

Study on Unbalanceness of the Balanced Scorecard

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Abstract

At present, the BSC (Balanced Scorecard) is used as strategic analysis system, which is vital within the field of strategic management for future organizations and competitive blessings in progressively competitive business environment. Although BSC is very famous and widely used, the model has some setbacks and issues that build the BSC are unable to supply the quantitative indicators for each perspective contribution. However, BSC has been unable to measure the relative important weights of every perspective contribution. This paper tries to argue the different important weightages of BSC dimensions, using casual interrelationship modeling through the decision trial and evaluation laboratory technique. Our finding showed new addition for BSC which developed unbalance aspects of the BSC.

Keywords: Unbalanced Dimentions, Balanced Scorecard (BSC), Multi Criteria Decision Making

1 Introduction

Balancing the problems associated with the operations using long term strategy has regularly being found difficult by a good number of firms. The tension poses serious danger; without a proper strategic bearing, there may not be any success in the world-class processes, however, the best strategy the world over will not be attained without a proper operational technique to carry it out [9]. Judging by the benefits derived by strategic planning by organizations as well as developing a competitive advantage for them, presently, organizations are polarized towards a complex and competitive environment while encouraging transactions among them. Top managers and other stakeholders that tries to picture the scenario currently, of firms as well as knowledge of its image in the future requires more

information, compared to financial operational standards that evaluates the operational strategies and long term view of the firm as well as strategies in operational achievement. Different tools have been provided for the process; Balanced Scorecard (BSC) has been used for determining and designing strategic operation. Kaplan and Norton in 1992 [5,6,7] have introduced the tool and is generally, in use at the present time. The BSC is a conceptual framework whose activities it is to interpret the objective of strategies of a firm into more operational attributes. Moreover, managers have used BSC to identify the leading and lagging characteristics inherent in the company. Often times, BSC has been domineering in a good number of areas of management practice. The reason for the sharp increase being that of simplicity; Managers do not have to engage in diverse statistical works, however, they keep track of a few indicators that are required [1,10,11]. The model of BSC provides the means for comparison to obtain a diverse perspective on the strategic decisions taking into consideration the impact on customers, employee learning, finances and customers [7, 12]. BSC has been argued to maintain a balance between non-financial and financial measures, leading and lagging indicators and perspectives of internal and external performances [8]. The four perspectives performances of BSC include traditional financial performance group and non-financial performance measurement indicator customer, leaning and growth and internal business process. These perspectives are described thus [8].

Customer (C): The source of profit in business is the customers. However, the satisfaction of customer need is the major interest of the companies. Here, management tries to determine the customer's expected target and market segments for the operational, while it monitors the unit operational performances in the targeted segments. Some of the main or genetic illustration measures include customer retention, customer satisfaction, new customer acquisition, market share and market positions in the target segments.

Financial (F): The area is comprised of measures of traditional financial performance which are specifically related to profitability. The criteria of management are profit ROI, cash flow, return on invested capital and economic value added.

Internal business process (IP): the fulfillment of customers and shareholders breakthrough at some process of business with high impact has been the focus of IP. While the measures and objectives are determined, the initial steps include analyzing the corporate value chain. A usual process of operation should be designed to recognize the objectives of finance and customers. The entire internal business-process value chain that meets future and current needs however should be designed. Internal value chain that is common is made up of three major business processes; innovation, operation and after sale service.

Learning and growth (LG): the first aim of this it is for deriving the objectives of infrastructure of the other three areas as well as for producing long term growth and improvement via the people, organizational procedures and systems. This aspect lays emphasis on the measurement of employee performances such as

continuity, skills, employee satisfaction and training, because the growth of employee is not a worthy enterprise asset that contributes to the growth of the business. For other three areas, a gap may exist between the real and human target, procedure and system abilities. By growth and learning, this gap can be minimized by the enterprise. The standard of judgment include workers turnover rate, expenditures on new technology, training expenses and lead time for new idea introduction to the market [10]. Because the model of BSC is not able to offer weightage contribution to every aspect as well as its inability to measure the relative importance of each perspective weight contribution, authors have used the practices of BSC, where researches/companies deliberate equal weightages for every element. The aim of this paper it is to test the balanceness of BSC perspectives. A good number of researchers have argued BSC balance scores and its weightage benefits, using Decision Making Trial and Evaluation, Laboratory (DEMATEL) technique. The method of DEMATEL first of its kind was adopted by Fontela and Gabus for visualizing the complexity structure of causal relationships with digraphs and matrices particularly experts opinion [4]. The graph theory is the basis for DEMATEL and gives researchers the opportunity to recognize causal association by dividing related and outstanding issues to cause and effect [15]. The procedure has many features such as interdependence verification between the features that can not be predicted, displaying the features with development trend and essential system as well as expressing the efficiency and interrelationship among variables by graph directed improvement [3,16]. The author in his previous studies [3, 14] analyzed interrelationships between concepts of the BSC. Using the same methodology with fundamental of the BSC literature, in this study the author tries to challenge the BSC theory. The contribution of this study is in its different approach to the BSC; to put a question mark on the balanceness of the BSC.

2 Method and result

DEMATEL procedures follow expression four phases which have been reviewed [3,13].

Phase one, matrix specification of indirect-relationship and assessment factors in line with the experts. Normally, DEMATEL modeling explained four weights for relationship measurement between variable criteria. Zero for “No influence” one for “Low influence”, two for “High influence”, and three for “Very high influence.”

In step one of this phase, makers of decisions prepare pair-wise comparison sets according to inter-directional criteria as well as their impacts. The step that follows, comprises of when direct-relationship matrix provides the main data as an $m \times m$ matrix (defined as M), where each component of a_{ij} is shown as the level in which the criterion j is affected by the criterion i .

Specialists were interviewed on the strategy and system performance having

practices BSC in their company. It is an utmost importance to look out for specialists that will verify the association among the influential factors of strategic mapping. In addition, different organizational activities and fields have verified the perspective relationships between balanced scorecard obtained. Organization of pair-wise set comparisons by specialists for example the impacts and directs between the elements of BSC. However, the first information was obtained as the direct relation matrix that may be a 4x4 matrix A, where each element of X_{ij} is designated as the element j. Table 1 reviews the findings from interviews ; show the essential factors relations that are proposed in BSC and BSC perspectives.

--	F	C	IP	LG
F	0	2	2	3
C	3	0	0	1
IP	1	2	0	0
LG	2	1	2	0

Table 1. Matrices of relationships

Phase 2: Using the formula 1, the matrix of direct relationship changes to be normalized matrix. It is worthy of note that each element x_{ij} of matrix X is maximum one and minimum zero.

$$K = 1 / (\max_{1 \leq i < n} \sum_{j=1}^m a_{ij}) \quad i, j = 1, 2, \dots, m \quad (1)$$

$$X = K \times M$$

Phase 3: adopting the following formula 2, the total relationship matrix is calculated. It is worthy of note that I is the m x m identity matrix.

$$T = X(I - X)^{-1} \quad (2)$$

Phase 4: As indicated in set 3 formula, the summation of rows is shown by the vector D $[d_i]_{m \times 1}$ which is a determinant of direct and indirect impact using the factor i compared to other factors, moreover, the addition of columns can be represented by vector R $[r_j]_{m \times m}$ which is an indication of both direct and indirect accepted by factors j from other factors.

$$T = [t_{ij}]_{m \times m} \quad i, j = 1, 2, \dots, m \quad (3)$$

$$D = [\sum_{j=1}^m t_{ij}]_{m \times 1} = [t_{i.}]_{m \times 1}$$

$$R = [\sum_{i=1}^m t_{ij}]_{1 \times m} = [t_{.j}]_{1 \times m}$$

Therefore, $[(D+R)]$ is produced by adding D to R, and $[(D-R)]$ is generated by subtracting D from R. the alignment vector for the horizontal $[(D+R)]$ indicated the level of summation of total impact supplied and received. The vertical maxis $[(D-R)]$ shows the net impact that factor i supplies to the system. The criterion maybe broken into the cause and effect group. When $[(D-R)]$ is positive, it is believed that the criterion belongs to the cause cluster becomes the representative element using the matrix dataset of (D+R, D-R) the causal diagram is derived. In this aspect it has shown the association among significant factors in each perspective. The major thing considered of BSC perspectives and their criteria are

measured by the methods of DEMATEL. Causal that includes horizontal matrix (D+R) and vertical axis (D+R) is ready. Each feature relative importance is shown in the horizontal axis known as “Prominence” the feature of similarity are broken into cause and effect clusters in vertical axis and is designated as “Relation.” However, advanced causal relationship areas are imagined as observable structural model using the causal diagram [15]. However, when (D-R) shows negative, the facet becomes part of the effect group, in the other way when (D-R) becomes positive, the facet becomes a part of cause cluster. The criteria relative importance is set by the professional committee for decision making.

In this section, the total relationship matrix strategy and DEMATEL method are used to prioritize BSC perspectives, the major factors of every perspective are stated in Table 2. As stated in the results obtained by data collection planning for (D_k+R_k, D_k-R_k); the element that is more efficient is F, second by C and IG while the least element efficient is IP.

--	F	C	IP	LG	D	R	D+R	D-R
F	0.693	0.812	0.725	0.843	3.073	2.745	5.81	0.32
C	0.832	0.432	0.399	0.562	2.225	2.357	4.58	-0.13
IP	0.48	0.526	0.218	0.281	1.505	1.955	3.46	-0.45
LG	0.74	0.587	0.613	0.402	2.342	2.088	4.43	0.25

Table 2. Matrices of total relationships

2 Conclusion

Different studies have been conducted on the performance evaluation with the BSC and majority of the researches considered BSC dimensions as A, balanced dimension having similar weightages. A conceptual model of unbalanced BSC being one of the major models sensible for management decision making have been suggested through the application of DEMATEL that is needed for the evaluation of indices with cause and effect between the concept of BSC. From the results it was shown from the perspective of customer that is the most important technique of the organization which requires more attention by performance analyzers. Moreover learning and growth is also an important major strategic features for BSC. Every number of concepts can be developed and implemented using the model, for the coverage of classic modes which seems to be difficult to unbalanced analysis performance. This method provides extra informative and dependable analytical results. Moreover, it gives managers assistance for flexibility in decision making. This model is capable of assisting systematic formulation of strategic operation; providing the tools for managers for important strategic recognition. More researches are recommended to assist develop other unbalanced models as well as compare the potency of assorted models observed.

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