DEVELOPMENT OF A SUSTAINABLE COMPETITIVE ADVANTAGE MODEL BASED ON BALANCED SCORECARD

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ABSTRACT

Nowadays organizations turn to any standard procedure to gain a competitive advantage. If sustainable, competitive advantage can bring about benefit to the organization. The aim of the present study was to introduce competitive advantage as well as to assess the impacts of the balanced scorecard as a means to measure the performance of organizations. The population under study included employees of organizations affiliated to the Social Security Department in North Khorasan Province, of whom a total number of 120 employees were selected as the participants in the research sample. Two researcher-made questionnaires with a 5-point Likert scale were used to measure the competitive advantage and the balanced scorecard. Besides, Cronbach’s alpha coefficient was used to measure the reliability of the instruments that was equal to 0.74 and 0.79 for competitive advantage and the balanced scorecard, respectively. The data analysis was performed using the structural equation modeling and the results indicated the significant and positive impact of the implementation of the balanced scorecard on the sustainable competitive advantage.

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Contribution/ Originality

The application of balanced scorecard for earning sustainable competitive advantage.

1. INTRODUCTION

A glance at the competitive business environment around shows that today’s business environment and factors affecting it are very different and more complex than what was in the past. Advancement of IT, technology, production methods, and customer power are among characteristics of today's business environment, all of which are associated with the dynamics and
complexity of the markets. Now the question is that what is the secret to survival, success, and the sustainability in today’s hypercompetitive markets? The answer to this question is to find a way for survival and compatibility with the surrounding environment full of challenges and yet gaining a good position in the competitive environment; an important objective whose achievement possible only sustainable competitive advantage. Obviously, each company follows a specific method to gain a sustainable competitive advantage. Warren J. Keegan has defined competitive advantage as “The higher rate of the attraction of what a company offers compared to its competitors in the view of the customers” According to the above definition, the fulfillment of the sustainable competitive advantage requires a company to improve key aspects that contribute to the success of the related activities. Obviously any business finds a specific way to achieve the sustainable competitive advantage. Generally, the achievement of this important goal requires measuring the company’s performance in financial matters and in other fields. Balanced scorecard (BSC) is a new management concept which helps all managers to control and monitor their key activities. Accordingly, the present study discusses the achievement of the sustainable competitive advantage based on the balanced scorecard.

2. RESEARCH BACKGROUND AND THEORETICAL FRAMEWORK

2.1. Definition of Competitive Advantage

In recent years, the concept of competitive advantage has been a hot issue in the field of competitive strategies and much controversy has been raised in relation to competitive advantage. Nevertheless, providing a precise definition of competitive advantage is a difficult task. On the one hand, the competitive advantage has been defined as too much returns, and on the other hand, it has been linked to the performance of capital markets and expectations. However, the most common definition of competitive advantage in the field of competitive strategy and in the context of value creation is whatever cause revenues increase over expenses (Rumelt Richard, 2003).

Peteraf (1993) defines competitive advantage as the retention of earnings higher than normal. According to Besanko David et al. (2000), a firm has the competitive advantage if it gains a higher economic profit than the average rate of profit in the same market.

Saloner Garth et al. (2001) have pointed out that the competitive advantage mainly means that the firm can produce goods or services that the customers seem them more valuable than those produced by other competitors'.

On the other hand, Porter (1985) deals with the competitive advantage in the context of competitive strategy. He sees the competitive strategy as the determination of a firm’s position in a competitive environment. The purpose of competitive strategy is to gain insights about the market through understanding and predicting the economic factors, especially other competitors’ behavior. The competitive strategy causes a firm to produce a product that is not producible by the competitors. Therefore, the competitive strategy is a strategy for creating an imperfectly competitive market (Barney, 1986).

Kay (1993) defines the potential competitive advantage of a firm's distinctive capabilities resulting from behaviors that other firms are lacking but these capabilities are stable and fixed.
To achieve the competitive advantage, an organization must also pay attention to its external position (Porter, 1985) as well as internal capabilities (Barney, 1991). The organization must consider its internal capabilities and its competitive position in the market not as spate elements but think of them interactive elements as sources of gaining the competitive advantage and marketing strategy (Hooly et al., 2005).

2.2. Definition of Sustainable Competitive Advantage

The concept of sustainable competitive advantage (SCA) was introduced in 1984 when Day was explaining the competitive advantage maintenance strategies. The term sustainable competitive advantage was seriously developed in 1985 by Porter and in terms of a variety of competitive strategies (cost leadership, differentiation, and focus) to achieve long-term competitive advantage. Nevertheless, Porter did not provide a formal definition for sustainable competitive advantage. Barney (1991) has provided the closest definition of sustainable competitive advantage as the continuity of benefits and application of unique value creation strategies asynchronously with potential competitors that are not able to copy such benefits.

Sustainable competitive advantage is related to the firm's efforts in establishing and maintaining advantages for a long-term period. Sustainable competitive advantage is affected by three factors: the size of the target market, greater access to resources and customers, and restrictions on the powers of the competitors. Usually a firm can create the sustainable competitive advantage whose managers apply its strategy based on characteristics that cannot be easily copied (Coyne Kevin, 1986)

Coyne Kevin (1986) argues that to create sustainable competitive advantage, customers need to recognize the differences between a firm's products and those of the competitors. These differences must have been created due to the firm's resources that are not accessible by its competitors (Coyne Kevin, 1986). Other researchers have more accurately explained special resources and skills that contribute to the creation of sustainable competitive advantage. For example, Barney (1991) argues that all of the firm's resources are not able to create sustainable competitive advantage (SCA) and SCA-resources must have four characteristics: rarity, value, impossibility of being imitated, and impossibility of being replaced. According to Hunt Shelby and Robert Morgan (1995), potential SCA resources are divided into financial, physical, legal, human, organizational, informational, and rational resources. They believe that competitive advantage in resources can become a competitive advantage in the marketplace (Hoffman Nicol, 2000). Prahalad and Hamel (1990) argue that firms combine resources and skills with core competencies so that they can successfully create sustainable competitive advantage in a consistent and unique way.

Peteraf (1993) considers four factors as necessary to achieve a sustainable competitive advantage: resources (heterogeneity within the industry), ex post limits, imperfect resource mobility, and current restrictions to competition (Strand Sampo, 2006). Kay (1995) defines the concept of sustainable competitive advantage through a relational structure, reputation, innovation, and strategic assets (Matthews and Arthur Shulman, 2005).
2.3. Balanced Scorecard (BSC)

Performance evaluation is one of the best ways to obtain the information necessary to make decisions in organizations. Traditionally, organizations were assessed based on financial measures but with increasing competition in the market, in addition to financial measures, other aspects of performance were also taken into account (Kaplan and Norton, 2005). The measurement of organizational success and implementation of effective strategies for future success cause endless challenges for managers, researchers, and consultants. While the financial measures are clearly important, new frameworks have emerged in recent years that take into account more and broader criteria. The objective of these frameworks is to respond to the criticisms over the financial measures. As a case in point, financial measures are one-dimensional and they are naturally retrospective as they represent the past history of a company (Chakravarthy, 1986; Evans, 2005; Rao, 2006).

Therefore, given the significance of the measurement of organizational performance, non-financial issues must be taken into account in addition to financial considerations. To do so, different frameworks and models have been developed such as European Quality Award, the Malcolm Baldrige National Quality Award, the balanced scorecard, and the performance pyramid (Arban and Buglino, 2003). The balanced scorecard is an approach that is used for the evaluation of non-financial measures in addition to financial measures. The comprehensive system of balanced performance evaluation is a modern system of management that enables organizations to make clear their vision and strategy and turn it into action. In the case of the complete and successful establishment of this system, it is possible to operationalize strategic planning system (Papp and Raymond, 1999).

The balanced scorecard provides a tool that turns the mission of the organization (outlined in the strategy) to the more tangible measurable objectives, performance measures, and operational indexes. This technique was developed by Kaplan (1994; 1996) based on the knowledge that no single performance evaluation is able to display the full complexity of an organization's performance (Epstein and Manzoni, 1998). However, the balanced scorecard approach can be used at all levels of the organization (e.g. organization as a whole, strategic business units, individual operating units or even individuals) and requires the recognition of key operational elements, setting goals for such elements, and finding ways to measure progress in achieving the goals (Walker, 1996; Sandkuhl et al., 2003; Evans, 2005). In addition, conventional financial measures as blunt indicators are balance with nonfinancial measures that are considered as leading indicators and are used to achieve future performance. Indicators should be seen as a set of standards but they have been chosen as they represent the cause and effect in the implementation the company's mission and strategy.

The etymology of balanced evaluation dates back to Robert Kaplan and David Norton. They published a paper in 1992 in which they introduced a new approach to measure the performance entitled “Balanced evaluation” (balanced scorecard) (Kaplan and Norton, 1992). The philosophy behind this approach is that it translates the vision, mission and strategic goals of the organization into objectives with the appropriate size. These sizes and objectives are expressed in the form of four financial, customer, internal business process, and learning and growth perspectives. In fact,
four indexes are selected through the application of this model to measure these four perspectives. Performance objectives are detailed yet concise statements of the specific measures that should be taken to implement successfully the organizations’ strategy (Niven, 2003). Performance measures are also functional tools that are used in order to ensure the realization of goals and moving towards the successful implementation of the organization’s strategy (Goran Olve and Sjostrand, 2005). Results obtained from the measurements performed by indices lead to the identification of strengths and weaknesses of the organization and provide new opportunities for improvement (Arban and Buglino, 2003). This approach covers all financial and non-financial aspects of the performance of an organization and makes a balance between the size of the outputs of past performance and incentives for the future performance.

The reason why this approach is called balanced scorecard is that it includes a set of scales that create a balance between long-term and short-term objectives, financial and non-financial measures, leader and follower indicators, and between internal and external performance prospects, and emphasize the maintenance of causal relationships between them (Milis and Mercken, 2004).

Balanced scoreboard criteria are as follows:

**Financial Criteria:** The balanced score card considers financial aspect and the maximization of the profit as the ultimate goal of an enterprise. Financial measures are those measures that are seen as indices to determine the performance in the view of shareholders and generally all stockholders of the organization. The financial aspect deals with the spending of the organization’s financial resources that is obtained by measuring the rate of profit, cash flow, return on invested capital, economic value added, return on total assets, and financial ratios (Milis and Mercken, 2004).

**Customer criteria:** The way to differentiate an organization from its competitors in order to attract, retain and deepen relationships with customers is the most important in business strategy (Kaplan and Norton, 2004). Paying attention to customers is of special importance in the balanced scorecard model and it deals with cases such as customer satisfaction with products, addressing their complaints, the timely delivery of products to customers and reducing their complaints (Wongrassam et al., 2003).

**Internal process criteria:** They refer to those criteria that must exist for the satisfaction of stakeholders and customers in the internal processes of a company. This dimension strengthens the previous two dimensions and addresses cases such as the ratio of earned income to marketing costs, net income of full-time staff, total revenue to total number of personnel, the time needed to change ideas into products and cost growth per year (Wongrassam et al., 2003).

**Growth and learning criteria:** include those measures that must be employed for employees’ growth and learning so this way the ideal situation in the view of stakeholders and customers would be realized. Growth and learning criteria deal with employees’ empowerment, the quality of the information system, and the arrangement of its tools and equipment to achieve organizational goals (Wongrassam et al., 2003).

Since no research dealing with both sustainable competitive advantage and the balanced scorecard was found, some of the similar studies that manipulate at least one of these two variables are examined as follows:
Faryabi et al. (2011) conducted a study on “The relationship between market-orientation and competitive advantage in Iranian tractor manufacturing industry”. The results indicated that of three variables of the culture of marketing, market intelligence, and marketing capabilities; market intelligence has the most influence on the competitive advantage. Besides, of the variables affecting competitive advantage; differentiation strategy and progressive movement have the highest coefficients, pointing to the importance of these variables. It was also noted that there is a positive significant relationship between the market-orientation and the competitive advantage. In fact, based on the results of this study; it can be deduced that the market is one of the main elements of competitive advantage (Faryabi et al., 2011).

Attaran et al. (2012) performed a study on “Factors affecting the market consolidation (achieving a sustainable competitive advantage) in banking services of Iranian Mellat Bank based on resource-orientation theory” to identify key factors of sustainable competitive advantage in the banking service market. Accordingly, three categories of tangible assets, intangible assets, and capabilities were identified and the initial conceptual model of sustainable competitive advantage was developed and tested. It was noted that tangible assets, intangible assets, and core capabilities were reported as factors contributing to competitive advantage. Besides, tangible assets, intangible assets, and core capabilities assets occupied the first to the third positions in this regard. Concerning tangible assets; diversified services, self-banking, infrastructures, capital, and market were shown to be important. Besides, executive capabilities, human and management resources were significant in terms of core capabilities, and ultimately internal and external factors are important with regard to intangible assets and contribute to the sustainable competitive advantage in Iranian Mellat Bank (Attaran et al., 2012).

Daneshfard et al. (2010) conducted a study entitled “Evaluation of the implementation of the balanced scorecard to improve organizational performance” to find out whether the application of the balanced scorecard in the Iranian Telecommunication Industries Company has contributed to the improvement of the performance of the organization or not? The findings showed that the application of the balanced scorecard has resulted in improved organizational performance of the Iranian Telecommunication Industries Company (Daneshfard et al., 2010).

The research entitled “Achievements of application the balanced scorecard” have attempted to reveal untold points concerning the balanced scoreboard in practice and to present its achievements in leading companies, and to introduce closed-loop management system as a comprehensive framework for linking strategy to operations to pave the way for the successful implementation of the balanced scorecard to create links and alignment between strategies, objectives, plans, operations, and funding, and resources. The results of the study suggested that in knowledge era, those organizations are successful that implement new strategies based on the competitive advantages quickly and modify and improve their process and operations if needed by learning from the market and customers. The more we go ahead in the knowledge era; more new techniques emerge in order to enrich strategic capabilities for operational excellence. These models all will be inspired by the balanced scorecard that is currently the most effective framework for the strategic management and performance.
In this study “Performance evaluation based on balanced scorecard” author had explored the performance of the Martyr and Veterans Affairs Foundation in Kurdistan Province based on the balanced scorecard. Results indicated a high level of services. But contrary to expectations, the customer criterion did not get the necessary score, which means looking at the customer should be seriously reconsidered in the organization under study. It was also noted that financial incentives are desirable at the foundation but learning and growth dimension has earned the lowest score (Sadeghi, 2009).

3. RESEARCH METHODOLOGY

The present study employed a descriptive and survey design in terms of the objectives it followed. The population under study included employees of organizations affiliated to the Social Security Department in North Khorasan Province, of whom a total number of 120 employees were selected as the participants in the research sample using Morgan table and Cochran formula. One way to measure organizational performance is to use the balanced scorecard (BSC). This study aimed to compare the effects of the balanced scorecard on the sustainable competitive advantage in the Social Security Department in North Khorasan Province. In order to measure the sustainable competitive advantage, a researcher-made questionnaire was employed whose validity was confirmed by 12 experts in the field. In addition, the organizational performance was measured using the balanced scorecard. Cronbach's alpha coefficient was used to measure the reliability of the instruments that was equal to 0.74 and 0.79 for competitive advantage and the balanced scorecard, respectively. The data analysis was performed using the structural equation modeling using AMOS Software. Concerning the fit indices it should be mentioned that if the value of X2/DF is less than 3 the model is confirmed. The second index is Root Mean Squared Error of Approximation (RMSEA). If the value of this index is lesser than 0.10 the model will be more efficient. Finally, four other indices are Goodness-of-fit index (GFI), Incremental fit index (IFI), Normed fit index (NFI), and Comparative fit index (CFI) whose values are between 0 to 1, with values closer to 1 showing the higher efficiency of the model.

Figure 1 shows the conceptual model of the study. As can be seen in the figure, the components of the balanced scorecard affect the establishment of the sustainable competitive advantage in organizations.
Research Hypothesis: The implementation of the balanced scorecard leads to sustainable competitive advantage.

4. DATA ANALYSIS

Figure 2 shows the software output. Table 1 also shows the indices of the model. As can be seen, all of the model indices are not within the acceptable range. Therefore, it is recommended that the software should be improved. Then by correlating measurement errors of overt variables of financial strategy and internal processes, we re-run the software and we will modify the model. Model indices are shown in Table 2, all of which are in an acceptable range so the model has a good fit. Besides, Table 3 shows the significance values of the t-statistic in the software output for standardized coefficients. As shown in the table, all values are significant at all confidence levels and error values.

Table-1. Fit indices of the initial model fit

<table>
<thead>
<tr>
<th>Indices</th>
<th>RMSE</th>
<th>GFI</th>
<th>CMIN/DF</th>
<th>CIMN</th>
<th>DF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Values</td>
<td>0.124</td>
<td>0.962</td>
<td>6.4</td>
<td>32.2</td>
<td>5</td>
</tr>
</tbody>
</table>
Table-2. Fit indices of the modified model fit

<table>
<thead>
<tr>
<th>Indices</th>
<th>RMSE</th>
<th>GFI</th>
<th>CMIN/DF</th>
<th>CMIN</th>
<th>DF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Values</td>
<td>0.00</td>
<td>0.999</td>
<td>0.275</td>
<td>1.1</td>
<td>4</td>
</tr>
</tbody>
</table>

Table-3. Path coefficient of research hypothesis

<table>
<thead>
<tr>
<th>Path</th>
<th>Path coefficient</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect of balanced scorecard on sustainable</td>
<td>0.58</td>
<td>P &lt; 0.001</td>
</tr>
<tr>
<td>competitive advantage</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. CONCLUSIONS AND SUGGESTIONS

As the findings of the study suggested, the effect of balanced scorecard implementation on sustainable competitive advantage is undeniable and it has in fact numerous effects. Given that organizations make attempts to gain competitive advantage, the use of the balanced scorecard as a strategic tool for the performance evaluation is strongly recommended. In fact, the balanced scorecard serves a tool to achieve sustainable competitive advantage and ultimately to improve the financial and market position of any organization.

On the other hand, a look at the factor loadings of the four dimensions of balanced scorecard shows that customer relationship management is of the highest load and importance, and therefore it is recommend the organizations shows a high level of significance and sensitivity toward their clients and customers so that they be satisfied and have a good interaction with the organization. Organizations should keep it in mind that customers are somehow the most important asset of any organization whether private, public, manufacturing, or service so they should be considered as a major and distinct asset so that the performance of organizations is improved in the light of customer-orientation principle, hoping to gain the competitive advantage, especially sustainable competitive advantage.

Future researchers are also recommended that to focus on the effects of the balanced scorecard implementation on financial performance, productivity, and efficiency of organizations considering the different aspects of each variable.

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