



ORIGINAL ARTICLE

Received 25 Jul. 2013 Accepted 15 Aug. 2013

The Balanced Scorecard (BSC), as a Tool for Evaluation of Organizational Strategies

Abbas Khorshidi^{1*}, Zahra Mastaneh and Morteza Javidkar

^{1.} Islamic Azad University (IAU), Islamshahr branch, Islamshahr, Iran

^{2.} Information Administration unit, Hormozgan University of Medical Sciences, Hormozgan, Iran

^{3.} Research Master in humanities and cultural studies research center

* Corresponding author's Email: Khorshidi@yahoo.com

ABSTRACT: The present study analyzes Balanced Scorecard (BSC) as a tool to evaluate organizational strategies. This investigation is intended to give answers to the questions relating to creation of balanced scorecard, it main performance, perspectives of balanced scorecard and envelop each of its dimensions and application field of this tool. This study is of applied type in terms of goals, and qualitative in terms of data, and it is librarian in terms of nature and kind of study. With recognizing the necessity for a performance management comprehensive system that could integrate traditional quantitative and more abstract qualitative parameters of performance, Kaplan and Norton developed the concept of Balanced Scorecard (BSC). Balanced Scorecard is a comprehensive evaluation framework of performance, which characterizes organizational strategies and through identifying the relevant operation for each of strategies and by evaluation of performance, examines the rate achieving the aforesaid strategies from 4 aspects i.e. financial perspective, customer perspective, internal processes perspective, and learning and growth perspective. Thus, this question may be raised in financial perspective: Which efforts should be made to achieve financial success? In customer perspective, this question should be answered that: How to display us before customers' vision in order to achieve organizational outlook? We should respond to this question in internal processes perspective: On which of internal processes should an organization focused further to meet shareholders and customers' satisfaction? And finally in learning and growth perspective, this question should be answered that: How can we maintain our abilities for change and development in order to realize organizational outlook? The application fields of this tool is wide and they are used in evaluation of strategy in all organizations and groups including privatization and assessment of Private Sector, educational centers, Automotive Manufacturing Industry, Transportation Organization, and banking system etc. Application of Balanced Scorecard (BSC) as a tool for evaluation of organizational strategies is a requirement in today organizations since this tool creates value- added for organization by providing balanced information for managers, preparation of ground for moving the organization toward a learner organization and reducing managers' need to types of controlling systems. Along with many advantages, of course this tool suffers from some weak points as well that could be corrected by integration of it into other tools and using their capabilities and today with respect to its distinguished characteristics, this tool widely used in organizations.

Keywords: Balanced Scorecard (BSC), Evaluation, Organizational Strategies, Financial Perspective, Customer Perspective, Internal Processes Perspective, Growth and Learning Perspective.

INTRODUCTION

Today, change, reform, and improvement of status in organizations have drawn managers' attention since environment of organizations is permanently and rapidly changed and those organizations may survive and continue to their life that are coordinated with and adapted to the requirements and expediencies of their environment. On the other hand, in order to grow and develop, organizations should be transformed internally and move toward excellence, superiority, and maturity. Thus, this is a duty for managers in organizations to spend their energy and resources to create some methods for, improvement, development, thriving of their institutions instead of securing status quo (Feghi Farahmand, 2009).

During recent year, some factors including globalization, explosion of information, emerging

information and communication technologies. organizational learning, and abilities for creation of knowledge and innovation have caused creating competitive advantages for organizations and consequently dynamic organizations have to codify general and comprehensive strategy for oneself (Zarei Matin, 2010). Since 1960, concept of strategy has been employed in business studies and despite of widely acceptance of this concept, it is still an ambiguous and special concept in management. Definition of strategy varies from a researcher to another researcher but in the nature of many definitions, concept of strategy has been expressed as a model for decisions and activities which their characteristic is to relate an organization to the environment and serves as a determinant factor in achieving organizational goals (Hakansson, 2006).

To cite this paper: Khorshidi A., Mastaneh Z. and Javidkar M. 2013. The Balanced Scorecard (BSC), as a tool for evaluation of organizational strategies. J. Educ. Manage. Stud., 3(4):428-435. There are various attitudes toward strategy. Some researchers like Hafro Schandel (1978) consider strategy as a means for achieving the goals while the others like Andrews (1980) deem it as goal. Some of them also consider strategy as a more comprehensive concept that covers goals and as tools to achieve them. In any case, in modern strategic management paradigm, it apparently separates goals (goal structure and formulation) from strategy (formulation of strategy, evaluation, and implementation of it) (Zarei Matin, 2010).

Formulation of strategy makes it possible for an organization to act in creative and innovative manner and does not operate passively to form its future. This management method causes the organization to take initiative and to form its activities in such a way to influence but not to react only against the actions and as a result it can determine its fate and control its future. Thus, with reliance on dynamic, prospective, comprehensive, and contingent subjectivity, strategic management serves as a solution for many problems in today organizations that prepares winner- winner condition in competitive climate; it creates some opportunities for organization (Sedaghatgooyan, 2009). Therefore, organizations needs to dynamic management to improve their status. This management structure should be able to transfer constantly decisions at macro levels to operational lavers and evaluate the derived results in line with the determined objectives (Hosseinpour, 2010).

It denotes a group of measures that are made in order to increase level of optimal use of facilities and sources toward achieving the goals in economic way and simultaneously with efficiency and effectiveness. Evaluation of performance may play a crucial role in concentrating sources on certain dimensions of organizational activities. Therefore, it necessitates developing effective evaluation tools that could measure total performance of the organization and link it to the given objectives (Khorshid, 2010; Feghi Farahmand, 2009).

During recent years, application of performance evaluation systems has been developed in organizations but some organizations traditionally used performance evaluation tools based on financial indices (Akbarian, 2009; Khorshid, 2010). But, due to retrospective nature, irrelevance to organizational strategy and inflexibility for adaptation to various conditions, financial indices are not accountable for the current conditions in organizations (Hajikhani, 2008). Likewise, these tools provide a short- term orientation that does not correspond to organizational strategic priorities (Khorshid, 2010). In this sense, Balanced Scorecard provides a framework for evaluation of organizational strategies for improving of organizational performance (Akbarian, 2009). This tool is an integrated strategic performance management framework, which contribute organizations in translating strategic goals into relevant operational parameters to them where in this study balanced scorecard is examined as a tool of evaluating organizational strategies

Background:

In 2004, Bunker studied on parameters of performance in remote communication industry in USA by means of BSC. At the same time, this organization used data envelop analysis in order to examine the relationship among financial performance and non- financial performance (Bunker, 2004).

In a study under title of "Review on the relation among size of organization and market factors by means of BSC in 66 manufacturing companies", Hoque (2000) showed that firstly compared to small enterprises, the larger companies use BSC further. Those enterprises that play great role in production and market share further tend to using Balanced Scorecard (BSC) for evaluation of their new products. Finally, this study indicated that companies that use BSC had better performance than other enterprises (Hoque, 2000).

In his survey, Mehregan (2009) evaluated management faculties in universities at Tehran province by means of BSC. He gathered data based on four perspectives of BSC from faculty of management by application of questionnaire and checklist. The results showed that with respect to the given scores, 4 faculties were identified as the superior faculties of management out of which University (A) had relative advantage in all 4 perspectives of BSC (Mehregan, 2009).

In his study, Vatankhah used BSC to examine evaluation system in hospitals affiliated to Tehran University of Medical Sciences in 2008. By means of Delphi Technique, he put evaluation criteria based on BSC (4 perspectives) at disposal of experts and asked for comments and according to their views, customer perspective (63.19%), learning perspective (57.45%), internal processes perspective (55.52%), and financial perspective (33.83%) allocated scores respectively in evaluation criteria in hospital. The result of his study showed that the current system suffers from some weakness and deficiencies in some of perspectives so that organizations and the relevant personnel should take step toward correction of them (Vatankhah, 2009).

In his investigation, Tabari evaluated Tabarestan Steelwork Company during years (2002-6) based on BSC criteria. According to the existing documents and

evidences regarding financial issues including financial statements, and the existing documents about customer such number of customers' complaints and the attracted customers, some existing documents about internal processes like goods on time delivery and increase in production, and also the existing documents concerning to growth and learning such as education per capita and productivity of manpower, along with questionnaire of measuring the rate of personnel's satisfaction, he collected the needed information regarding the above-said four perspectives. The results came from data processing indicated that in growth and learning perspective, parameters of personnel's skill and productivity of manpower are characterized as strength points of corporative performance. Given that parameters of production and wastes percent in production have been constantly improved during four years as a result they are considered as strength points of the enterprise in perspective of internal processes while parameters of the quantity of returned defective goods and goods on time delivery had negative growth because of suddenly increase in production and therefore they are considered as weak points of corporative performance in internal processes perspective. As a result, it was suggested to the company to avoid from making sectional decisions to increase production. Also analysis on parameters of customer perspective indicated that the given company managed to have constant excellence and improvement through a four year trend and attract customers' satisfaction. Similarly in financial perspective, according to the results, it was suggested to corporative management to use financial ratios for evaluation of performance in order to find strength and weak points of enterprise and to determine potential risks. Also, in parameter of personnel's satisfaction, satisfaction was at reasonable level (Tabari, 2008).

In his study on evaluation of performance in public hospitals at Yazd province, Asaadi used a composition of two tools i.e. BSC and data envelop analysis. He employed BSC as a tool for design of performance evaluation parameters and also data envelop analysis as a tool for evaluation of performance and ranking. According to the results, rate of relative efficiency in the studied hospitals was approximately 0.945 in 2008. Likewise, he concluded that composition of two performance evaluation tools might improve their advantages and present a comprehensive tool for performance evaluation rather than reducing its advantages (Asaadi, 2010).

In their descriptive case study in 2010, Ajami et al evaluated the performance of medical documents (archive) in Fatemeh Al- Zahra (PBUH) Hospital at Isfahan province by means of BSC. Data of this survey were gathered based on interview, observation, and study of documents. According to data, the results reflected that customer perspective within some frameworks including satisfaction of referent customer for reception and satisfaction with statistical reports acquired the highest score and the financial perspective including deductions and issuance of bill obtained the lowest score in this system. At last, they suggested that in order to fulfill mission in medical documents district, quality of services should be improved in four perspectives of BSC (Ajami, 2010).

Research Questions:

1- What was the background for creation of balanced scorecard?

2- What is the main performance of balanced scorecard (BSC)?

3- Which are the perspectives of balanced scorecard?

4- Which items should be evaluated in each of BSC perspectives?

5- What are application fields of balanced scorecard?

MATERIALS AND METHODS

The current investigation is a type of applied studies in terms of goals, and qualitative in terms data, and librarian type in terms of nature and kind of study. The studied population includes the published scientific essays in leading journals about various perspectives of BSC. With respect to application in conducting study, these articles were selected deliberatively and the relevant contents were extracted after study them accurately and based on goals of the current survey. Then, proportional to each of exclusive goals of research, the extracted contents were summarized qualitatively.

RESULTS

Since strategy is converted into long run goals and policies, annual objectives, and operational plan for various units of the organization and based on which budget allocation and performance evaluation are done so the root of most of problems could be found in process of executing strategy. Successful execution of strategy requires constant and comprehensive evaluation and control of performance in order to adapt operational plans to goals, strategies and outlook of organization so without evaluation and control of performance, execution of strategy will fail. At past time, performance evaluation systems had been designed only for managing financial and tangible assets but after arrival at age of knowledge and information in which 80% of value- added in the organization will be realized by investment in intangible and intellectual assets including customers, suppliers, personnel, processes, technology, and innovation, performance evaluation could not be carried out only with reliance on financial parameters that are retrospective (Safari, 2007).

In this course, at early 1990s, Kaplan as a professor in faculty of commerce in Harvard University along with Norton, who was a director of a research enterprise affiliated to a counseling institution at that time, started a research project in order to study on reasons for achievement of twelve American companies and a survey on performance evaluation techniques in these enterprises. The result of work of these two researchers was to create balanced scorecard (Niven, 2002). In fact by recognizing the need to a performance management comprehensive system which might integrate traditional quantitative parameters with more abstract gualitative parameters of performance, Kaplan and Norton developed concept of balanced scorecard. Since date of introducing it, this concept has been widely used in performance management at various divisional, local, national, and international levels (Khorshid, 2010).

Balanced Scorecard (BSC) is a managerial technique that contributes the organizational managers to review the growing or waning activities and trend of the organization from different points of view (Wayne, 2000). In other words, balanced scorecard is a comprehensive framework of performance evaluation that identifies organizational strategies and also characterizes the operation relating to each of strategies. Then it reviews the rate fulfillment of the given strategy from the 4 given perspectives by evaluation of operation (Jafari Eskandari, 2010). Basically, BSC was designed for profit organizations but due to holistic nature of this tool and through considering some parameters rather than financial aspects, public and non- profit organizations also adapted to it in terms of their structure and goal in order to use it (Mearns, 2003; Samizadeh, 2008).

Term "score" was used in title of this approach because of the fact that this attitude is employed in order to allocate score to a group of performance evaluation parameters and using of term "balanced" is due this point that this approach creates balance among financial and non- financial parameters, domestic and foreign criteria, internal and external beneficiaries, performance leader and followers parameters, and derives and barriers of strategy (Khorshid, 2010, Zarei Matin, 2010). The successful method in application of BSC is to utilize it as a tool for design of performance evaluation parameters and then for measuring parameters within appropriate and the given time intervals (Momeni, 2009; Najafi, 2008). 4 parameters that are considered as dimensions of BSC in this tool are as follows:

- Financial perspectives
- Customer perspective
- Internal processes perspective

• Learning and growth perspective (Niven, 2002; Ajami, 2010; Tabari, 2008).



In this part, we explain about these perspectives

according to the evaluated criteria. **1. Financial perspective:** In many organizations, financial parameters are highly important. These organizations try to increase income and reduce costs and risk and to use asset more efficiently and to improve productivity. This question is generally raised in financial perspective that what efforts should be made to achieve financial success?

2. Customer perspective: Customers are source of profit and interest for organizations therefore customers' requirements should be addressed. In this

regard, manager should be aware that if organization has satisfied their customers to met their needs. For this purpose, it necessitates that all values, which transferred to customers, to be identified and measured. In general, this question should purposed in this perspective that how should we display us before customers in order to achieve organizational outlook?

3. Internal processes: Business processes are crucially important in achieving the strategic goals. Nevertheless, organizations often suffer from weakness and disability to expose to them. Measuring

the rate of value- creation and way of relationship among processes can contribute managers to recognize these affairs. For this reason, it requires recognizing the processes that are vital for achieving the goals relating to customers and shareholders. Generally we should answer to this question in this perspective that on which of internal processes the organization should concentrate in order to meet shareholders and customers' requirement?

4. Growth and learning perspective: Ability of an organization for innovation, improvement, and learning is directly linked to its value as an organization. An organization can grow and innovate when it may develop skills and its leadership and learn from its mistakes and behavior of other organizations and create new methods. Growth and excellence of personnel is considered as an intangible asset for organizations. In growth and learning perspective, this question should be responded that how could we preserve our abilities for change and development in

order to realize organizational outlook (Lajvardi, 2010; Samizadeh, 2008; Khorshid, 2010; Najafi, 2008).

In Table 1, operational parameters for each of four perspectives in balanced scorecard are given in details. Balanced scorecard plays role in evaluation of strategy in all organizations and groups including privatization, and evaluation of private sector (lafari Eskandari 2010; Khaleghi 2010; Lajvardi 2010) educational centers (Mehregan 2009), medical centers (Asaadi 2010; Vatankhah 2009; Barati 2006), research (Hosseinpour 2010: Tavakoli centers 2011). industrv (Khorshid, automotive 2010). telecommunication company (Ansari 2009), banking system (Shahbandarzadeh 2007), ITs (Manian 2009; Saghafi 2009; Jafari 2008; Mahamedpour 2008), Ecommerce (Shafi Nikabadi 2009), transportation system (Tolouei 2010; Samizadeh 2008), mines and resources development organization (Khaleghi 2010; Aarabi 2008), social security organization (Momeni 2009).

Table 1. Operational parameters of BSC four perspectives	
Perspective	Parameters
Financial	 Increase of income Reduction of costs Increase of purchase in customer's basket Liquidity (cash) flow Financial productivity of organization Capital return Sale rate of new products Value management
Customer	 Customer commitment Customer satisfaction Customer mentality regarding organization Rate of accountability against customer Quality of the presented products to customer
Internal processes	 Rapid and on tome maintenance and repairs Election and attraction of new customer Financial risk management Technological risk management Operational risk management Constant improvement of quality Immunization of workplace Development of new products
Learning and growth	 Culture of constant improvement Human Resource Development IT training Customer orientation culture Empowerment of experts

(Akbarian 2009; Khorshid 2010; Vatankhah 2009; Ajami 2010; Zarei Matin 2010; Samizadeh 2008).

DISCUSSION

It was mentioned about creation of balanced scorecard that Kaplan and Norton, as developers of this tool, and following to conducting a study to introduce evaluating performance of 12 American enterprises, created balanced scorecard tool. In this regard, Wayne (2000) considers BSC as an integrated framework for strategic performance management that contributes organizations in translating strategic goals into their relevant operational parameters (Wane, 2000) so that the present study purposes this performance as a platform for creating such a tool.

Regarding main application of balanced scorecard, it was implied that this tool is a within a comprehensive framework of performance evaluation, which had identified organizational strategies and also characterized the relevant operations for each of strategies. Then, it examines the rate of achieving strategy with performance evaluation from 4 perspectives (Jafari Eskandari, 2010). In this regard, Ajami (2010) expresses that balanced scorecard indicates its performance at the steps i.e. formulation of strategy, goals determination, and evaluation based on 4 perspectives and this is complied with the results of present study.

Concerning to dimensions of balanced scorecard (BSC), 4 perspectives were purposed for this tool as well which included financial, customer, internal processes, and growth and learning perspectives and these dimensions have been also mentioned in several studies (Ajami, 2010; Momeni, 2009; Feghi Farahmand, 2009). It has been implied this point in other studies of course that these perspective may be developed and any organization can add some other dimensions to this tool based on the requirements of valuation of its performance and or I may integrate this tool with other tools (Khorshid, 2010Y Momeni, 2009; Najafi, 2008).

It was expressed this point about concept of each of BSC perspectives that financial perspective tends to give answer to this question that which efforts should be made to achieve financial success. Also customer perspective mentions that how to display us before the customer in order to achieve organizational outlook. Internal processes perspective and growth and learning perspective respectively tend to respond the following questions: on which of internal processes should an organization concentrate in order to meet shareholders and customers' requirements; and how can we preserve our abilities for change and development so that to realize organizational outlook? This issue is complied with the findings from Kaplan (1996), Lajvardi (2010), Khorshid (2010), and Najafi (2008).

Relating to fields of BSC application, it was posited in this study that balanced scorecard is used as a tool in evaluation of organizations and their various strategies including educational institutions, medical organizations, public transport system, automotive and banking system where industry, these applications along with other uses from studies of Hoque (2000), Rosemann (1999), Khaleghi (2010), Jafari Eskandari (2010), Mehregan (2009), Samizadeh (2008), and Shahbandarzadeh (2007) have been confirmed. Similarlymentions that about 30-60% of large organizations USA have accepted and used balance scorecard as a tool for evaluation of strategies in their organizations . Also in this study, application of BSC has been implied for different fields.

In general, with respect to competitiveness of organizational environment and survival in environment, application of BSC as a tool for evaluation of organizational strategies is a requirement in today organizations for which this tool creates value- added for organizations by providing the relevant and balanced information for managers in brief form, preparation of ground for moving organizations toward learner organizations, and reducing managers' need to types of controlling systems. Moreover, this tool causes improving organizational performance in various organizational dimensions (Davis, 2004), balance between financial and non- financial aspects, guarantee for transferring organizational strategies to operational levels, conducting operation systematically, ability to use in implementation various organizations, at all organizational levels, quantization of parameters and constant improvement criteria and giving information to top and key managers to determine the rate of effectiveness of the former strategic decisions (Davis 2004; Shafiei Nikabadi 2009; Jafari Eskandari 2010; Asaadi 2010; Hajikhani, 2008). Along with the abovesaid advantages, of course, this tool suffers from some disadvantages as well that create some constraints to use it. These disadvantages are as follows:

• Despite of the fact that organizational excellence evaluation systems like European Foundation for Quality Management (EFQM) are systems of Total Quality Management (TQM) and quality is the main axis for them but they consider leadership and policy of organizational administration in their key criteria and evaluate them while balanced scorecard does not evaluate leadership (which effects on all processes, manpower, organizational culture etc.).

• It does not evaluate process of strategy formulation.

• Performance of BSC starts from organizational strategy and if goals of organizational strategy are not properly interpreted this error will be continued to the end (Hajikhani, 2008).

To remove these constraints, it is suggested that to integrate this tool with other relevant tools with respect to distinguished characteristics of this tool in order to alleviate defects of this technique along with employing abilities of other tools.

REFERENCES

- Aarabi, S.M. & Rafat. (2008). "A model for measuring management performance, a case study from Iranian Industries and Mines Renovation & Development Organization (IMIDRO)", Sharif Journal, vol. 45, pp 1-9.
- Ajami, S., Tofighi, Sh., Tavakoli, N. & Ebad Sichani, A. (2010) "Performance evaluation of hospital medical document district by BSC approach", Journal of healthcare information management, career 7, vol.1, pp: 83-93.
- Akbarian, M., Najafi, A., Abbas. (2009). "Coordination of EFQM and strategic management to achieve

performance improvement", Journal of industrial management, career 1, vol.2, pp 19-34.

- Ansari, M.E., Ostadi, H. & Motahari, M.(2009). "The impact management on performance of telecommunication company based on BSC model in Isfahan ICT Co", Journal of organizational culture management, career 7, vol.20: pp 171-190.
- Asaadi, M., Mir Ghafoori, S.H., Sadeghi Arani, Z. & Khosravanian, Hamid Reza.(2010). "", Journal of Yazd Shahid Sadoughi University of Medical Sciences, career 18, vol.6, 2010, pp 559- 569.
- Barati, A., Malaki, M.R., Golestani, M. & Imani, Ali.(2006). "Evaluation of performance management system of personnel of Amir- Al-Momenin (PBUH) hospital at Semnan by means of BSC technique in 2006", Journal of health administration, career 9, vol.25: 47-54.
- Bunker, R.D., Chang, H., Janakiraman, S.N. & Konstans,
 C. (2004). A Balanced Scorecard Analysis
 Performance Metrics, European Journal of
 Operational Research, 14:423-436.
- Chan, Y.C.L, Ho, K.S.J.(1999). The Use of Balanced Scorecard in Canadian Hospitals. McMaster University.
- Davis, S. & Albright, T. (2004). An Investigation of the Effect of Balanced Scorecard Implementation on Financial Performance. Management Accounting Research 15:135-153.
- Feghi Farahmand, N. (2009). "Review of the status of key factors in performance of servicing organizations by BSC technique", Journal of industrial management, faculty of human sciences, IAU, Sanandaj branch, career 4, vol. 10, , pp 57-67.
- Hajikhani, A., Sharifi, E. & Memar Tolouei, D. (2008). "The adjusted technique of performance measurement by means of fuzzy logic", Quarterly of quantitative studies in management, pp 119-130
- Hakansson, H. & Snehota, I. (2006). No Business is an Island: The Network Concept of Business Strategy. Scandinavian Journal of Management; 22(3): 256-270.
- Hoque, Z. & Wendy, J. (2000). Linking BalancedScorecard Measures to Size and Market FactorsJournal of Management Accounting Research; 12.1.
- Hosseinpour, Arasteh, H.R. (2010). "Review and selection of performance evaluation basic model for defensive research centers", Journal of research and planning in higher education, vol.57, pp 65-83
- Jafari Eskandari, M., Aliahmadi, A., Khaleghi Gholam, H. & Heydari, M.(2010). "Evaluation of industrial business climate in Iran supported by private

sector with BSC approach", International journal of industrial engineering & production management, no.2, vol. 21: 37-52.

- Jafari, M., Ghazanfari, M., Ibn- Al- Rasool, S.A. & Ali Mirzaei, P. (2008). "Evaluation of IT with integration approach", International journal of Iran University Sciences & Technology (IUST), career, vol.19: 103-116.
- Kaplan, R.S. & Norton, D.P. (1996). Using the Balanced Scorecard as a Strategic Management System. 2nd Edition, Harvard Business School Publication.
- Khaleghi, H., Jafari Eskandari, M., Aliahmadi, M.R. & Heydari, M. (2010) "Fuzzy multiple criterion analysis on performance evaluation of developmental organizations affiliated to Ministry of Industries and Mines sponsored by private sector", Journal of industrial management, faculty of human sciences Islamic Azad University Sanandaj branch, career 5, vol.13: pp 15-40.
- Khorshid, S. & Zabihi, R.(2010). "A quantitative evaluation model for eigenvalue of trade name of products by means of fuzzy network analysis techniques- data envelop analysis based on BSC", international journal of industrial engineering & production management, career 1, vol. 21: 11-30.
- Lajvardi, S.j.l. & Bolhari, A. (2010). "Presentation of a model for recognition of outsourcing candidate processes in organization based on BSC approach and outsourcing strategies matrix", Journal of public administration, career 2, vol.5: 143-158.
- Manian, A., Moosakhani, M. & Jamparazmi, M. (2009). "The review on relationship among coordination of IT and business with organizational performance in active enterprises in IT field", career 1, vol.3: 89-106.
- Mahamedpour, M. & Saghafi, F. (2008). "Purposing of a framework for evaluation of IT prospective projects", Expert journal of ROSHD parks and centers, vol.17: 27-34
- Mearns, K. & Havold, J.I. (2003). Occupational Health and Safety and the Balanced Scorecard. TQM Magazine 2003; 15(6): 408-423.
- Mehregan, M. & Dehghan Niri, .(2009). "Evaluation strategic model in higher education institutions", Journal of research and planning in higher education, vol.52: 55-79.
- Momeni, M.r, Khodaei, S. & Bashir,i M. (2009). "Performance evaluation of social security organization by means of the composed BSC and FDEA", Journal of industrial management, career 1, vol.1, vol.3, pp 137-152.
- Najafi, S.E., Arianejad,M.B., Hosseinzadeh Lotfi, F.& Ibn-Al-, R.(2008). "Evaluation of efficiency with integration of BSC and DEA two measurement

systems", Journal of management, year 5, vol.11: 1-9.

- Niven, P.R. (2002). Balanced Scorecard Step-by-step: Maximizing Performance and Maintaining Results, New York, John Wiley & Sons, Inc.
- Rosemann, M. & Wiese, J.(1999). Measuring the Performance of ERP Software – a Balanced Scorecard Approach. 10th Australasian Conference on Information Systems.
- Safari, S. & Madah, M. (2007). "Application of BSC for evaluation of ROSHD centers performance", Expert journal of ROSHD parks and centers, pp 25-31
- Saghafi, F. & Mahamedpour, M. (2009). "Performance balanced evaluation model for IT prospective projects", Journal of politics, science, and technology, career 2, vol.2: 15-28.
- Samizadeh, R. & Chaharsooghi, S.K.(2008). "Presentation of performance evaluation in SMEs to take E-commerce", International journal of engineering sciences, Iran University of Sciences and Technology (IUST), career 1, vol.19: pp 65-79.
- Sedaghatgooyan, Hamed. (2009). "Strategic management", strategic management websites of Iranian managers, vol.22, : pp 37-48. Available at: http://www.modiriran.ir/modules/new
- Shafiei Nikabadi, M. & Jalili Bolhassani, A. (2009). Khatami Firouzabadi Seyed Mohammad Ali, "Determination of key criteria in evaluation of Ebusinesses", Expert journal of ROSHD parks and centers, vol.22, : 38-47
- Shahbandarzadeh, H. (2007)."Codification of a model for recognition and ranking strategic evaluation parameters of banking system by means of a new approach to BSC model", Journal of management culture, vol.16: 5-36.
- Tabari, M. & Arasteh, F.(2008). "Performance evaluation by BSC approach", Journal of management, career 5, vol.12 : pp 12-20.
- Tavakoli, Gh., Bagherzadeh., Niri, M., Shabani., Sichani, M. (2011). "Design and implementation of a performance evaluation model in R&D centers: Integration of data envelop analysis with BSC", Journal of management studies in Iran, career 15, vol.1: 135-158.
- Tolouei Ashlaghi, A. & Biglari, E. (2010). "Presentation of dynamic model for BSC simulation by aiming at achieving effective strategies: A case study from Mahan Airline Inc", journal of management accounting, career 3, vol.6: 89-103.
- Vatankhah, S. & Salemi, A.(2009) "Review on evaluation system in hospitals affiliated to Iran University of Medical Sciences by means of BSC", Journal of healthcare management, career 12, vol.38: 49-58.

- Wayne, B.G. & Lourdes, W.F. (2000). An Experimental Approach to Learning about the Balance Scorecard", Journal of Accounting Education, 7(31): 241-255.
- Zarei, M.H., Jamparazmi, M., Yazdani, H. & Biriaei, H. (2010). "Review the relationship among corporative strategic tendency and organizational performance by means of BSC approach", Journal of Commercial Administration, career 2, vol.3: 97-112.