

Research Article

FEASIBILITY STUDY OF BALANCED SCORECARD IN AGRICULTURAL RESEARCH, EDUCATION AND EXTENSION ORGANIZATION

***Allahkaram Salehi¹ and Naser Jannat Makan²**

¹*Department of Accounting, Islamic Azad University, Masjedsoleiman Branch, Masjedsoleiman, Iran*

²*Department of Accounting, Islamic Azad University, Persian Gulf International Education Center
Branch, A student of Master program in Accounting, Khorramshahr, Iran*

**Author for Correspondence*

ABSTRACT

Balanced scorecard (BSC) technique, which is considered as one of the modern performance evaluation methods in management accounting, studies the performance of organizations with four various indicators namely financial, customer orientation, internal business processes and learning, growth and innovation. The present survey is dealt with the feasibility study of balanced scorecard in Agricultural, Research, Education and Extension Organization (AREEO); so that four balanced scorecard criteria were considered as hypotheses of this research. Required data were collected using questionnaire. Non-parametric Test QP (Mean Test), T-Student Test and Friedman Test were used within the framework of SPSS (Statistical Package for the Social Sciences) software. The results of study showed that possibility of indexing is possible in each of four perspectives of balanced scorecard in AREEO. According to the ranking results of test of hypotheses using Friedman Test, it was found out that financial indicator stands in first place and criteria of customer orientation, internal business processes and learning, growth and innovation stand in the subsequent ranks respectively.

Keywords: *Balanced Scorecard (BSC), Friedman Test, Agricultural Research, Education Extension and Organization*

INTRODUCTION

Balanced scorecard technique, which is considered as one of the modern performance evaluation methods in management accounting, has been taken into consideration by many accounting researchers (Kaplan & Norton, 1992, 1993, 1996; Johnson, 1998; Kasurinen, 2002; Liz & Stathis, 2005; Norrekliit & Mitchell, 2007; Ronda, 2011).

The balanced scorecard is a combination of performance evaluation criteria which includes current, past and future performance indicators. In the same direction, balanced scorecard juxtaposes nonfinancial criteria with the financial ones.

Generally speaking, balanced scorecard offers a comprehensive and vast view available for managers both inside and outside the organizations.

Many large companies use this method for evaluating impacts of strategic decisions on staff, personnel, customers and profitability as well.

"Agricultural Sector" is one of the main pillars of economic development and here, agricultural researches are of paramount importance that should be taken into consideration in this respect. With the evaluation of performance of AREEO, some parts of the strategies of agricultural development can be clarified. Feasibility study of BSC in Agricultural Research, Education and Extensional Organization of the Ministry of Agricultural Jihad is the main objective of this study. It should be noted that this indicator i.e. BSC specifies strengths, strong point and improvable performance of the organization and will help managers of the organization improve performance and increase efficacy and efficiency of the organization.

Theoretical Fundamentals of Research

BSC is one of the modern management accounting methods which turns main objective and strategy of the organization into the organized objectives and criteria in four perspectives including financial, internal

Research Article

business process and learning, growth (Kaplan & Atkinson, 2007). The performance of the organization is evaluated using the aforementioned four-group aspects.

Financial Perspective: *What results should be attained for gaining financial success?*

Financial perspective includes criteria of profitability such as operating profit, return on the capital used, sales growth, cash flow growth or economic value added.

Customer-orientation Perspective: *To materialize our objectives, what measure should be taken in order to have a good relationship with our customers?*

Customer-orientation perspective includes criteria of gaining customers satisfaction, monitoring customers, attracting new customers, time for responding to customers and market share.

Internal Processes Perspective: *To gain satisfaction of customers and shareholders, which internal processes should be corrected?*

Internal processes perspective includes basic criteria such as product design, production development, sales services, production efficiency, quality and productivity.

Innovation, Learning and Growth Perspective: *To materialize our objective, how should our capabilities be corrected and changed?*

Innovation, learning and growth perspective includes ability of staff and personnel (satisfaction of staff, staff change rate, training rate, productivity and qualification of staff for key jobs), information technology (data coverage rate and data output) and motivation and suggestions (received suggestions and fringe benefits, rewards).

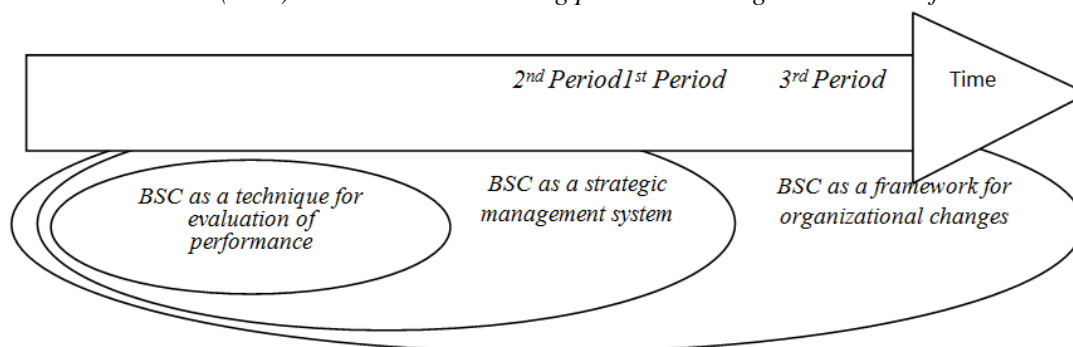
Balanced Scorecard (BSC) or comprehensive performance evaluation criterion can be divided into three period based on type of its application in management accounting:

1st Period: *As a technique of evaluation of the performance of managers and organizations (since 1992)*

2nd Period: *As a strategic management system (since 1996)*

3rd Period: *As a framework for organizational changes (since 2001)*

The Balanced Scorecard (BSC) has been shown during previous three generations as follows:



<ul style="list-style-type: none"> • Steps to change the organization • Strategic plan • Strategic model • Strategic relationship • Adapting personnel plan and budget • Change in organizational conditions 	<ul style="list-style-type: none"> • Training organization, ending period • Identifying and solving operational problems • Feedback for future periodical corrective program • Creating knowledge in organization • Setting up PDCA (Plan-Do-Check-Act) in organizational level 	<ul style="list-style-type: none"> • Performance criteria • Strategies • Four evaluation criteria • Strategic objectives (performance indicators, leading indicators and key performance indicators) • Performance related to bonus and reward
--	---	---

Research Article

Evaluation of performance is expressed in terms of usage of resources and facilities within the framework of efficiency. If in its simplest definition the proportion of **input to output** is considered “**efficiency**”, performance evaluation system measures the efficiency of management decisions with regard to the optimal use of resources and facilities actually. Evaluation of performance in organizational dimension is usually synonymous with the effectiveness of activities. Effectiveness is meant the degree of attaining objectives and programs with efficient specification of activities and operations (Rahimi, 2006).

The BSC has evolved over the time. It has evolved through three generations. This evolution reflects the theoretical and practical development of the BSC.

The researcher classifies the implementation of BSC into three groups: BSC as a performance measurement system; BSC as a strategic management system; and, BSC as a control system. These three groups have been studied empirically, experimentally, and as case studies. Finally, these different types of studies reflect different ways of implementing and using the BSC where the researcher is trying to reflect the implementation and application of BSC in large firms and SMEs (Basuony, 2014).

Advocates of strategic performance evaluation put forward two main perspectives. The first approach, which is based on Contingency Theory, clarifies this issue that strategic performance evaluation criteria should synchronize strategy of the company and/or value- creation factors in tandem with each other. In this regard, performance is increased when management gaps between strategic priorities and performance of company are minimized.

The second approach which is a simpler one expresses that companies should use various group of financial and nonfinancial criteria. Basically, advocates and supporters of this approach claim that companies should pay due attention to the various group of financial and nonfinancial criteria with the aim of attaining higher performance (Ittner *et al.*, 2003).

Modern management accounting literature also emphasizes using nonfinancial criteria as a tool to overcome inefficiencies as attributed to the financial criteria.

As a matter of fact, it is believed that nonfinancial criteria should be used in tandem with financial criteria. For example, Niven (2001) suggests that traditional financial performance criteria should be used with nonfinancial criteria such as criteria for productivity, market share, social responsibility, expansion of productions and performance of staff and personnel complementarily. Zimmerman (2000) also explains that nonfinancial criteria are used for necessary operations control objectives which is led to use artificial controls and performance evaluation system (Namazi and Ramezani, 2003).

Unlike traditional performance measurement systems which emphasize on financial criteria, **BSC** is a comprehensive performance measurement system which evaluates performance of staff, personnel and economic enterprises using financial and nonfinancial criteria together.

Unlike traditional measurement system, BSC focuses on transferring performance evaluation system from short- to long- term.

The **BSC** provides this possibility for senior executive managers to merge intangible assets (human resources) and tangible assets (financial resources) and efficient production, moreover turning strategy into measures and clarifying consecutive and specified duties of staff and operational units. Generally speaking, BSC paves suitable way for senior managers (CEO) of any economic enterprise to evaluate performance of organization effectively.

Consecutive improvement of performance of any economic enterprise has been emphasized in the BSC. In most industries, consecutive improvement is a vital subject and if an organization failed to improve consecutively, it would finally exit from competition cycle (Garrison *et al.*, 2003).

In other words, performance of companies should be improved in order to compete with rival companies. To attain a proper status in consecutive improvement, ability of disciplined and consecutive measurement of the performance of basic processes of a business unit is considered as a vital element (Braam & Nijssen, 2004).

Research Background

Kaplan and Norton (2002) stated that there are five key principles common to all successful balanced scorecard companies: translate the strategy to operational terms; align the organization to the strategy;

Research Article

make the strategy everyone's everyday job; make strategy a continual process; mobilize change through executive leadership.

Fernandes *et al.*, (2006) tested the application of the BSC in small- and mid-size production companies empirically. The results of their study show that British factories are facing great challenges for surviving in today's world markets. In a bid to overcome these challenges, the companies should use new management systems such as BSC for specifying their strategy and perspective as well as make them feasible.

With studying application of the BSC in three small- and middle-sized companies of **Hyde Park Electronics, Futura Industries and Southern Gardens Citrus**, Gumbus & Lussier (2006) concluded that use of BSC in these companies have improved performance of these companies considerably. Although 50% of thousand companies registered in **Fortune** List use BSC, a few small- and middle-sized trade units use this technique as well.

Wu *et al.*, (2011) studied the appropriate performance evaluation indices mainly based on the BSC for extension education centers in Taiwan universities. In this study, by utilizing multiple criteria decision making (MCDM), they select adequate performance evaluation indices and then utilizing the decision making trial and evaluation laboratory (DEMATEL) and analytic network process (ANP), respectively, further establishes the causality between the four BSC perspectives as well as the relative weights between evaluation indices. Research result indicates that "Learning and growth" is the significant influential factor and it would affect the other three perspectives. In addition, it is discovered that "Internal process" perspective as well as "Financial" perspective play important roles in the performance evaluation of extension education centers.

In another study, Ridwan *et al.*, (2013) studied effect of BSC in a trade institution of public sector in Australia. The results of their study in self-autonomous **Fedimset** Port in Australia show that BSC method, which is adopted legally outside the organization, has considerable effects on organizational structure, operations and also general performance of the organization.

Ameli (2007) accomplished a research activity entitled "**Challenges of Implementation of Balanced Scorecard (BSC) with a View on Its Impact on Materialization of Strategy in Iranian Organizations**". General objective was the study of challenges and results of implementation of BSC in two organizations than other companies, based on which, enthusiasts and interested individuals can observe efficacy of this system in Iran. With considering the introduced models, more successful implementation of this program is requested to start with more knowledge and awareness. The results of the study showed that applying **BSC** and drawing map of strategy help organizations improve teamwork spirit and synchronize organizational, data and human capital with the organization's strategies. Despite some cultural and management problems, progress of such plans in these two organizations is followed with a growth compatible with the situation. Allahyari (2008) conducted another study entitled "Application of BSC in Measurement of the Performance of Hospitals in Shiraz". The results of statistical analysis of the study showed that indexing is possible at each of four perspectives of BSC in hospitals in Shiraz but to date, prerequisites and necessary contemplations have not thus far been created fairly for implementation of this technique in hospitals in Shiraz.

With more studies, it was found out that customer's perspective of BSC was considered as the most important factor, followed by internal processes, financial, learning and growth perspectives respectively. Sarvari and Khajavi (2009) conducted another study entitled "**Feasibility Study of Implementation of Balance Scorecard (BSC) in Petrochemical Companies in South of Iran**". The results of statistical analysis of the research and required information were collected using questionnaire. Non-parametric tests (QP) (Mean Test), Man Whitney –U Test, Cross Cal Wallace –H Test were used for testing hypotheses of the research. The results of statistical analysis of the research showed that possibility of indexing is possible in each of four perspectives of the BSC in petrochemical companies.

In this respect, it was found out that customer's perspective of BSC stood in the first place which is followed by internal processes, financial, learning and growth perspectives in subsequent ranks respectively.

Research Article

Research Period and Statistical Population

Statistical population of this study includes **financial managers and supervisors and the faculty board members employed in Agricultural Research, Education and Extensional Organization**.

In order to reduce type 1 and 2 errors and also increase potential of test and due to the newness of BSC technique in Iran, any sampling will not be conducted, rather, financial managers and supervisors and the faculty board members working in the following affiliated units of AREEO will be studied:

- 1- Headquarters of Agricultural Researches, Education and Extensional Organization,
- 2- National Tropical Fruits and Date Research Center,
- 3- Khuzestan Province Natural Resources and Agricultural Research Center,
- 4- Ahvaz Agricultural Education Complex (Shohaday-e Hoveyzeh),
- 5- Safiabad Agricultural Research Center of Dezful,
- 6- Fars Province Natural Resources and Agricultural Research Center (Be'sat Education Complex)
- 7- Fars Province Natural Resources and Agricultural Research Center (Zarghan Station)
- 8- East Azarbaijan Province Natural Resources and Agricultural Research Center (Tabriz).

Since BSC is a new technique in Iran and most interviewees, participating in this questionnaire, may not be aware of this technique, sample size in this study is equal to whole statistical population.

References, resources and information available at libraries, theses, magazines, periodicals and Persian and Latin publications, concerning the subject of research, have been used in this study. Also, information required in this study was collected through questionnaire and hypotheses of the research have been tested using analysis of information obtained from this questionnaire.

MATERIALS AND METHODS

Research Methodology

Survey research method is used to collect data for testing hypotheses thanks to the subject of research.

Interview and use of questionnaire is the most common methods of collecting data in this study. To collect data, a questionnaire including general personal information, general information of company and specialized information has been used in this study.

The questionnaire, used in this study, has been evaluated within the framework of **Likert-type Scaling** of “never”, “little”, “average”, “high” and “very high” in 1st, 2nd, 3rd, 4th, and 5th ranks respectively.

The statistical population includes 100 questionnaires. To evaluate confidence of questionnaire, Cronbach's Alpha Test was used. In this method, Cronbach's Alpha Test has been calculated in questionnaire for the questions related to each hypothesis using SPSS software system.

For this purpose, 30 questionnaires were first distributed among a number of selected subjects of statistical population. The results obtained from pilot implementation of questionnaire showed that all questions in the questionnaire enjoy Cronbach's Alpha Coefficient above 93%. Therefore, none of the questions of questionnaires were omitted.

Moreover, Cronbach's Alpha Coefficient was calculated 93 percent (93%) for whole sample of research (100 respondents). Since Cronbach's Alpha Coefficient is found equal in a sample of 30 and a sample of 100 subjects, it can be concluded that questionnaire has fair and satisfactory reliability and can be used for measuring objectives of researcher.

Then, a number of 126 questionnaires were distributed among financial managers and supervisors and all faculty board members employed in AREEO. With frequent follow-up and cooperation of close friends, respondents answered to a number of 101 questionnaires completely. Since 100 questionnaires were needed, one questionnaire was removed, so that 100 questionnaires were administered to all participants.

RESULTS AND DISCUSSION

Analysis of the Research Findings

Research Descriptive Statistics

Descriptive statistics of the variables of research have been shown in Table 1.

Men and women accounted for 88 and 12 percent of participants in this research respectively.

Research Article

In terms of age of respondents, it can be explained that of total 100 participants in this research, 55 (55%) were in the 40- to 50-year age range. In terms of work experience, it can be said that of total 100 participants in this research, 45 (45%) had 20- 30 years record of work experiences. Finally, in terms of education level, 52 participants (52%) held master's degree.

Table 1: Results of Descriptive Statistic of Study Based on Frequency of Participants

Gender of Respondents (Person)	Age of Respondents (Qty)	Work Experiences of Respondents (Year)	Educational Level of Respondents (Person)
Male	88	Between 1-5 years	High school diploma
Female	12	Between 6-10 years	Associate degree
		Between 10-20 years	Bachelor degree
		Between 20-30 years	Master degree
		Over 30 years	PhD
Total	100	Total	100

Source: Researcher's findings

Mean and standard deviation (SD) of the respondents' scores to each of the questions is as follows: In terms of mean scores of participants, the minimum and maximum scores are 1.77 and 3.80 percent, respectively.

Moreover, the minimum and maximum scores of standard deviation (SD) are 0.77 and 1.22 percent, respectively.

Implementation of BSC requires studying the presence of necessary condition in AREEO. Results of hypothesis posed on the existence of prerequisites and thoughts required on the implementation of BSC in AREEO are as illustrated in Table 2.

The results show that statistics of Student's t-statistic (-5.71) is significant at a 5% error level. Therefore, it can be claimed that based on perspective of respondents, there are prerequisites and necessary thoughts for the implementation of BSC in AREEO.

Table 2: Results of Research Hypothesis Test

Description of Variable	Scores Mean	Scores Standard Deviation	T-Student Statistic	Significance Level
Prerequisites and Thoughts Required for Implementation of Balanced Scorecard (BSC)	2.7	0.52	-5.71	0.00

Source: Researcher's findings

Research Inferential Statistics

Research Hypotheses Test

Since 5-score **Likert Scale** is used in this study for studying viewpoints of participants, it is necessary that mean scores of participants should be compared with number 3 (average total of scores from 1 to 5 in **Likert Scale**) in order to test each hypothesis.

Therefore, results related to inferential statistics of major and minor hypotheses of the research (four minor hypotheses and one major hypothesis) are as follows:

1st Minor Hypothesis: There is feasibility study of indexing in financial perspective of BSC.

Research Article

The results related to the hypothesis test have been shown in Table 3. Student's t-statistic in financial perspective of BSC is -9.06 which is significant at a 5% error level statistically. Therefore, null hypothesis is rejected. In other words, there is the feasibility study of indexing in financial perspective of BSC in AREEO from the respondents' point of view.

2nd Minor Hypothesis: There is the feasibility study of indexing in customer-orientation perspective of the BSC.

The results related to the hypothesis test are as depicted in Table 3. Student's t-statistic is -5.83 in customer orientation perspective of BSC which is significant at a 5% error level statistically. Therefore, null hypothesis is rejected. In other words, there is the feasibility study of indexing in customer perspective of BSC in AREEO from respondents' point of view

3rd Minor hypothesis: There is the feasibility study of indexing in internal business processes perspective of the BSC.

The results related to the hypothesis test are as explained in Table 3. Student's t-statistic is -2.41 in intra-organizational processes perspective of BSC which is significant at a 5% error level statistically. Therefore, null hypothesis is rejected. In other words, there is the feasibility study of indexing in intra-organizational processes perspective of BSC in AREEO from respondents' point of view.

4th Minor Hypothesis: There is the feasibility study of indexing in learning, growth and training perspective of the BSC.

The results related to the hypothesis test are as shown in Table 3. Student's t-statistic is -7.10 in learning, growth and training perspective of BSC which is significant at a 5% error level statistically. Therefore, null hypothesis is rejected. In other words, there is the feasibility study of indexing in learning, growth and training perspective of BSC in AREEO from respondents' point of view.

Research Main Hypothesis

H_0 = There is not the feasibility study of BSC in AREEO

H_1 = There is feasibility study of the BSC in AREEO.

The results related to the hypothesis test are as shown in Table 3. Student's t-statistic is -7.05 in feasibility study of the BSC which is significant at a 5% error level statistically. Therefore, null hypothesis is rejected. In other words, there is the feasibility study of the BSC in AREEO from respondents' point of view.

Table 3: Results of Research Hypotheses Test

Variable Description	Scores Mean	Scores Standard Deviation	Student's t-statistic	Significance Level
Financial perspective of BSC	2.52	0.52	-9.06	0.00
Customer-orientation perspective of BSC	2.63	0.62	-5.83	0.00
Intra-organizational processes perspective of BSC	2.85	0.58	-2.41	0.00
Learning, growth and teaching perspective of BSC	2.61	0.54	-7.10	0.00
Whole perspectives of the Balanced Scorecard	2.65	0.49	-7.05	0.00

Source: Researcher's findings

Analysis of Sensitivity

One-Way Variance Analysis (ANOVA) was used in order to study effect of variables of gender, work experience, age and educational level of participants (biographical variables) on the feasibility study of implementation of BSC in AREEO. The results related to the effect of the mentioned variables are as illustrated in Table 4 briefly.

With observing the results presented in the table below, it is found out that biographical variables of respondents (except for work experience variable in financial perspective of the Balanced Scorecard) i.e. gender, age, work experience and education has no effect on the feasibility study of implementation of

Research Article

Balanced Scorecard in AREEO. In other words, respondents of the questionnaire agree unanimously on the subject of feasibility study of implementation of Balanced Scorecard in AREEO.

Table 4: Effect of Biographical Variables on the Research Respondents' Results

Description of perspectives of the Balanced Scorecard	Respondents' Gender		Respondents' Age		Respondents' Work Experience		Respondents' Education	
	Fisher's F-statistic	Significance level	Fisher's F-statistic	Significance level	Fisher's F-statistic	Significance level	Fisher's F-statistic	Significance level
Financial perspective of BSC	0.75	0.38	1.32	0.27	2.52	0.04	0.23	0.78
Customer-orientation perspective of BSC	0.20	0.65	1.18	0.31	0.71	0.58	1.66	0.19
Intra-organizational processes perspective of BSC	1.02	0.31	2.17	0.09	1.33	0.26	1.64	0.19
Learning, growth and teaching perspective of BSC	0.20	0.65	2.64	0.06	0.71	0.58	1.06	0.35
Whole perspectives of the Balanced Scorecard	0.58	0.44	1.93	0.12	0.97	0.42	1.42	0.24

Source: Researcher's findings

Friedman Test

Friedman Test was used to study significance and determination of rank of BSC perspectives from respondents' point of view. The results related to Friedman Test are as depicted in Table 5. Based on results of test, it can be stated that financial perspective and learning, growth and training perspectives of BSC stand in first and fourth place respectively from respondents' point of view.

Table 5: Results of Friedman Test

Balanced Scorecard perspective	Ranks of balanced scorecard perspectives
Financial perspective of BSC	1
Customer-orientation perspective of BSC	2
Intra-organizational processes perspective of BSC	3
Learning, growth and teaching perspective of BSC	4

Research Results

Results of 1st Minor Hypothesis

There is the feasibility study of indexing in financial perspective of the BSC.

Student's t-statistic is -9.06 in financial perspective of the BSC which is significant at a 5% error level statistically. Thus, null hypothesis is rejected. The results of this study are consistent with the results of research conducted by Sarvari (2009) entitled "Feasibility Study of Implementation of Balanced Scorecard in Petrochemical Companies in South of Iran".

Results of 2nd Minor Hypothesis

There is the feasibility study of indexing in customer-orientation perspective of the BSC.

Student's t-statistic is -5.83 in customer orientation perspective of BSC which is significant at a 5% error level statistically. Thus, null hypothesis is rejected. In other words, there is the feasibility study of indexing in customer perspective of BSC in AREEO from respondents' point of view. The result of this study is consistent with the results of research conducted by Sarvari (2009) entitled "Feasibility Study of Implementation of Balanced Scorecard in Petrochemical Companies in South of Iran".

Research Article

Results of 3rd Minor Hypothesis

There is the feasibility study of indexing in intra-organizational processes perspective of the BSC.

Student's t-statistic is -2.41 in intra-organizational processes perspective of BSC which is significant at a 5% error level statistically. Thus, null hypothesis is rejected. In other words, there is the feasibility study of indexing in intra-organizational processes perspective of BSC in AREEO from respondents' point of view. Therefore, the result of this study is consistent with the results of research conducted by Sarvari (2009) entitled "Feasibility Study of Implementation of Balanced Scorecard in Petrochemical Companies in South of Iran".

Results of 4th Minor Hypothesis

There is the feasibility study of indexing in learning, growth and training perspective of the BSC.

Student's t-statistic is -7.10 in learning, growth and training perspective of BSC which is significant at a 5% error level statistically.

Therefore, null hypothesis is rejected. Therefore, the result of this study is consistent with the results conducted by Sarvari (2009) entitled "Feasibility Study of Implementation of Balanced Scorecard in Petrochemical Companies in South of Iran".

The results indicate that H_0 is rejected in all hypotheses, that to say that the following results are obtained from hypotheses test:

A) The mean responses exceed two i.e. tendency of respondents to the options of little, high and very high is more. This is approved in research test.

B) Proportion of responses to the various options is not identical.

On the other hand, Friedman Test was used for ranking hypotheses, based on which, financial and learning, growth and training perspectives stood in first and last priorities respectively.

Finally, with due observance to QP Test (Mean Test), all hypotheses of research are approved. i.e.:

- 1- There is the possibility of indexing in financial perspective of the BSC.
- 2- There is the possibility of indexing in customer- orientation perspective of the BSC.
- 3- There is the possibility of indexing in intra- organizational processes perspective of the BSC.
- 4- There is the possibility of indexing learning, growth and training perspective of the BSC.

In the end, the main hypothesis of the research is also approved. Therefore,

- 5- There is the possibility of indexing the BSC in AREEO.

The important principle in implementation of the Balanced Scorecard is this that performance evaluation criteria are related to the strategy. With due observance to the obtained results, it can be said that AREEO has found out the significance of nonfinancial criteria in evaluation of performance but failed to take advantage of the BSC efficiently.

It seems that the followings are regarded as the most important reasons of the organization's failure to use Balanced Scorecard technique for the evaluation of performance of AREEO:

- 1- Relatively high cost of implementation of this technique i.e. BSC
- 2- Most managers do not show desirable reaction for evaluation of their performance by others. In other words, managers do not want their performance is evaluated by others.
- 3- Since AREEO has not any rival, it does not show tendency to improve and promote its organizational level.
- 4- Newness of BSC Technique and lack of familiarity of managers and even some accountants with this technique,
- 5- Executive and operational difficulties for execution of this technique

Research Limitations

Fulfillment of this research faced with several limitations which have certainly affected the research results and findings. Hereunder are regarded as limitations which were observed in various stages for editing theoretical structure, measurement and collection of data:

- 1- The information needed for hypotheses test was collected through questionnaire. Measurement tool of this research has intrinsic limitation. Among these limitations, it should be referred to the interviewees' lack of familiarity with the subject of research, lack of awareness of objective of research, non-

Research Article

transparency and ambiguity of some words, absoluteness of questions and conservatives of some respondents in answering questionnaire items.

2- Lack of enough motivation for active participation in this research among members of selected population was a problem facing ahead of collecting data.

3- Lack of interest of some interviewees or respondents to answer questions posed in the questionnaire for the following reason: the results of this study did not find consistent with the desire of senior managers of this organization and such issue created some difficulties for them later.

4- Newness of the BSC technique, which has been introduced in 1992 and respondents' non- familiarity with this technique were cited as one of these extant problems facing ahead of data collection.

Suggestions

Managers of this organization i.e. AREEO are recommended to use BSC system due to its high potentials and benefits. With due observance to the existence of various aspects and necessary prerequisites, managers of this organization also were advised to use this technique for attaining their predefined objectives and strategies based on strategy map of the organization.

Given the result of Friedman Test and placing the learning, growth and teaching perspective at the last priority on one hand and significance of this perspective i.e. learning, growth and training as basic principle for other perspectives of the BSC, managers of the organization are suggested to focus one of their objectives on attaining knowledge- based principle and make their utmost efforts to organize quality training services to their staff and personnel.

In addition, managers of the organization are requested to pay more attention to the compilation and formulation of their strategies. In the end, senior managers of the organization are suggested to compile their strategies in written form and review and revise it once every one or two years certainly.

REFERENCES

- Allahyari Abbas (2008).** Feasibility Study for Implementation of Balanced Scorecard at Hospitals in Shiraz. Master's thesis in Accounting, Islamic Azad University, Marvdasht Branch.
- Ameli Fatemeh (2007).** Analyzing Challenges for the Implementation of Balanced Scorecard with a View on Its Effect on the Strategic Research in Iranian Organizations, Master's thesis in Industrial Management, School of Humanities, Imam Khomeini International University (RA).
- Basuony Mohamed AK (2014).** The Balanced Scorecard in Large Firms and SMEs: A Critique of the Nature, Value and Application. *Accounting and Finance Research* 3(2).
- Braam & Nijssen (2004).** The Balanced Scorecard: Judgmental Effects of Performance Measures Linked to Strategy. *The Accounting Review* 79(1) 1-23.
- Fernandes KJ, Venesh R and Whalley A (2006).** Lessons From Implementing The Balanced Scorecard in A Small and Medium Size Manufacturing Organization. *TechnoVation* 26 623-634.
- Garrison RH, Noreen EW and Seal W (2003).** *Management Accounting* (New York: McGraw Hill).
- Gumbus A and Lyron B (2006).** The Balanced Scorecard at Philips Electronics Strategic Finance 45-49.
- Ittner C, Larcker DF and Randall T (2003).** Performance Implications of Strategic Performance Measurement in Financial Services Firms. *Accounting, Organizations and Society* 28(7/8) 715-741.
- Johnson SD (1998).** Identification and selection of environmental performance indicators: application of the balanced scorecard approach. *Corporate Environmental Strategy* 5(4) 34-41.
- Kaplan RS and Atkinson AA (2007).** *Advanced Management Accounting*, third edition (prentice- Hall of India private Limited) New Delhi-1110001 367-441.
- Kaplan RS and Norton DP (1992).** The balanced scorecard: measures that drive performance. *Harvard Business Review* 70(1) 58-63.
- Kaplan RS and Norton DP (1993).** Putting the balanced scorecard to work. *Harvard Business Review* 71(5) 134-147.
- Kaplan RS and Norton DP (1996).** Linking the balanced scorecard to strategy. *California Management Review* 39(1) 53-79.

Research Article

Kaplan RS and Norton DP (2002). The Strategy – Focused Organization: How Balanced Scorecard Companies Thrive in the New Business Environment. *Internal Auditor* **59**(1) 21-22.

Kasurinen T (2002). Exploring management accounting change: the case of balanced scorecard implementation. *Management Accounting Research* **13**(3) 323–343.

LizMurby and Stathis Gould (2005). Why Balanced Scorecards Sometimes Fail, CIMA Technical Report.

Namazi Mohammad – Ramezani and Amir Reza (2003). *Balanced Scorecard in Management Accounting*, Human and Social Sciences Periodical, University of Shiraz, 19th edition **2**.

Niven PR (2001). Examining the Endurance of Balanced Scorecard. *Journal of Cost Management* 18-24.

Norreklit H and Mitchell F (2007). The balanced scorecard. In: *Issues in Management Accounting*, 3rd edition edited by Hopper T, Nothcott D and Scapens R (London: FT/Prentice Hall).

Rahimi Mehdi – Ghafouri and Kaveh – Mohammadi Hamid (2006). Combination of BSC Model (Balanced scorecard) and EVA (Economic Value Added) for improvement of perspective and strategic orientation.

RidwanRidwan, Harun Harun, Yi An and Imam Mujahidin Fahmid (2013). The Impact of the Balanced Scorecard on Corporate Performance: The Case of an Australian Public Sector Enterprise.

Ronda Roberts (2011). Weighing the Pros and Cons of Balanced Scorecards. Available: <http://www.enotes.com/>.

Sarvari Yousef – Khajaviand Shokrollah (2009). Feasibility Study of Implementation of Balanced Scorecard (BSC) at Petrochemical Companies in South of Iran, Master's thesis in Accounting, Islamic Azad University, Science and Research Branch of Khuzestan.

Wu HY, Lin YK and Chang CH (2011). Performance evaluation of extension education centers in universities based on the balanced scorecard. *Evaluation and Program Planning* **34**(1) 37-50, <http://dx.doi.org/10.1016/j.evalprogplan.2010.06.001>.