

Full Length Research Paper

Designing managers rewarding paradigm based on balanced score card model

Mohsen Moradi¹, Farhad Koochkan^{2*} and Hoda Einabadi³

¹Management Department, Imam Reza University, Daneshgah Street, Asrar Avenue,
Zip code: 91735553, Mashhad, Khorasan Razavi, Iran.

²Accounting Department, Jahad Daneshgahi Kashmar University, Iran.

³Accounting Department, Islamic Azad University, Mashhad, Iran.

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In today's competitive market, the organizations' need to maintain their professional human resources is clearly understood. Declaration of rewarding strategies is one way to reach this goal. Reward is defined as the positive outcome of individuals' jobs. It is the presentation of a pleasant outcome for the performance of the desired behavior by the individual in order to increase the repetition probability. There are generally two types of rewards, that is, internal reward and external reward. This study aims at designing the managers rewarding system based on balanced score card (BSC) model, so that the effectiveness of the reward given to the managers while evaluating the organization's performance can be measured with both financial and non-financial criteria. The statistical society of this study consists of all the managers of Khorasan-e-Razavi Province's industry. The method of data collection includes the review of the documents, interviews (if needed) and questionnaire and descriptive- field research method is used. Because of this, at the first step, the effective parameters on managers' rewards were identified by surveying them and then path analysis method was used to design the model. In this study, six types of organizational rewards were determined in relation to four dimensions of BSC and the effect of each of the different types of reward standards on BSC dimensions was determined after path analysis determination. Results strongly supports author's proposed model.

Key words: Balanced score card (BSC), internal rewards, external rewards.

INTRODUCTION

In order to satisfy their needs, people usually need individuals or groups to respond to their demands. Among these, companies and financial units are established according to society's demand and profitability and they try to satisfy the customers' demands. Today, many of the society's affairs are performed via these organizations. For example, manufacturing companies produce goods or provide services needed by people or the public. Therefore, the very sensible key role of big modern companies in the economical structure of countries is clear. These companies consume a huge amount of economical

resources (for example investment, work-force, raw materials, managerial work-force, etc.) as the main columns of countries' economics. On the other hand, they have a very important role in the economical development/improvement according to the volume of production/ sale. The rapid growth of companies and the increasing complexities of commercial environments have led to the profession of running companies' affairs and therefore, using professional managers as the stake-holders. On the other hand, in these extensive companies', direct supervision on company's performance by the stake-holder is not feasible due to the large number of owners and stake-holders, but this group can only receive the advantages of performance (Moradi, 2005). Therefore, it is logical that they try to retain their resources and control the employment of managers'

*Corresponding author. E-mail: kohkan_farhad59@yahoo.com.

profit-seeking behaviors via supervision mechanisms. One of the common tools for reaching this goal is giving rewards to managers based on their performance and encouraging these advisors along the company's goals.

The organization's performance evaluation standards must be determined in order to evaluate managers rewarding system and then the effectiveness of the rewarding system should be investigated by determining the effectiveness of the manager's performance on each of these standards. Balanced score card (BSC) is a frame for making performance reports in companies which enables the management to translate company's goal, purposes, strategy and view, different business units and managers' duties into a series of standards related to performance measurement.

In other words, the organization's performance is measured in BSC frame. Therefore, every individual would be rewarded if he/she leads to improvement of the effective factors on BSC model. Nowadays, organizations encounter important issues to measure their organization's performance by BSC standards and all of them try to increase related factors in BSC by presenting some solutions. Designing the reward system based on BSC model may lead to some improvements in its standards and also the organization's performance helping the company reach its goals and strategies.

The importance of the issue and declaring the problem

Among different issues related to companies, evaluating the managers' performance and methods of controlling their behaviors has a special role. Evaluating the organizations' performance is one of the important issues under the attention of investors, creditors, the government and the managers which is a basis for decision-makings inside and outside the organization. In selecting the best method among different procedures, companies' performance evaluation must be employed with high accuracy. Performance evaluation shows the amount of the organizations' success in accessing their goals. As a result, the managers' salaries and rewards of these companies' should be balanced with their performance. Companies' performance has a very close correlation with their goals. Basically, performance is in a direct correlation with the goal.

From the traditional point of view, there are different standards in the organization which show that financial/non-financial benefits are obtained by the organization through a conclusion of which the status/performance of the organization may be measured, among which are accounting benefit, market's added-value growth, increase in the market's share, etc. Basically, in traditional viewpoints, if managers maximize their company's profit or value, they would have a desirable/proper performance by obtaining the company's goals. On the other hand, in modern theories, no goal is

basically determined for the company, but the purpose of the contract parties is to maximize their profits. Therefore, these traditional measures of measuring companies' performance all of which are obtained from accounting information cannot be a clear declaration of the evaluation of the company's performance (Ramezani, 2005).

Not using proper measurements in order to determine companies' value leads to inaccurate determination of the company's market value and also making wrong decisions for the financial unit, since all of these measures are obtained based on accounting or market's information which are either mainly related to the past or are unreliable.

Despite traditional management accounting literature's support of financial measures, researchers point out many problems for using financial performance measures. For example, Eccles and Pyburn (1992) know financial measures as "weak measures", since they determine the result of the managers' operation after a period of time making problems in evaluating the correlation between managers' works with the reported financial results. Besides financial performance measures, there are no guidance for the future performance, because they include no measure related to customers' satisfaction or the organizational learning. Also, financial measures focus more on the inter-organizational management than extra-organizational one.

Johnson and Kaplan (1987) also believe that the organization pays attention to accounting information which is suitable for external financial reports, and using it for evaluating the external performance is questionable. In addition, financial measures do not present a full image of managers' performance.

New accounting researches insist on using non-financial measures as a tool for overcoming the deficiencies related to financial ones. It indeed believes that non-financial measures must be used along with financial ones (Namazi and Ramezani, 2003).

Balanced score card is a new managerial concept which helps all managers in all levels control their key activities. Kaplan and Norton (1990) are the creators of this innovation of the strategic control field in which managers gather information in relation to four perspectives in a card and analyze them, that is:

- i. Financial perspective
 - ii. Customer perspective
 - iii. Business internal processes perspective
 - iv. Organizational innovation and growth perspective
- i. Financial aspect: This issue describes what expectations the company owners have and how the company's ability in making growth is measured by setting certain standards. Financial performance standards show if declaration, enforcement and

execution of the strategies lead to improvement. Financial goals are usually related to profitability, growth and share value.

ii. Customers' aspect: Today, the responsibility of most companies is focusing on customers – “the first priority in presenting value to the customer”. BSC recommends that the managers translate their general goal in servicing the customer into special standards which show factors that are actually important for the customers.

iii. Internal process aspects: Customer-oriented standards are important, but they should be translated into activities which must be done internally by the company in order to satisfy customers' expectations. In this case excellent customer-orientation performance in relation to processes, decisions and activities done in the organization would be obtained; therefore, managers should concentrate on types of internal activities which enable them to satisfy their customers' needs. The standards of this aspect of BSC must be extracted for the processes of the business with the highest influence on customers' satisfaction factors. Companies must try to measure the company's deserve-orientation which causes the durability of the organization.

iv. Creativity aspect: The ability of a company in creativity, improvement and learning is related directly to its value that is, a company own new markets and increase its income only via creating new products, making more value for customers and continuous effective regulating of the activities that is, it can grow and make more value for its customers.

One of the most important problems which occur in executing the organization's strategies is the staff's non-conformity; therefore, using balanced evaluation method for payment system instead of connecting this system to executing short-term financial goals can be effective in solving this problem.

'Traditional financial' measures how everything happens at the end of a financial period without determining how the manager can improve the future performance, while BSC is the basis of the present and future success of the company. Indeed it can be said that BSC has currently become a language for evaluating institutions. In other words, BSC measures results, the organization's strategic goals and its competitive demand. According to the managers', there is need to select a limited collection of fundamental measures inside each of the four aspects, BSC helps concentrate these strategic approaches too.

Due to that, this study tries to introduce BSC method and rewarding system design based on this model, that is, managers are rewarded only if their decisions are along with the improvement of effective factors on BSC.

SCIENTIFIC RESEARCH HISTORY

Table 1 gives a summary of the researches performed in Iran.

Research's recommended model

Theoretical framework is a conceptual pattern on the basis of which the whole research is made. Via it, the researcher makes correlations between the important factors in research's problem in order to make his/her theories testable. Analytical model is a kind of chart-making for the extracted variables from the research's theoretical framework. Indeed what separates the theoretical framework from the construction of the analytical model is the feasibility feature of the analytical model which must be used as the guidance of the observer. Conceptual declaration of the research's subject is called “conceptualization” which is one of the main aspects of the construction of the model without which making the analytical model would not have an accurate basis.

Every field research needs an analytical model that shows the variables and their correlations in terms of a proper analytical tool. The analytical model of this research is the result of internal/external reward elements with balanced score card. This model is an inductive model being extracted from questions and assumptions to measure the correlation between payment rewards to the managers with four BSC elements. In fact, the current research includes six independent variables and 4 dependant ones.

Reward is “positive valuable results for the individuals” (Shermerhorn, 1993). Reward is a pleasant result for doing a desirable behavior by the individual in order to increase the probability of its repetition (Hellriegel et al., 1995). Reward is important in studies on management that is known as power resources of the management called “reward power” - the meaning of which is using different internal and external rewards to control the individuals' performance, that is, the manager uses reward power to affect and control his/her staff (Robins and Ullar, 1999).

Balanced score card is a framework for making performance reports in companies which enables the management to translate company's goal, purposes, strategy and view, different business units and managers' duties into a series of standards related to performance measurement (Bragmann and Desen, 2002).

In other words, the organization's performance is measured in BSC frame. Therefore, every individual would be rewarded if he/she leads to improvement of the effective factors on BSC model. Nowadays, organizations encounter important issues to measure their organization's performance by BSC standards and all of them try to increase related factors in BSC by presenting some solutions. Designing the reward system based on BSC model may lead to some improvements in its standards and also the organization's performance helping the company reach its goals and strategies.

This study has two main presuppositions which measure the correlation between the reward paid

Table 1. Summary of researches performed in Iran.

No.	Researchers name	Year	Subject	Result
1	Entel and Smith	1986	Experimental investigation of the correlation between performance evaluation in managers' rewards	According to the investigation between reward and performance measures based on accounting, there is an increasing correlation (not linear).
2	Eily	1991	Differences in the industry and the correlation between reward and company's variables	There is no difference in various industries as ROT and RET variables and research's independent variable.
3	Lambert and Larker	1987	Analysis of using accounting measures and market in reward contract	Management reward contracts are mainly based on accounting measures, since accounting measurement toll has less interruption and parasite in performance evaluation in when compared to share price.
4	Boschman and Smith	1996	managers' rewards and the role of individuals' performance evaluation in it	It was determined that using IPE as a basis for paying reward is useful along with other measures such as accounting profit and share efficiency.
5	Faltham and Exy	1994	Conformity and difference of performance measure in multi-duty correlations between the employer and the employee	Exact conformity of performance measures are the best guidance and performance measures are able to measure the response's severity and strength desirably. In addition, they are useful in measuring the performance.
6	Valas	1997	Conformity of designing reward based on residual profit	It was determined that properties efficiency, share repurchase, paying share profit and properties total circulation for the companies which calculate the reward based on the residual profit increases when compared with the ones that use other measures.
7	Braggman and Desen	2002	Performance improvement using BSC-oriented reward payment system	In a reward payment system based on BSC main principle, it can be expected by controlling some variables that this type of reward may increase the stimulation and therefore improve the performance of the whole complex/organization.
8	Aron and Gerald	2008	Effect of selecting balances score card on stake-holders' efficiency	Companies that use balanced score card technique increase their share efficiency.

9	Wiersma Eelke	2009	Why managers use balanced score card?	Managers use BSC technique with different goals which are usually for decision-making about new information.
10	Mohammad Khodabakhsi	1991	Investigation of the main reasons of the managers' efficiency in governmental and nationalized companies	There is conformity between salary-advantages and managers' efficiency.
11	Ali Jahankhani and Ali Zarif Fard	1996	Financial methods of guiding managers' viewpoints and performance in order to increase the stake-holders' wealth	It was determined that reward is calculated based on constant salary in 15% of the sample companies, 15% from a percent of net profit, 8% based on extra performance relative to the budget and 8% based on the number of production and the remaining from other methods.
12	Ali Divandari, Mohammad Ebrahim Mohammad PourZarandi and Kokab Sharifi	2005	Investigation of the execution of combined performance evaluation system in research centers by balanced score card method	It was determined that in research centers, managers can make correct decisions easily by using the results of balanced score card in order to plan their long-term strategies and goals reliably.
13	Mohammd Namzai, Mohammd Namzai and AmirReza Ramezani	2003	Balanced evaluation in management accounting	Balanced evaluation technique is used as a framework for strategic/military management in order to make organizational changes which are recommended as a complementary factor for current management accounting techniques.
14	Tabari and Arasteh	2008	Performance evaluation using balanced score card	Balanced score card is a technique which includes financial and non-financial measures (measured for evaluating the performance of Tabarestan Steel Co.).
15	Momeni, Khodae and Bashiri	2009	Social Provision organization's performance evaluation using BSC and FDEA combined model	It is a combined model of balanced score card and covering analysis of phase data in performance evaluation which is a suitable solution for improving and reaching ineffective branches to the efficiency boundary.

to the managers and the aspects of the balanced score card. According to Rabins and Valter's definition, we evaluated the effect of both internal and external rewards with four main factors of the balanced score card. On this basis, according to

the studies done in this field, deep organized and unarranged interviews with experts, three standards of participation in profit, increasing the salary, increasing the days off as an external reward and three standards of feeling deserve, job

development and managers' satisfaction were considered as internal reward. In addition, according to Kaplan and Norton's definition, four factors of the balanced score card including financial aspect, customer's aspect; internal

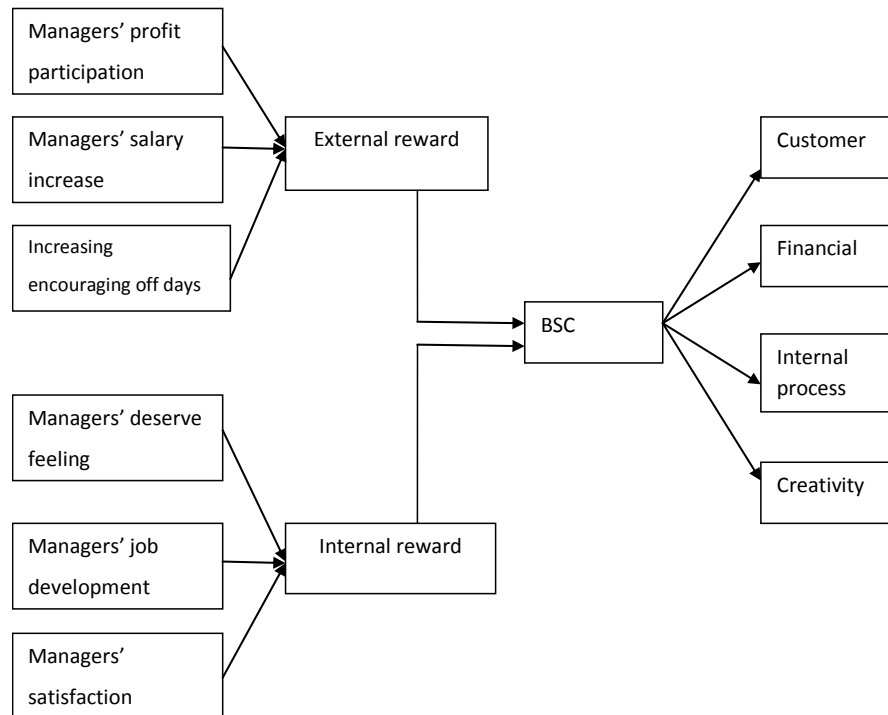


Figure 1. Research's recommended model.

processes aspect and learning and growth aspect were considered as BSC main standards. Therefore, the research's recommended model is as shown in Figure 1.

Researches' assumptions

First group assumptions

There is a meaningful correlation between internal rewards and the factors related to BSC:

A-1 assumption: There is a meaningful correlation between managers' satisfaction and BSC factors improvement.

A-2 assumption: There is a meaningful correlation between managers' job development and BSC factors improvement.

A-3 assumption: There is a meaningful correlation between managers' deserve feeling and BSC factors improvement.

Second group assumptions

There is a meaningful correlation between external rewards and BSC factors:

B-1 assumption: There is a meaningful correlation between managers' profit participation and BSC factors improvement.

B-2 assumption: There is a meaningful correlation between managers' salary increase and BSC factors improvement.

B-3 assumption: There is a meaningful correlation between increasing encouraging off days dedicated to managers and BSC factors improvement.

General goal of the research

The purpose of performing this research is to design the managers rewarding system based on balanced score card model so that we can measure the effectiveness of the reward given to the managers while evaluating the organization's performance with both financial and non-financial criteria.

RESEARCH METHOD

The present research is descriptive in terms of the goal. A descriptive research presents an image of the details of a situation, a social background or a correlation. Descriptive researches are very important, since if they do not describe something carefully, attempt to its declaration would be useless. One of the different types of descriptive research method is cohesion research which includes all researches which try to discover the correlation between various variables by using cohesion standards. Cohesion research method aims to study the boundaries of one or more variables with the boundaries of one or more other variables (Delavar, 1995).

In this study, designing a rewarding system for managers is the

independent variable. In fact, test independent variables are: managers' satisfaction, managers' job development, managers' deserve feeling, managers' participation in profit, managers' salary increase and increasing off days. On the other hand, the dependent variable of this study is balanced score card technique. Indeed four factors of the balanced score card including customer's aspect; internal processes aspect and learning and growth aspect are considered as the dependent variable of the research.

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For the researches' goal, that is, to design the managers' rewarding system based on BSC model, it is necessary to review the behavior of accounting information used for testing the research's assumptions, therefore, all of the managers of Khorasan-e-Razavi industry were selected as the statistical society so that the research would be done by using the points of view and ideas of this expert group. By using Morgan sample table, a sample with a volume of 132 people was prepared for a society as much as 200 people. In addition, 170 questionnaires were distributed by refereeing to companies among which 131 ones were completely returned. Questionnaires' return rate was about 78% which shows good cooperation of the managers.

In general, this study uses statistical methods such as variance analysis, regression analysis, etc. The questionnaire's stability was evaluated by Cronbach's test. In addition, the data were subjected to descriptive statistics using SPSS and LISREL.

Evaluation of the stability of the measurement tool

In order to increase the questionnaire's validity, in this research, first, similar researches were investigated and then the initial questionnaire was set and then some accounting experts such as accounting faculty and independent accountants was referred to and the initial questionnaire was modified. In addition, the questionnaires related were administrated by the advisor professor and its ambiguous points were eliminated and some of the sorts which did not have any correlation with the research's goals were deleted or modified. After applying modification ideas, questionnaires were set up. This maximizing in performing the research guarantees the stability of the questionnaire (Faghihi and Bamdad, 1999).

Evaluation of measurement tool stability

Due to the lack of a standard questionnaire in the field of balanced score card technique, determining the questionnaire's questions, after reviewing some books and questionnaires about the subject, the questionnaire related to it was made in a self-constructed manner and was then designed with the help of respected advisor professors and experts.

Since Cronbach's alpha is usually completely suitable for measuring the reliability of the measurement tool and the internal harmony among the elements, the questionnaire's reliability used in this research was evaluated with the help of Cronbach's alpha which according to the calculations performed is 91%. Therefore, the internal validity of the questionnaire is confirmed.

Analysis of the research's findings

Since all studies try to develop their special goals, this research

was performed based on three goals which ensured a better understanding of the statistical analysis and investigation of the researchers' findings, thereby preparing the background for doing future researches. The gathered information was evaluated in two levels:

1. Descriptive analysis
2. Conclusive analysis

In order to test the assumptions, first, K^2 test was used by using SPSS software to measure the tests. Since in this research the variables are of the ranked type, this test was used whose results are mentioned briefly in Table 2.

Then, the correlation between independent and dependent variables was tested by using structural equations modeling method with LISREL software. This shows the validity of the recommended conceptual model besides being the final step of the factor analysis which was done on the research's measurement scales via model fitting standards. Based on the findings obtained based on the analyzed data, a combined model about different types of organizational rewards and their effects on various aspects of BSC are presented. As seen in Figure 2, six types of the organizational rewards standards in relation to four aspects of BSC were used. After path analysis determination, the amount and effect of each reward index on BSC aspects were identified.

According to the results obtained, the value of K^2 (X^2) is 42.40 with degree of freedom of 32 which was found meaningful on the level of $p < 0.05$. The approximation squares average root RMSEA is 0.05.

FINDINGS AND CONCLUSIONS

BSC was first introduced by Kaplan and Norton in 1992. This technique is a tool used for analyzing fundamental strategic elements as well as formulating measures which measure the overall performance of a company. BSC shows that managers can select measures from four different aspects combining traditional financial measures with measures for the customers, internal processes, innovation and activities expansion (Namazai, 2003).

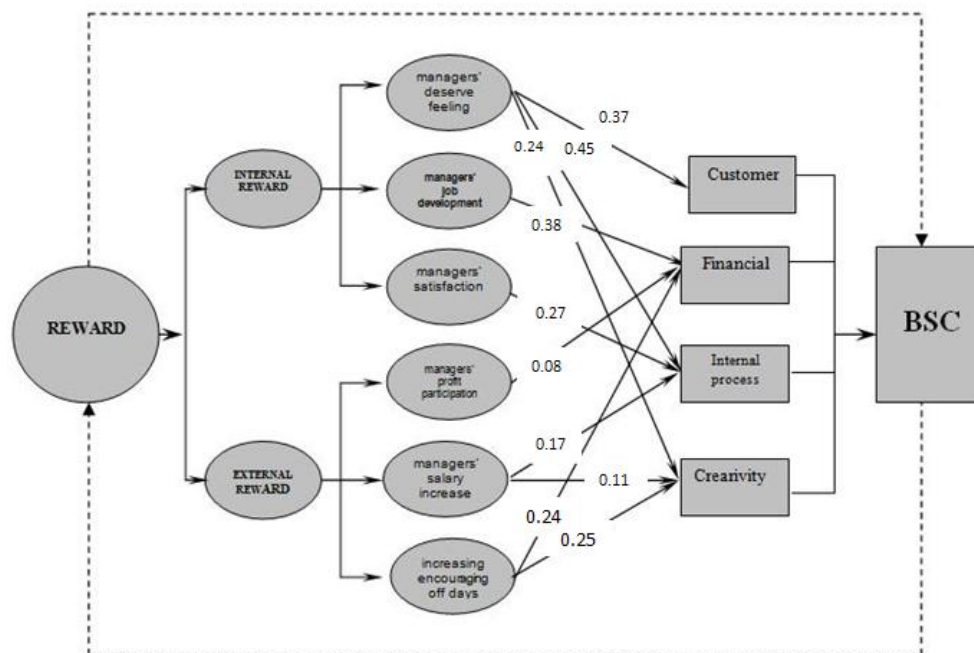
The researcher of this research introduced BSC as a managerial tool for measuring the performance. Balanced score card actually investigates companies on a balanced level. The factors which make balance in this method are:

- i. Balance between financial and non-financial standards
- ii. Balance between internal and external standards
- iii. Balance between short and long-term goals

Reward maintains and increase staff and their satisfaction. It is not always in cash, but it may be in the form of presenting services. The trend of the researches performed show that the range of such researches is increasing day by day and every researcher has tried to extend it in order to make clear various dimensions of the correlations between the managers and the employers by entering independent and dependent variables, using different research methods and some other measures such as the type of the industry. In most of these investigations, a measure based on the market (usually

Table 2. Results of research's assumptions method.

No.	Assumption title	K ² test	Meaningfulness level
First	There is a meaningful correlation between internal rewards and the related factors in BSC.	13.407	0.0012
A	There is a meaningful correlation between managers' satisfaction and BSC factors improvement.	10.006	0.0067
B	There is a meaningful correlation between managers' job development and BSC factors improvement.	2.920	0.2323
C	There is a meaningful correlation between managers' deserve and BSC factors improvement.	7.128	0.0283
Second	There is a meaningful correlation between external rewards and the related factors in BSC.	63.041	0.0000
A	There is a meaningful correlation between managers' participation in profit and BSC factors improvement.	13.425	0.0094
B	There is a meaningful correlation between managers' salary increase and BSC factors improvement.	29.196	0.0000
C	There is a meaningful correlation between managers' encouraging off days and BSC factors improvement.	29.196	0.0000

**Figure 2.** Final model of BSC organizational rewards.

share efficiency) and a measure based on accounting (most properties efficiency) were used as the independent variable. The results of these researches show the existence of a correlation between the managers' rewards and performance measures indicating the fact that these countries pay attention to the measurement of the managers' performance and their encouragement very much.

Now, the main question of the research is answered by investigating the findings of the statistical tests and analyzing the content of the interviews with experts which is "if the managers' payment mechanism system such that it improves BSC factors"?

At the first step, this research identifies the effective parameters on managers' rewards by polling the managers and then path analysis method was used to

design the model. This study reviews six types of organizational reward standards in relation to four aspects of BSC dimensions. The amount and effect of each of the different types of reward standards on BSC dimensions were identified after path analysis determination.

Based on the research findings, the most effective factor of internal reward on the dimensions of balanced score card factors is customer's aspect. In addition, the highest effects of internal reward factor on balanced score card are deserved feeling, job satisfaction and job development.

For external reward, the most effective factor on the factors of balanced score card is the financial aspect in which the most effective factor of external reward is off day increase. As observed, managers still pay attention to financial measures more than others, therefore, dedicating rewards to them based on balanced score card necessitates that first, the organizations should get familiar with the concept of balanced score card and execute it in their organizations for several years. Dedicating rewards based on BSC model causes all aspects of the company to be considered and the reward paid to the managers would not solely rely on financial measures.

REFERENCES

- Aron DC, Gerald KD (2008). The effects of adopting the Balanced Scorecard on shareholder returns *Advances in Accounting*. Inc. Adv. Int. Account. pp. 8-15.
- Delavar A (1995). *Theoretical Research in the Humanities*. Roshd Publications, Tehran.
- Divandari A, Pourzarandi M, Sharifi K (2005). Investigation of the execution of combined performance evaluation system in research centers by balanced score card method. *Third International Conference on Management Planning*.
- Eccles R, Pyburn PS (1992). Creating a Comprehensive System to Measure Performance. *Manag. Account.* 74(4):41-44.
- Faghihi A, Bamdad SJ (1999). Pluralism of research methods in research. *Management Studies. Accounting and Management Faculty of Allameh Tabatabai University* (21 & 22).
- Hellriegel D, Slocum J, Woodman R (1995). *Organizational Behaviour*. New York: Westpublishing Company.
- Jahankhani A, Zarif FA (1996). Financial methods of guiding managers' viewpoints and performance in order to increase the stake-holders' wealth. *Finan. Res.* (11 & 12).
- Johnson HT, Kaplan RS (1987). *The Rise and fall of Management Accounting*. Boston. Harvard Business School Press.
- Momeni M, Khodae S, Bashiri M (2009). Social Provision organization's performance evaluation using BSC and FDEA combined model. *Ind. Manag.* 1(3).
- Moradi J (2005). An experimental study in the rewards of an effective board structure of companies listed in Tehran Stock Exchange. *Thesis Master*.
- Namazi M, Ramezani AR (2003). Balanced evaluation in management accounting. *Social Sciences and Humanities Shiraz University.* 19(2):1-20.
- Ramezani M (2005). Checking the Relationship between economic value and return on assets as performance criteria in assessing companies listed in Tehran Stock Exchange.
- Shermerhorn J (1993). *Management for Productivity*. New York. John Wiley.
- Tabari M, Arasteh F (2008). Performance evaluation using balanced score card. *J. Manage.*, 5(12).
- Wiersma Eelke (2009). For which purposes do managers use Balance scorecards? An empirical study. *Management accounting research*: pp. 239-251.