

Evaluation of Organizational Performance with Using of Balanced Score Card (BSC)

(Case study of Sugarcane & by - products development Co.)

Dr. Belghis Bavarsad¹, Dr. Abdolhadi DarzianAzizi², Farah Shafiei Bafti³

^{1,2}Assistant Professor of Management, Shahid Chamran University (SCU) of Ahvaz, Iran

³Master of Business Administration, Industrial Management Institute

ABSTRACT

All organizations, either governmental or private, for development, growth and stability in present competitive field, need a kind of effective performance evaluation system that in its shape could measure their efficiency and effectiveness of organization programs, procedure and human resources. Efficient organizations don't consent with collecting and analyzing the data, on the contrary they use these data for improvement of organization and investigation of missions and strategies of organization. On the other hand, instead of evaluation of performance, they engage with performance management. In this study with using of BSC approach, based on strategic program of sugarcane & by - products development Co., indexes of performance evaluation in four perspectives: financial, customers, Internal Business Processes, and Learning and Growth, have been extracted and measured. Because of relative universality and multi-dimensional perspectives of the balanced card approach in comparison with other models, in this study we choose this approach from among of various models of performance evaluation. A total of 32 manager and 202 customer surveys were collected and these were analyzed using t-student. Finding shows that, the company in three perspectives of financial, Internal Business Processes, and Learning and Growth had undesirable performance and only in customer's perspective, performance's indexes are desirable.

KEYWORDS: Strategic Management, Evaluation of Performance, Balanced Score Card, Sugarcane Development Products Company.

1. INTRODUCTION

Every organization in order to knowledge of desirability rate and its activities quality, especially in complicated and dynamic environments, has pressing-need to evaluation regularity. According to previous studies, absence of feedback acquisition regularity, make the possibility of required corrections for growth, development and improvement of organization's activities impossible, and probably will lead to organization's death (Zheng, Chiyang, Lee, 2006). Recent management accounting themes have highlighted a high fluidity of practice (Agostino and Arnaboldi, 2010). The experience shows that the evaluation of different divisions of companies with various measures and extension of this evaluation has worthy effect on efficiency, innovation, performance, satisfaction and success. As an organization can't take a look at itself and can't evaluate itself appropriately, it will see that going towards oldness. With attention to diversity of organizations duties, it is clear that elements and components of evaluation must be various and proportionate with every organization. Presenting harmonic and similar indexes and evaluation of organizations based on a standard method, basically can't conclude effective results. Therefore, it is necessary that criteria and components of evaluation be based on objects, aims, programs and description of duties and activities of every organization. That is, in evaluation of organizations, must be special and proportional attitude with that organization (Zheng, Chiyang, Lee, 2006). The issue of performance evaluation is one of the expanded subjects which large extent of areas and theorists had influenced on it and new reports and papers have been published about that. Moreover, the market of practical software's also have grown in this field (Mar and Skioma, 2003). But in the presence of abundant models and frameworks in this field, researchers had most effect only to some of the conceptual models (Mar and Nebilly, 2001).

*Corresponding Author: Dr. Belghis Bavarsad, Assistant Professor of Management, Shahid Chamran University (SCU) of Ahvaz, Iran. Email: bita@yahoo.com

2. LITERATURE REVIEW

By forming the organizations, along different periods, have been used of several patterns and models for evaluating. Organizations in proportion to their needs, at first they only used some of confined criteria and indexes. Extension of activities and area of organizational performance, dynamism of organization’s environment and discussing the subjects and managerial modern problems, for instance, social responsibility, customer satisfaction, etc made organizations to not content by confined indexes. Therefore, general and multi-dimensional models had formed and evolved. Considering the circumstances of the evaluation systems forming, general goal in traditional systems of performance evaluation was only the learning and judging about the performance itself and has been caused to performance controlling in different levels but in modern perspective, philosophy and purpose of evaluation, besides the control, have been focused on development and improvement and stable growth of performance. The most important traditional approaches for performance evaluation namely could be: evaluation based on financial criteria, evaluation based on effectiveness, evaluation based on efficiency, evaluation based on productivity, performance evaluation algorithm (combined evaluation based on financial and productivity criteria) and evaluation based on total quality. As a matter of fact it could declare that many of managers measure the parts that they could and feel that it is easier. Because financial measurements is representation of organization’s economical condition, among of these cases, usually have drew most attention to itself. Also, the most important modern models of performance evaluation consist: Deming Quality Award model (DQA), Malcolm Baldrige model (MB), PIPE model (PIPE), European Foundation Quality Management model (EFQM) and Balanced Score Card model (BSC). The main differences were presented in Table 1 briefly:

Table1: Different perspectives to performance evaluation

Features	Traditional	Modern
Evaluating role	Judging and measuring of performance (judge)	Counselor and facilitator of performance
Evaluation period	past	future
Evaluation standards	View of organization and superior managers	Self standardizing
Main purpose of evaluation	Under evaluating control	Growth and development of capacity of under evaluating
Conclusion of system	Performance control	Growth, development and improvement of performance
Outcomes of evaluation	Determination and recognition of most successful one and granting financial rewards to managers	Giving consultation services, in order to constant and day to day increasing improvement of activities (constant motivating for quality improvement and services and activities)
Interview after evaluation method	Imperiously (like a trial)	conversation

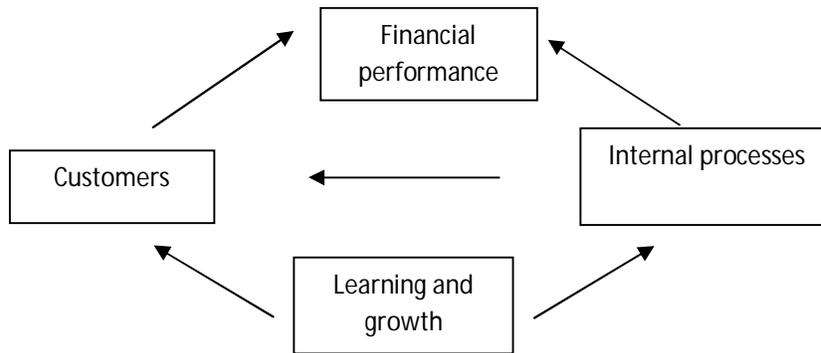
Source: Snap and et al., 1994

2.1. Structure of BSC model

The BSC was first introduced by Robert Kaplan and David Norton in the early 1990s. Initially, the BSC was developed for business corporations with the aim of creating new non-financial indicators to complement the traditional financial reporting method, but it gradually became a strategic management model that provided “a framework for describing and managing strategy in the knowledge economy” (Kong, 2010). Although financial performance measures have conventionally subjugated corporate performance measurement systems, there has been an emergent movement to adopt a more holistic approach that embraces future focused nonfinancial measures (Neely et al., 1995; Anderson and Lanen, 1999; Ax and Bjornenak, 2000; Ittner and Larcker, 1996; Malmi, 2001; Ishtiaque et al., 2007). In this regard, the use of a dashboard of both financial and non-financial performance measures (NFIs) has resulted in the emergence of a number of different performance measurement frameworks (PMFs) of which the Kaplan-Norton BSC is the most widely

used (Neely, 2005; Zaman Khan et al., 2011). The importance of performance measurement in the managerial accounting domain is underlined by the sheer volume of research in the last decade underlining its critical role in strategy conversion (Neely, 2005; Emmanuel and Otley, 1995; Zaman et al., 2011). The BSC includes a set of measures to monitor organizational performance across four linked perspectives associated with value creation (Kaplan and Norton, 1992, 1996, 2000). Figure 1 shows the four linked perspectives in the BSC model. Each of these four perspectives is linked in a chain of cause-and-effect relationships (Kong, 2010).

Figure 1: The BSC Framework



Source: Kaplan and Norton, 2006

Kaplan and Norton (2006a, pp. 6-7) argue that “a training program to improve employee skills (the learning and growth perspective) improves customer service (internal process), which, in turn, leads to greater customer satisfaction and loyalty (customer) and, eventually, increased revenues and margins (financial)” (Kong, 2010). Without the cause-and-effect relationships that link the BSC perspectives to an organization’s strategy, the model becomes like a traditional, backward-looking control process with multiple measures (Keyt, 2001). The relationships are therefore an important aspect of the BSC (Mooraj et al., 1999). Robert Simons believes that depended on conditions of industry and organization’s strategy, there is a possibility that one and/or several perspective add to original perspective s. In some countries like Swiss, most of organizations utilize their BSC by adding fifth perspective as Staffs or Human Resources. In some other organizations also a perspective as Work Environment or Shareholders has been added to main framework (Simons, 2000). Olve & Sjostrand (2002) believe that adding perspectives sometimes is indicator for incomplete perception of balanced score card’s original idea and we can consider such cases (staffs and shareholders) in main perspective (as beneficiaries). BSC is a modern instrument to complete the measurement traditional indexes of organization performance. BSC has make connection between strategic goals and criteria, and planning, undertakes the determination of goals and Strategic alignment factors (Ahn, 2001). Kaplan and Norton (2001) further expanded their framework, proposing the BSC as a tool to implement the strategy, by setting objectives, defining actions and connecting the BSC measures to the reward system. Accordingly, the BSC enhances dialogue throughout the organization, the sharing of the strategy and the learning process. Empirical studies on the BSC (Letza, 1996; Malmi, 2001; Speckbacher et al., 2003; Cobbold et al., 2004; Lawrie and Cobbold, 2004) have highlighted this fluidity at the practice level (Agostino, Arnaboldi, 2010). This approach is a combination of performance evaluation criteria that includes current, past and also future performance indexes, and puts the nonfinancial criteria besides the financial criteria. Meanwhile, it gives a multilateral sight and view for managers of organization about what is happening outside and inside the organization. As a matter of fact, BSC is a proved framework which describes and operates the strategy of organization. This system has been formed by four related components that are described as below:

1. **Strategy plan** - as basis and foundation of BSC that explains the strategic objectives in the structure of cause and effect relations. If these objectives satisfy, that is like successful execution of strategy. The main function of the strategy plan is that causally shows how objectives cooperate with each other in strategy implementation.

2. **Measures** - how progress for that particular objective will be measured.
3. **Targets** - the target value sought for each measure.
4. **Initiatives** - what will be done to facilitate the reaching of the target. (Creelman & Makhijani, 2005).

3. Categorizing the operational goals in BSC’s fourfold perspective framework

The operational objectives of sugarcane & by - products development Co. with fourfold perspectives of balanced score card, have been connected in below table:

Table 2: The Relation of Operational Objectives with Fourfold Perspectives of Balanced Score Card

perspective	component	Index
Financial	Financial preparing cost	Reduction of financial preparing costs to possible minimum
	Partnership and financial preparing	Partnership with international capitals out of country
		Using of capital of private part as satellite companies and reducing of direct investment in these parts
		Partnership with international capitals inside the country
	Financial dynamism	Providing with required companies and parts for financial dynamism and cash flow preparing
	Capital market	The ability for using of internal and universal financial markets
Financial structure	Financial structure based on viewpoint of agencies and privatization	
Customers	Customers satisfaction	Speed of transition
		Competition able price
		Appropriate packing
		Expansion distribution and on-time access
		Appropriate and friendly attitude
		Access to loading/selling agents (if required)
		Responsible for complaints/criticisms
		Appropriate quality relative to similar productions
		Observance of assigned regulations/agreements
		Doing informer activities
Internal processes	Organizational change and transition	Achieving to modern managerial systems and systems based on up-to-date technology
		Establishment of appropriate managerial system for affairs controlling
		Having a managerial ability based on strategic planning
	improvement of processes and activities	Integration of management information systems in order to increase the productivity of processes and possibility of evaluation and comparison of parts performances
learning and Growth	Empowerment human Resource	Possession of special forces with talents and necessary sight for administrating the Holding staff
		Talent educating system and appropriate manager training with command-directed system (reduction of charge) in dependant companies
		Development of managerial studies and using of its results in decision making of management in companies human sources
		Increasing of revenue and welfare affairs of staffs while increasing the beneficial and economical increased value
		Developing of organization environment to international environment for using of counselors and expert forces
		Technology
	Achieving to GIS technology and using of it in agricultural part in all possible dimensions	
	The ability of designing and fabricating the machinery of production-line with using of internal manufacturer proportionate to researches in order to develop the technology	
	Ability of up-to-date technology transition in agricultural part	
	Ability of up-to-date technology transition industrial part	
	The completion of production chain in order to achieve to perfect productivity without production wastes	
	Researches and Development	Establishment of scientific and practical researches because of optimizing the producing methods with maximum productivity
		Achieving to research centers by doing a effective role on transition and development of technology

Hypothesis

- H1: Company has achieved to its explaining financial objectives in its strategic planning.
- H2: Company has achieved to its explaining objectives of customers indexes in its strategic planning.
- H3: Company has achieved to its explaining internal processes objectives in its strategic planning.
- H4: Company has achieved to its explaining growth and learning objectives in its strategic planning.

4. RESEARCH DESIGN AND METHOD

4.1. Data collection

Data was collected by the means of a survey conducted in Iran in 2011. In this research, our statistical population includes Managers and Customer of sugarcane & by - products development Co.

Managers: Because the objectives of this study is performance evaluation of Sugarcane Development Company based on achievement rate to compiled goals and strategies, therefore, we must question persons for opinion poll whom firstly, had have enough awareness and domination about a set of goals and strategies and secondly, also could give expert opinion about performance of unit in achieving to these goals and strategies. The managers are all of the assistants, Holding independent managers and superior administrators of company. Number of Sugarcane Development Company managers is 35, according to Krejcie and Morgan, sample volume was determined as 32 persons. A total of 32 questionnaire forms were delivered to managers of which 30 were returned giving a response rate of 93 percent.

Customers: One important side of BSC approach is customers. A total of 250 questionnaire forms were delivered to respondents of which 202 were returned giving a response rate of 81 percent.

4.2. Method

The main purpose of this research is evaluation of sugarcane & by - products development Co. performance by using BSC approach. In this study with using of questionnaire, the indexes have tested. For testing some of Sugarcane Development products Company’s objectives with BSC Approach, two questionnaires have been designed due to absence of quantitative data. In present study, Likret’s fivefold scale used for variables measurement.

4.3. Validity and Reliability

Validity needs the research tool to measure the variable the researcher is going to measure (kerlinger, 1986). and some strategies experts and two experienced executive managers have confirmed it (validity by means of experts’ view).The research tools, as means of collecting data, must be reliable so that the researcher can trust attained results (kerlinger, 1986). Cronbach’s Alpha method has been used in a way that the amount of Alpha has been measured by SPSS software. The amount of Alpha related to each variable can be seen in Table 3 According to Nunnally, if cronbach Alpha is more than 0.7, the questionnaire is reliable (Sekaran, 2006). Since the amount of Alpha related with each variable and total of Alpha are more than 0.7, our questionnaire is reliable.

Table 3: The amount of cronbach α

Variable	Alpha Coefficient
Financial	0/772
Internal processes	0/784
Learning and Growth	0/846
Customers	0/836
Total	0/904

5. RESULTS

For determining the fulfillment of company objectives in every perspective, the T-Student Test was used, Based on the results in table 4, managers believe that performance of company about the indexes, related to financial perspective is smaller than average limit ($t = -5.924$, $p < 0.05$, $mean = 2.30 < 3$) and has not desirable performance based on given objectives. Customers are satisfied about of the present performance of the company ($t = 28.519$, $p < 0.05$, $mean = 4.08 > 3$). Internal processes perspective not significant ($t = -1.698$, $p > 0.05$, $mean = 2.30 < 3$) therefore H3 not supported. Responses believe that performance of company about the indexes, related to learning and growth perspective is smaller than average limit ($t = -5.379$, $p < 0.05$, $mean = 2.47 < 3$) and has not desirable performance based on given objectives.

Table 4: The Results of T-Student Test

	test value-3				
	t	df	Sig. (2-tailed)	Mean	Mean difference
Financial	-5.924	24	0.000	2.30	-0.705
Customer	28.519	176	0.000	4.08	1.085
Internal processes	-1.698	25	0.102	2.80	-0.203
learning and Growth	-5.379	22	0.000	2.47	-0.530

6. Recommendation and suggestions

1. In order to performance evaluation in correct, accurate and general form by using of BSC approach, we need preparations and beds. One the most important required beds, is the presence of common viewpoint and unanimity among the managers of the organization about codified objectives. By regarding the opinions of some respondents in questionnaires, it seems that explained operational objectives in strategic planning, did not translated into organization accurately, and has no necessary continuity between codifying and administrating, for example, a number of respondent managers believe that some of financial perspective's indexes (like partnership with international capitals outside the country and partnership with international capital inside the country) not belong to objectives of company, and basically the company doesn't try to achieve to this objective. Therefore, we must notice that if the performance level is low, it doesn't mean that necessarily the company is unable and powerless but it is possible that inaudibility in translation of strategic planning objectives to frame of organization (interchange) causes to that strategic planning objectives not taken in to account as objectives of units or businesses. It is suggested that by celebrating common meetings and same thinking between managers, the codified strategic planning objectives must be explained and described nicely. After creating the common or close viewpoint, could accomplished appropriate evaluations of performance.

2. According the opinion of company's managers, the indexes related to financial perspective have lowest actual performance. And between the financial indexes "partnership with international capitals outside the country" by a mean of 1.1 has lowest performance rate. Whereas, the financial situation of any organization is the most sensitive organizational part and could jeopardize the presence of company, it's proposed that the Company must investigate and consider the undesired condition of financial indexes by pathology of reasons.
3. The indexes of learning and growth perspective with a mean of 49% in objectives fulfillment, have undesired condition in performance. One of main subjects of organization learning is condition of employees from the viewpoint of scientific and knowledge-based organization and also is satisfaction of employees. The indexes "the development of managerial researches and using of its results in decision making of human sources management of company" have lowest performance. In order to Empowering employees and investment on researches and practical studies, the company needs to design a general system for employees training and organizational research.
4. Perspective of internal processes with a performance mean of 56% based on opinions of respondents also has not desirable performance, which among the indexes of this perspective, the indexes connected to "integration of information systems" have lowest quantity in actual performance. By growing the organization and variety of product, internal processes of organization developed and also in modern managerial methods, using of modern systems to operate the modern methods is needful. So, it is necessary for company to redefine the organizational processes by redesigning of processes and probably by reengineering, and through a shape of managerial information systems utterly could administrate these processes.
5. The indexes connected with perspective of customers are in desirable condition against other perspectives by considerable difference, the mean of these indexes is 81%. Based on BSC pattern, it was expected that the results of company performance in every perspective is presented as casual; that is, the improvement of learning and growth causes to improvement of internal processes and improvement of this perspective causes to improve the indexes of customers and at the end, improvement of financial indexes. Contrary to expectations, the results of this study show that despite this lowness of performance in learning and growth indexes and internal processes, the indexes of customers perspective is in desirable condition. One of the reasons for conclusion of these

results is that in the organization, the planning and codifying of strategy did not implement based on balanced score card, and naturally, necessary continuity between the results of perspectives performance and compensation system of employees doesn't exist, in this study was tried to compare the codified objectives and strategies with perspectives of balanced card.

7. Limits and future studies

The main limits of present study are that, the strategic program of company was not codified essential and documented. Some of strategic planning elements were not identified as long-range and operational objectives. Suggest to other interested researchers in this field to evaluate the given company with using of BSC and EFQM models simultaneously. Suggest in future study evaluate the performance of dependant holding companies of Sugarcane development based on BSC model.

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