

Expansion of the Balanced Scorecard and Its Application to Deal with Special Attributes of Small and Medium-Sized Enterprises

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Abstract—The BSC is a system to analyze and evaluate corporate activities based on four perspectives: financial, customer, business process and learning and growth, and to further develop a strategy policy. Specifically, it has become common practice to design a strategy map to visualize management strategies, set KPIs for the BSC four perspectives respectively, and derive measures to achieve the KPIs. For small and medium-sized enterprises, however, organizational problems present a major challenge to both daily operations and the implementation of strategies. In this paper, we propose the expanded BSC incorporating the organizational perspective and its application method which deals with the special attributes of small and medium-sized enterprises.

Index Terms—Balanced scorecard, organizational management, business process, organization, human resources.

I. INTRODUCTION

The balanced scorecard (BSC) was proposed by Kaplan and Norton [1]. Although it was initially put forward as a performance evaluation system that would circumvent any effects of skewing corporate evaluations toward financial metrics, it later came to be promoted as a strategic management system. Thus, the BSC came to be positioned as a system focused on integrating strategy and work systems. Nowadays, when companies formulate management strategies, they often use a Strategy Map that is based on the BSC.

The process of designing a Strategy Map firstly involves formulating a corporate strategy and a business strategy. This is followed by consideration of an action plan to carry out the business strategy. Strategic goals are developed for each of the four BSC perspectives on the Strategy Map, and key performance indicators (KPI) are set so that progress toward achieving these strategic goals can be monitored. Because the Strategy Map is developed based on the four perspectives of the BSC, building and integrating causal relations among these strategic goals is a necessary condition [2].

Yasukata *et al* lists the following four points as advantages of using the BSC compared with traditional management controls [3].

- ① Strategy is definable
- ② Strategy can be transmitted and shared

- ③ Execution of strategy can be controlled
- ④ Feedback can be given on the execution of strategy

However, based on his own experience in supporting the adoption of the BSC in small and medium-sized enterprises, Hasebe pointed out that the BSC could be misread, even if a Strategy Map has been designed. Misreading could be caused by such “unseen assets” as human capital, information capital, and organizational capital, and companies where these are deficient have more of a tendency to misread strategy [4]. Furthermore, when there is no organizational culture to identify misreadings and to perceive strategy from a long-term perspective, selecting an appropriate strategy that blends a long-term profit orientation with a short-term profit orientation is impossible.

This paper considers the BSC and discusses ways to use it effectively as an enterprise strategy in small- and medium-sized enterprises, which comprise the majority of the companies in Japan.

II. THE EXPANDED BSC

Large corporations usually possess large volumes of data, so they can engage in strategic decision making that considers the investment impact. Small and medium-sized enterprises, however, do not have much access to the data needed for a medium- to long-term strategy, so it is difficult for them to formulate such strategies. As a result, their everyday decision making usually relies on the knowledge, experience, and intuition that management has developed on the job. Because these companies are small in scale, the management and the employees are in close proximity to each other, and employees are in a work environment where they can acquire managerial attitudes. In addition, most employees see each other frequently, and this is a positive thing for increasing a sense of togetherness among employees. On the other hand, because only a few people are doing all the work, they often use their own, less-efficient ways to do the work. Also, most of the employees are swamped with work, so they do not have the luxury of taking a long-term perspective to think up other ways of doing their jobs. There are also negative aspects in the area of organizational management, whereby there is no adherence to the principle of job specialization, which is a given in large corporations, or to such organizational principles as having a consistent chain of command or delegation of authority.

The 2013 edition of the White Paper on Small and Medium Enterprises ranks the business management issues

faced by small and medium-sized enterprises that create local demand and are in a stable or expansionary mode as “securing high-quality human resources,” “marketing and the developing sales channels,” and “giving value-added to products, merchandise, and services.” The key management issues for small and medium-sized enterprises are thus product development, development of sales channels, and keeping customers.

The BSC proposed in this paper is an expansion of the original BSC in order to deal with the special attributes of small and medium-sized enterprises (Fig. 1).



Fig. 1. the expanded BSC.

As shown in Fig. 1, the expanded BSC consists of six perspectives (or layers), as we have added an organizational management perspective and merchandise to the financial perspective, the customer perspective, the business process perspective, and the human resources development perspective [5].

The expanded BSC can be characterized as linking the cause and effect of the issues that small and medium-sized enterprises deal with. Such financial matters as sales and profits are partly the outcome of customer growth/loss or customer satisfaction at the lower layers [6]. It also seems that customer issues are partly caused by merchandise and business processes that deal with delivery terms and quality. Furthermore, even if problems exist with merchandise and business process issues themselves, such initiatives are the responsibility of the organization, so they are probably attributable to some of the lower echelons of the organization. Also, since the organization is composed of individual people, some of the organization’s problems can be regarded as people problems, which are at the bottom of the hierarchy.

The expanded BSC that we are proposing is not something that is logically developed and visualized on the Strategy Map through the causal relationships between the management strategy’s ends and means. It is the development and visualization of the problems of small and medium-sized enterprises through the causal relationship between the causes and the effects [7].

III. ASCERTAINING THE CURRENT STATUS OF THE SCORES FOR THE EXPANDED BSC

The original BSC sets such KPIs as training attendance rates and inventory reduction rates against the strategic goals given in the Strategy Map so that the strategy’s progress can be statistically ascertained and managed.

We quantify the current status of each layer in the expanded BSC. Doing this enables the sharing of a problem’s seriousness within the organization and also facilitates initiatives toward improvement by setting quantitative goals for improving their levels. In other words,

showing the discrepancy between the existing level and the targeted level allows us to propose a strategy for each layer. This amounts to raising the levels of each layer in the strategy of a small or medium-sized enterprise.

- Q1 The company’s management policies and annual plans are clear and have been instilled in its employees.
- Q2 The company has a setup for gathering both good information and bad information from its customers.
- Q3 Customer trust and satisfaction are high.
- Q4 The company is actively trying to gain new customers.
- Q5 The merchandise offered by the company is highly regarded for being superior in quality and function.
- Q6 Almost no overlap exists among the business divisions.
- Q7 The procedures and methods used in everyday work are such that anyone can perform them.
- Q8 There is room to take action and execute from the long-term perspective without being tied down to everyday business practices or work procedures.
- Q9 The company is efficient because procedures have been determined for everything.
- Q10 The company is efficient because every day work does not entail any unnecessary tasks or paperwork.
- Q11 Supplies (forms, PCs, tools) are provided so that employees may perform their everyday work efficiently.
- Q12 The data provided by the computer system is accurate and timely, and is useful for work.
- Q13 A rapid-response support system exists for when people encounter problems at work.
- Q14 Delivery delays do not occur under normal everyday work conditions.
- Q15 Defects or problems do not occur under normal everyday working conditions.
- Q16 Everyone’s role is clear, and they are doing their jobs with an understanding of what the company expects of them.
- Q17 There is a clear chain of command, and those in charge have clear responsibilities and authority

Fig. 2. A section of the employee questionnaire.

The level of each layer is assigned points on a scale of 1-5, with 1 being the lowest and 5 being the highest. Management can thus ascertain the current levels. The methodology that we use is an employee questionnaire targeted at all employees. Since small and medium-sized enterprises have a narrower business scope than large corporations and their employees communicate more closely with each other, most of their employees are in a position to be able to look into the future of the entire company. Fig. 2 gives some of the questions on the employee questionnaire.

These questions apply to the layers. Employees answer each question by giving the degree of importance (on a scale of 1-5) or the degree of adequacy (on a scale of 1-5). These have been aggregated in Fig. 3. We can assess the level (score) of each area by analyzing the percentage of respondents who answered that the area had a high degree

of importance but a low degree of adequacy. Fig. 3 shows that 37 of the 138 respondents said that importance was high (score of 4.5) but adequacy was low (score of 1.2). This area can be considered a weakness of the company.

		Degree of Importance							
		5	4	3	2	1			
Degree of Adequacy	5	6	0	0	0	0	number of the answers	ratio	
	4	0	11	5	1	0			
	3	2	5	39	3	0			
	2	5	14	10	10	0			
	1	12	6	3	2	0			
							strength	16	12%
							weakness	37	27%
							total	138	

Fig. 3. Example of questionnaire tabulation and analysis.

IV. ANALYSIS OF PROBLEMS CAUSED BY THE EXPANDED BSC

Conducting a tabulation and analysis of the employee questionnaire enables us to visualize the current situation at each layer, as in Fig. 4.

	Low					High
	0	1	2	3	4	5
Finance				●		
Customer					●	
Business Process			●			
Organization			●			
Human Resources				●		

Fig. 4. Example of levels in the expanded BSC.

Although the problems that small and medium-sized enterprises are dealing with are embedded in each layer, the lower layers contain some of their causes. In other words, cause and effect relationships exist between the layers.



Fig. 5. Problem-building example (relation diagram).

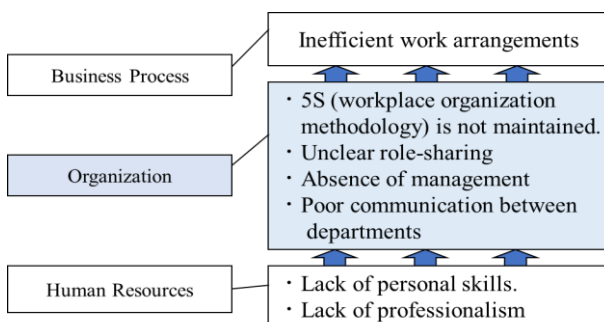


Fig. 6. Example of questionnaire tabulation and analysis.

Although we can also use the employee questionnaire to analyze the causal relations between the layers, brainstorming lets us analyze them in more detail (Fig. 5). Classifying them according to the BSC allows us to clarify how the problems are related (Fig. 6).

V. STRATEGY SCENARIO

A strategy scenario based on the expanded BSC could be of (1) the work process model, (2) the customer creation model, or (3) the organizational improvement model.

The work process-model is a strategy that aims at improving work processes, which will then be used as a tool for solving problems at the customer layer. Improving work processes will spur change in the framework of problem resolution in the organization's layers.

The customer creation model is a strategy that aims at cultivating new customers in order to solve financial problems. Cultivation of customers will lead to a change in the framework of problem resolution for merchandise and work processes, so it could serve as an opportunity to solve problems from a new perspective.

The organizational improvement model is a scenario that introduces new rules and systems in an organization, which are used to improve work or product development capabilities, which then will facilitate problem solving in other layers.

All of these models use causal relations between the layers as an opening for improving a layer somewhere, which then spreads to other layers.

VI. CONCLUSION

If companies practice both offense and defense, management strategy will correspond to offense. Management strategy is written down as a Strategy Map, and if we then construct a sequence of logical ends and means for each perspective, we will be able to have strategies for each function. The offense and the defense are proven because they are solid pillars, but the fact is that most small and medium-sized enterprises are weak in defense, so even if they have a Strategy Map, it will not function in implementation.

This paper proposed a BSC that has been expanded from the original BSC to consist of six layers. The expanded BSC focuses on the defense aspect to describe the problems of each layer in terms of logical causal relationships between the cause and the effect. Visualization with the original BSC used the Strategy Map as the means of executing strategic issues, but the expanded BSC describes the problems' causes in terms of causal relationships.

Also, this paper proposes the methodology of dividing each layer into five levels, with 1 being the lowest and 5 being the highest, and assigns scores to each level. Small and medium-sized enterprises must make defense into a pillar, as tenacious initiatives toward improvement will raise the scores of each layer. This is the strategy that small and medium-sized enterprises should adopt.

We have inaugurated a trial run of our proposal at a local factory in Yokohama, and we will report on the outcome at

a future opportunity.

CONFLICT OF INTEREST

The author declares no conflict of interest.

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