and foreign markets, the company planned increases in its capacity in the form of expansion projects, using the experience and financial credit from domestic and foreign sales, the first phase of development projects were carried out.

4.2 Execution of Model

It is necessary to prepare a plan for implementing the proposed model in MSC. Figure 3 describes this plan and steps required for full execution of model. After negotiation with MSC managers, the technology committee was selected for study. It has seven sub-committees. Following this flowchart, we got useful information and results.

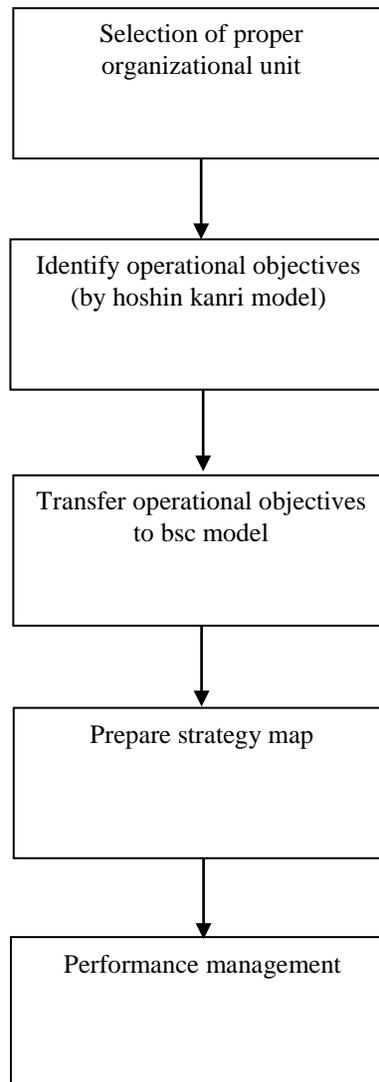


Figure 3: Flowchart for executing model

4.3 Results

In this section, because of limitation on paper size, we have to show only a part of whole results obtained from fieldwork. Tables 1,2 and figures 4-7 show the results for customer perspective in MSC , technology committee.

Table 1: Samples of objectives assigned to four perspectives of BSC in MSC

QCDE	Scorecard perspectives	Measure	Objectives Technology Committee
Cost	Financial	Effectiveness	Cost reduction
		Efficiency	Increasing revenue
Quality	Customer	Customer Satisfaction	Internal& external customer satisfaction
		Relationship	Time to handle customer complaints
		Service	New service for customers
Delivery	Internal Processes Business	Regulatory and Social Processes	Safety improvement
		Innovation Processes	Reduction of process time
		Customer Management	Reduction of procurement time
		Operational Management	New products
Education	Learning and Growth	Human Capital	Overall employee satisfaction
		Organization Capital	Experiences registered
		Information Capita	Achieving career inspiration scheme

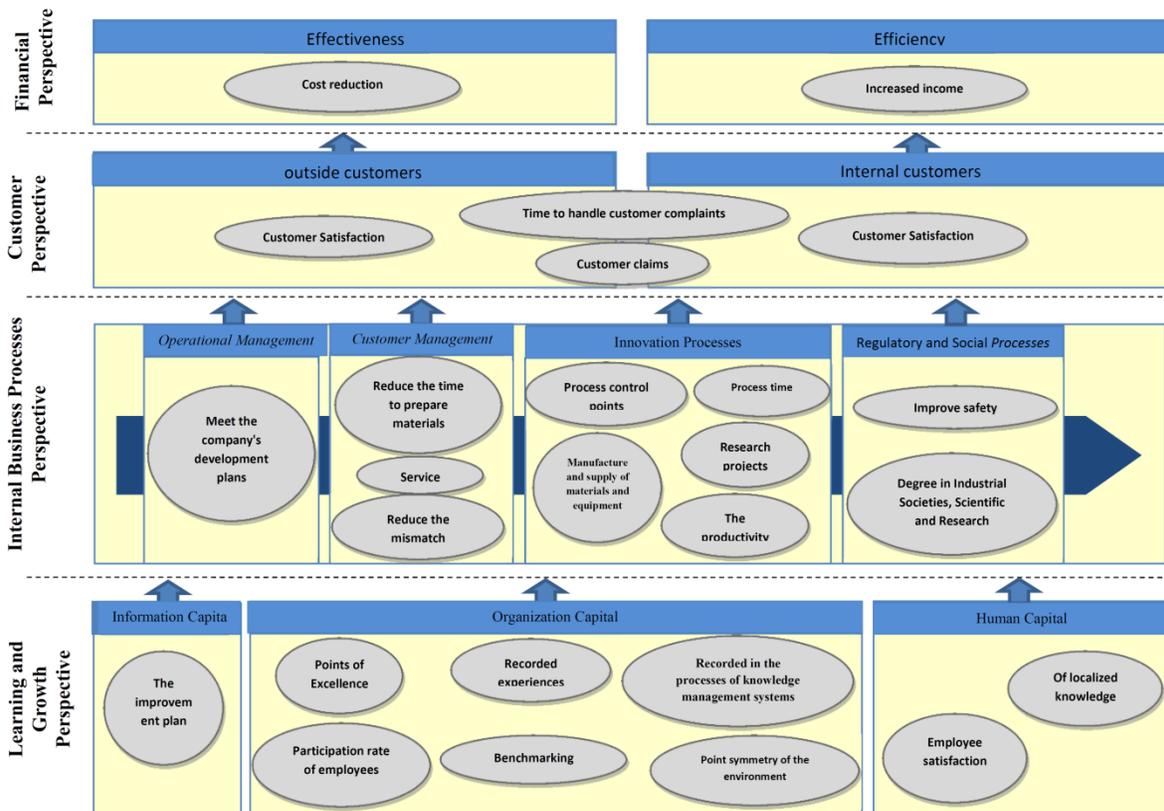


Figure 4: Strategy Maps: Technology Committee (MSC)

Table 2: Result of Customer Perspective for Technology Committee (MSC)

Perspective	Objective	Measure	Target	Actual performance	Ratio*	weight	Weighted change**	Result %
Customer Perspective	Technology internal customer satisfaction	Increasing percentage of T.I.C.S	82/57	82/44	99.84	0/34	33/95	99/95
	Outside customer satisfaction	Increasing customer satisfaction of technical services	76	76	100	0/22	22	
	Time to handle customer complaints	Reducing time to handle customer complaints	9	9	100	0/2	20	
	Customer claims	Reducing of Q.C portion of accepted customer claims	0/051	0/051	100	0/24	24	

*Ratio = ((Actual performance)/(Target))*100

**Weighted change= weight* Ratio

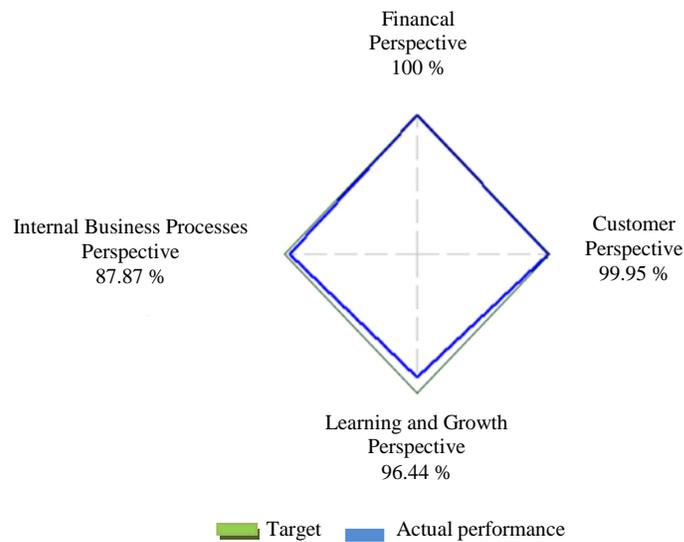


Figure 5: Radar Diagram of BSC results for Technology Committee (MSC)

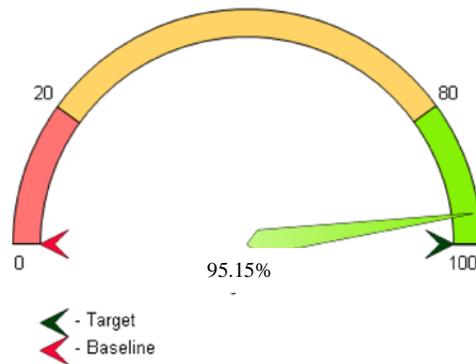


Figure 6: BSC performance of technology committee

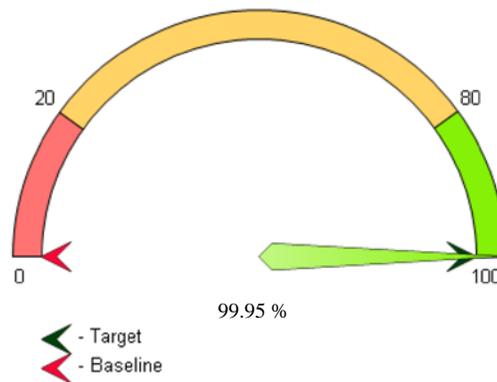


Figure 7: Performance of customer perspective

5. Conclusion

Both balanced scorecard and hoshin kanri are powerful tools for strategic management of organizations. They focus on the vision and put an emphasis on communication and continuous organizational learning. Implementing them jointly facilitates the strategic management process in that it provides a systematic conceptual framework and structures the implementation process. Combined model based on BSC and hoshin kanri works as guideline for establishing organizational values, vision & strategies. This model enables managers and employees to execute strategies via forming an integrative culture in organization. It also provides a structured tool for managers to develop vision and new strategies by cooperation of all organization units. So, organization can investigate strategies according to its vision & goals and modify or rearrange them. On the other hand, hoshin kanri continually evaluate the organization performance and reflect effectiveness of work performed. Combining a performance oriented approach with a process oriented approach certainly creates synergy. The implementation of the proposed model in the MSC resulted in combination of long- and short-term organizational activities and this helped to the MSC for reaching to strategic objectives.

6. Future Research

The proposed model is illustrated with the part of a production company. As further research:

- The implementation of the proposed model can be expanded for other committees in MSC or for MSC as a whole.

- The implementation of the proposed model for other types of organizations –such as service companies- can be studied.
- Application of proper group decision making techniques – such as FAHP, ANP- for weighting objectives can be used

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