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Serbian Journal of Management 6 (1) (2011) 97 - 108

Serbian
Journal
of
Management

A STUDY OF USING FINANCIAL AND NON-FINANCIAL CRITERIA IN EVALUATING PERFORMANCE: SOME EVIDENCE OF IRAN

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(Received 17 May 2010; accepted 13 January 2011)

Abstract

The success of any organization is reflected upon by its performance which is in turn highly dependent upon its strategies. In this era of cut-throat competition, what an organization requires is not just framing the right strategies, but also managing the same. The impact of the right strategies will automatically be reflected in the results. This research includes analyzing balanced scorecard (BSC) is inclusively. BSC pays attention to institutions traditional criteria evaluation i.e. financial and non-financial criteria that are mostly guidance and controlling criteria. Therefore, the main questions of this research include: How much financial and non-financial criteria are used to evaluate the efficiency? Do the efficiency evaluators who know well about balanced scorecard pay more attention to non-financial criteria? The results of T-test, independence sample, multi variable single variance analysis test and Tokay test, the following show that.

First the efficiency evaluators are mostly interested in using financial criteria rather than non-financial once; and second using non-financial criteria, there was significant difference between those evaluators who were familiar with BSC and the others.

Keywords: Balanced scorecard, balanced scorecard views, efficiency evaluation, financial criteria, and non-financial criteria.

1. INTRODUCTION

Nowadays, chief executive officers' of most organization and profit seeking as well

non for profit seeking companies, spend much time, energy and financial sources in order to editing the basic tactics of their units; but most of them talk about non-

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efficiency of their strategies. The views that these CEOs have for their units, are clear for themselves but understanding of their staffs from these views is not enough and they do not follow these strategies well in order to meet the goals. Moreover, any organization has to understand that it needs to give impetus not only towards the financial results but also towards satisfaction of the customers, development of state-of-the-art technologies and creation of an environment of learning and growth. The Balanced Scorecard is such an innovative tool which has considered not just the financial indices but also the non-financial indicators as equally critical in determining organizational performance. The advantage of this method is that it can allow the managers to know the vacuum of work as good as it can be transferring this strategy to the total company system.

So, top managers always look for a solution to be assumed from the efficiency of their strategies and in this end, efficiency evaluation methods are selected as tools for controlling the way how these strategies are being used. Although, the features of economic age based on knowledge and information, underline the efficiency of traditional efficiency evaluation methods that seem worth full organizations in the economic age. In these situations BSC first was developed as a modern method of efficiency evaluation. In this research, we look for how much we should use financial and non-financial criteria for evaluating the efficiency. BSC emphasizes on the point that in evaluating the efficiency. Not only financial criteria should be considered, but also other criteria should be noticed in long term and from all aspects. The importance of evaluating financial views is that they can determine the results of other views activities

(non-financial criteria). Though, these explanations don't mean to lessen the importance of financial criteria, because improving these criteria shows the success of the unit in gaining experience as the most pivotal goal, especially in non-state organizations. So, it should be tried to evaluate these details.

2. BSC: THE CONCEPT

In 1990 Robert Kaplan and Davis Norton carried out a yearlong research project with 12 organizations at the leading edge of performance measurement. They came to the conclusion that traditional performance measures, having a financial bias and being centered on issues of control, ignored the key issue of linking operational performance to strategic objectives and communicating these objectives and performance results to all levels of the organization (Corrigan, 1995; Stefanovic et al., 2010). Realizing that no single measure can provide a clear performance target or focus attention on all the critical areas of business, they proposed the concept of a Balanced Scorecard as a more sophisticated approach for meeting these shortcomings.

Kaplan and Norton are of the opinion that the BSC has its greatest impact when deployed to drive organizational change. In a rapidly changing environment, innovative firms are increasingly using the BSC to identify and communicate key factors that drive future values (Kaplan & Norton, 1996) giving better indicators of where the organization is going.

This is accomplished by translating vision and strategy into objectives and measures, providing a framework to communicate this vision and strategy to employees, and

thereby channeling the energies, the abilities, and the specific knowledge of people throughout the organization towards achieving long-term goals. By developing a set of measures that gives managers a fast and comprehensive view of the organization (Kaplan & Norton, 1992), the BSC method strives to focus the whole organization on what must be done to create breakthrough performance. The Scorecard takes the company's vision, translates each key statement into measurable steps and then presents information so that the critical success factors can be evaluated and compared (Campbell, 1997; Umukoro et al., 2009).

By measuring organizational performance across *four balanced perspectives*, the BSC complements traditional financial indicators with measures for customers, internal processes, and innovation and improvement activities (Kaplan & Norton, 1996) – which in turn must all be linked to the organizations strategic vision. This innovative tool is unique in two ways compared to the traditional performance measurement tools. They are:

- (i) It considers the financial indices as well the non-financial ones in determining the corporate performance level and
- (ii) It is not just a performance measurement tool but is also a performance management system.

In the words of the proponents of this tool the BSC retains traditional measures. But, financial measures tell the story of past events, an adequate story for industrial age companies for which investment in long-term capabilities and customer relationships were not critical for success. These financial measures are inadequate however, for guiding and evaluating the journey that information age companies must make to

create future value through investment in customers, suppliers, employees, processes, technologies and innovation. These words give the idea behind the development of this framework. Today's businesses require a better understanding of their customers (both existing and potential) and their needs, better streamlined processes and highly skilled people for ensuring future survival and sustainable growth. This shows that the focus of action has rightly considered the non-financial aspects apart from the financial indices. This tool is the end result of sustained efforts to find an ideal tool to measure performance and provide a link to strategy and action. The decisions about the future actions form the key to success of any enterprise in this fast-changing business environment.

The aim of the BSC is to direct, help manage and change in support of the longer-term strategy in order to manage performance. The scorecard reflects what the company and the strategies are all about. It acts as a catalyst for bringing in the 'change' element within the organization. This tool is a comprehensive framework which considers the following perspectives and tries to get answers to the following questions:

1. Financial Perspective - How do we look at shareholders?
2. Customer Perspective - How should we appear to our customers?
3. Internal Business Processes Perspective - What must we excel at?
4. Learning and Growth Perspective - Can we continue to improve and create value?

While, it is proved now that the number of these views is different based on content and scope of attention related to efficiency of strategy.

In the following, introduced views by Kaplan and Norton will be given in short.

2.1. Customer view

For choosing goals and those criteria related to the customer's view, organization should answer two pivotal questions: First, who are our intended customers? And second, what are our suggested opinions for them? Often, organizations choose their customer view among the following ones.

- Operational superiority- those organizations that choose operational superiority rather than finished price reduction, focus on improving their product operation and the ease of using product and services.
- Lead in product-Those organizations that choose lead in product strategy, focus on continuous innovation and providing better product or services in the market place.
- Customer-based strategy-In this strategy, meeting the needs and customers satisfactions and providing a solution for their problems and maintaining win-win long term relation with customers is basic goals of organization.

2.2. Business internal processes' view

In the view of internal processes, the organizations should determine the strategies that can make value for customers and share holders by being superior in them. Meeting any of these goals that are determined in customer view, necessitates using one or some operational processes should be determined in internal processes view and some suitable criteria should be developed for controlling their development. For meeting the expectations of customers and shareholders, completely a new collection of operational processes is needed. Among them are developing new products and services, production, after-sale services and

open menagerie producing processes.

2.3. Learning / development

How can meet the determined goals in the views of customer, internal process and finally share holders? The response of this question is in goals and criteria related to learning/ development view. In fact, these goals and criteria can amplify the determined goals in three other views. They are foundation for establishing balanced scorecard. When the goals and criteria related to the views of customer and internal processes are being met, immediately the gap between skills and capabilities needed for staffs and the current level of them has been cleared. Also, the gap between the needed information technology and the current level of the organization's informational systems will be cleared. The learning view and development should aim at bridging these gaps and develop some suitable criteria for controlling their advance.

2.4. Financial view

Financial criteria are important parts of BSC, especially in non- state organizations .The criteria of this view tell us that the successful operation of the goals that have been determined in three other views, will lead to what results and achievement at the end. We can do our best to improve and optimize the level of customers' satisfaction, raising the level of quality, easing the products and services time of us, but if these one do not lead us into some solid results in our financial reports, they won't worth at all. Some of these criteria include. The gain that is scaled based on the efficiency of the finance compared to work and recently, the criterion of economics value-added replace

or beside it. Also, increasing the level of income and efficiency by using properties, are, also, famous criteria in this regard. Generally Speaking, in this view, those financial criteria will be used that are famous. Generally, one ratio is defined as the fixed relationship between two digits by percent or scale. Financial relations are used determining the relations between the items in financial sheets. For those who are in charge of analyzing the financial situation of the unit, different financial relations are of great importance.

For analyzing the financial situation of organizations and, generally for the financial operation of unites, five categories of financial relations are used which include:

- 1) Cash relationships
- 2) Activity relationships
- 3) Financial leverage relationships (investing)
- 4) Gaining relationships
- 5) Market place relationships (evaluation).

2.5. Mutual relationships between different aspects of BSC

Every stage of balanced scorecard is in direct or indirect relationship with other stages and with general strategy of the unit. Usually, financial aspect of the starting point of scorecard is balanced. So, this process is processed as a cascade all over the unit and finally ends in learning/development at age. From here, the fallacy of cause and reason relationships is started in the opposite direction. In fact, organizational strategies are starting points that draw the optimized financial view (Salehi, Hejazi and Bashirimanesh, 2010). In order to reach it, the unit should care enough about the relationships with its customers. From this

perspective, customers are viewed as business partners and some solutions for increasing their wealth and favors should be looked for. This is originated from the efficiency and quality of the operation and internal processes of its. Non-training and continuous processes in the unit can't be performed efficiently. Knowing these cause/effect relationships is of great importance for operating balanced scorecard successfully.

2.6. Theoretical framework of the study

This research rooted in accounting discussions of management. The bases of the discussions in this research are balanced scorecard and its four criteria. In this research, financial a non financial criteria are against one another, though, this belief is being characterized that day complete each other and in fact, are related to one another. In fact the prominent thought is, after improving non-financial criteria, financial ones will be improved, too. In research, it's tried to prioritize these criteria.

In this research, the financial and non-financial criteria are independent variables and evaluating their variable operation is dependant, but we try to measure the amount of independent variables effect on dependant ones and compare them together.

2.7. The importance of the study

The criteria that in the current study includes: because BSC is a new discussion our country, Iran not caring enough about theoretical and practical BSC, unknown interpretations of some people from non-financial criteria and the amount of importance and the priority of financial ratio in BSC compared to each other.

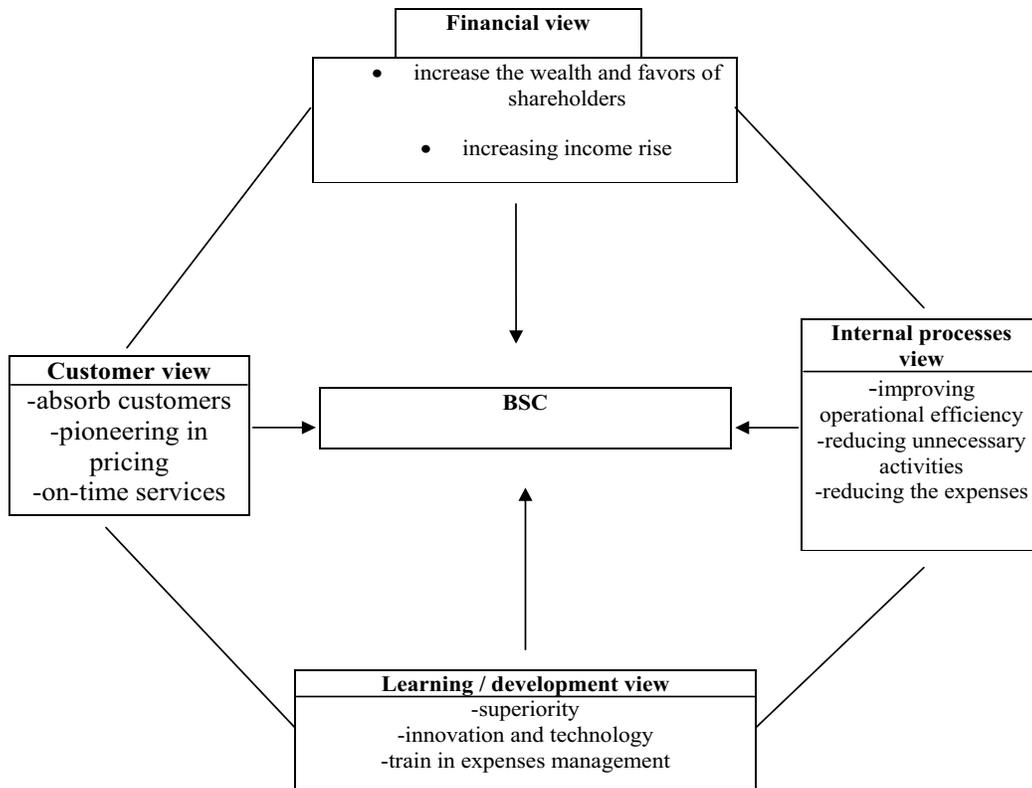


Figure 1. An example of the relationship among the views of finance, customer, internal processes and learning/development

3. REVIEW OF LITERATURE

Kaplan and Norton (1992, p. 46) published an article titled "BSC" in which the new management functions have been introduced by BSC.

BSC has been used by Norton and Kaplan (1996) as an auxiliary tool for organizations in order to put the strategies in to function.

By using this card and having all 4 dimensions given in BSC they were able to have a comprehensive view of strategies in all branches of company. And to make companies improved they decided to take action second article of "BSC".

In 1996 both of them considered this method for having important management functions & for adjusting strategic personal;

group goals and for strategic reactions.

In an interview with Professor Kaplan in 2001, he stated that at first Norton and he believed that companies should start their strategic plans from zero but later on 2 subjects caused changes in their mind. First one: most of the managers needed help for giving out more strategy plans because most of them had problems in vision of strategy programming. Second: in most of the strategy plans which he and Norton had seen up to that time, many topics had been repeated continually. So in 2004 Kaplan and Norton published a book entitled "Second Strategy Plan".

Here the abstract of observations affect of functioning and turnover evaluation in an organization which it shown in Table 1.

Table 1. Summaries of literature review

Author	Subject	Type of Research	Results
Hoque and James (2000)	Effect of BSC on company function	Interviewed by 66 Australian companies	High effect of BSC an improvement in functioning
Lttner, et al. (2003)	Effect of BSC on financial function of consent indexes	Interviewed by 160 American companies	BSC caused ascend on workers consent but no effect on financial functions
Davis and Albright (2004)	Effect of BSC on financial bank branches	Research on American Bank system	Banks with BSC had better functions in main financial indexes
Lipe and Salterio (2002)	Effect of indexes in 4 dimensions of BSC	Research	More effective points with BSC on correlation between branches
Manoj (2005)	Usage of BSC evaluation in 53 Indian companies	Research	General satisfaction & declining in financial charge

Adopted from Karathanos& Karathanos (2005)

Because the topic is some how new one in Iran, few research has been done in Iran as following:

Shokoh Far (2002) attempted to evaluate the operation of production units by BSC approach and the conclusion showed that by performing operational calculating system, key operations are being determined and related indices due to cause / effect relation in this system can be define, as well and by using them, the efficiency of units and individuals can be calculated accurately. In spite of the importance of strategies and units attempts to use them, the results showed that the most probable barriers are on the way of operating and applying the strategies not on editing them. In fact, controlling systems don't work appropriately, because most of these systems are based on financial controls, while they can control the operations In the past not evaluating the capability of units for using strategy appropriately, units need to mobilize their all

capabilities, no matter visible or non visible, although traditional financial controls cant do the same. The way of operational calculation using balanced score card is able to remove the barriers on the way of operating and applying the strategies. In another study, Faraj Astane (2006) has focused on the effects of shared or non-shared judgment of BSC; the result showed those who practiced the BSC achieved shared and non-shared weighting criteria. In another study which has done by Grandaria (2003) about the methodology of using units' superior and BSC, it was shown that this methodology is more efficient from the aspect of operation and efficiency compared to the current systems of evaluation. Hamnami (2003), also, used BSC for designing a system for establishing goods market. Related works have been done in other countries. For example, in Canada, Gaslin (2005) did an experimental study about evaluating the operation in production

units and more interested in using financial criteria rather than non-financial ones. Also about using non-financial criteria among those units that applied BSC and other units, no significant difference was found. Liberators and Miller (1998) design a framework for establishing activity-based pricing and BSC and found in it by using AHP model that managers have problem related to relating the criteria of their BSC to the general goals and mission of the unit, except financial criteria. By the criteria based on AHP, they can relate all BSC operational criteria with general operation of the unit directly. They believe, this raises the probability of using BSC as a tool for supporting decision-making process.

4. RESEARCH METHODOLOGY

According to above mentioned review of literature and importance of the study the following hypotheses are postulated in the study.

First hypothesis: Efficiency evaluators interested more in using financial criteria rather than non-financial ones.

Second hypothesis: Those efficiency evaluators who know well about emphasis on financial criteria.

In this research, up to 10 percent error is acceptable in scoring and because we aim at generalizes the result of the work to the whole society by 95% confidence level, so the first error of the test (α) was determined as 5% that leads to minimize the second error (β).

Based on the provided unknowns, the number of people in the sample is determined 67.

The method used in this work is fielded one and the way for sampling was distance stochastic sampling one. The research instrument is a suitable questionnaire in order to gathering data. After choosing the topic and setting the hypothesis of the research, ratio and criteria for testing the research's hypotheses, refer to the books and articles in Iran and, also, articles and thesis oversea and through the internet. After studying these sources, nearly 150 criteria and financial/non-financial ratio were achieved. Because these numbers seem high for using in questionnaire and the probability of not being answered by test-takers, 30 criteria and ratio among 150 criteria and ratio were selected that being understandable and applicable are among the most important items for choosing these 30 criteria and ratio.

The questionnaire contains two parts namely; first section includes general questions about testing second section includes special question that covers different views of BSC like financial / non-financial criteria.

In order to testing of the validity of the questionnaire, by referring to professors and ideologist who know well about BSC concept, it seems that they approve it. So, the questionnaire has the approved structure. Results based on Cronbach Alpha to be tested and for 67 samples, Alpha coefficient equivalent 90% was gained that shows the high confidence level of the above results.

$$n \geq \frac{N \times z_{\alpha}^2 \times P \times (1 - P)}{(N - 1) \times \varepsilon^2 + z_{\alpha}^2 \times P \times (1 - P)} \Rightarrow$$

$$n \geq \frac{220 \times (1.96)^2 \times \%50(1 - 50\%)}{(220 - 1) \times (10\%)^2 + (1.96)^2 \times 50\%(1 - 50\%)} \Rightarrow n \geq 67$$

(1)

4.1. Findings and results

Hypothesis H0: Operational evaluators are not interested in financial criteria rather than non-financial ones ($\mu_m \leq \mu_g$).

Hypothesis H1: Operational evaluators are interested more in using financial criteria rather than non-financial ones ($\mu_m > \mu_g$).

(*m* implies financial and *g* non-financial situation)

In order to analyzing the first hypothesis, (T-test with independent samples) was used. Based on table 2, score average difference using financial / non-financial criteria stood at 0.421; that shows' using financial criteria is more than non-financial criteria. Because T=4.264 and meaningful difference level is 0.0001, so this difference is meaningful statistically and hypothesis H0 is rejected by 99% confidential level. We can say that operational evaluators are more interested in using financial criteria rather than non-financial ones.

Second hypothesis

Hypothesis H0: Operational evaluators that are familiar with BSC concept don't care non-financial criteria more. ($\mu_a \leq \mu_n$).

Hypothesis H1: Operational evaluators that are familiar with BSC, care more about non financial criteria. ($\mu_a > \mu_n$).

(*a* implies familiar people with BSC and *n* implies non familiar people).

In order to analyzing the second hypothesis, T-test with independent samples was employed. Based on the table 3, average difference of score is the importance of non-financial criteria in the people who are familiar with BSC and non-familiar one that is -0.0858 that implies the superiority of non-financial criteria for the people who are not familiar with BSC, but due to T=0.493 and level of mean full 0.626 (more than 0.05), this difference is not meaningful statistically and hypothesis H0 is accepted, H1 is rejected and ($\mu_a \leq \mu_n$). I.e. with 95%confidential level we can say that familiar operation evaluators with BSC rather than the other group don't care more about using, non-financial criteria.

4.2. Other finding of second hypothesis

Hypothesis H0: operational evaluators care equal about all non-financial criteria ($\mu_1 = \mu_2 = \mu_3$).

Hypothesis H1: Operational evaluators don't care equal about all non-financial criteria (the average of at least one pair of group is not equal).

Table. 2. Summary results of testing of first hypothesis

Test / Testing	No.	Average	S.D.	Average difference	T-amount	Sig.	Result
Using financial criteria	67	3.88	0.533	0.464	4.264	0.0001	H0 is rejected
Using non-financial criteria	67	3.46	0.608				

Table 3. Results of testing of second hypothesis

Test / Testing	No.	Average	S.D	Average difference	T-amount	Sig.	Result
Familiar with BSC	19	3.4056	0.6617	-0.08585	0.493	0.0626	H0 is accepted
Not familiar with BSC	48	3.4914	0.5918				

Table 4. The results of non-financial criteria

Test / Testing	SS	D.F	Average squares	F	Sig.	Result
Between groups	9.223	2	4.612	8.819	0.0001	H0 is rejected
Inside groups	103.538	198	0.523			
Total	112. 761	200				—

In order to analyzing this hypothesis, single variance analysis test with some variable is used. Based on $F=8.819$ and meaningful level (0.0001) this difference is meaningful statistically and Hypothesis H0 is rejected and H1 is accepted, i.e. with 99%, confidential level operational evaluators don't care enough about all non-financial criteria equally.

In order to analyzing non-financial criteria 2 by 2, Tokay test is used that its result shows the priority of customer's criteria rather than internal process and, also, the priority of customer's criteria compared to learning/development criteria is at about 99% confidential level. Also, there was no meaningful difference between criteria of internal processes and learning/development ones at about 95% confidential level.

5. CONCLUSIONS AND REMARKS

Based on the supplied items, the found results can be interpreted as follow that the operational evaluators are more interested in using financial criteria rather than non-financial ones. Also, between the operational evaluators familiar with BSC and the non-familiar ones, there is no meaningful difference on the amount of care they put on non-financial criteria. In fact, it was supposed that even familiar operational evaluators with BSC didn't care more about non-financial criteria compared to these who were not familiar with balanced score card. So it can be observed that the found result in this research are same as other countries and based on the result, it can be said generally that the concept of BSC is not well-understood among operational evaluators

Table 5. The results – Tokay test result for analyzing hypothesis

Items	Average difference	S.D	Sig.
Customer with internal processes	0.4468	0.1249	0.001
Customer with learning/development	0.4617	0.1249	0.001
Internal processes with learning/development	0.01493	0.1249	0.992

and even those companies that applied BSC, have problem reporting and delivering their financial sheets and are only able to report their financial criteria and not able to report correctly their non-financial criteria.

6. SUGGESTIONS

-About any one of the research hypothesis, more research needed to be done by controlling other variables like other ratios and criteria in BSC.

-Conducting the same research in the next few years in order to analyze the role of time generalizing the use of BSC.

-In order to generalizing the result to other societies, a research about other geographical areas needs to be done.

-In order to obtain more valid results, it is suggested that other sources like interview and personal report be used in addition to using questionnaire.

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СТУДИЈА ПРИМЕНЕ ФИНАНСИЈСКИХ И НЕФИНАНСИЈСКИХ КРИТЕРИЈУМА У ПРОЦЕНИ ПЕРФОРМАНСИ: НЕКИ ПРИМЕРИ ИЗ ИРАНА

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Извод

Успех било које организације се огледа кроз њене перформансе које су са друге стране високо зависне од стратегије. У овој области сурове конкуренције, оно што је организацији потребно није само уоквирање праве стратегије већ и управљање истом. Утицај праве стратегије ће аутоматски да се рефлектује у резултатима пословања. Ово истраживање укључује анализу билансних карти успеха (БСЦ) које се заснивају на традиционалним критеријумима процене саме компаније, односно финансијским и нефинансијским критеријумима који су основа за контролу. на тај начин, основна питања овог истраживања су: Колико је финансијских и нефинансијских критеријума искоришћено за евалуацију ефикасности? Да ли процењивачи који знају више о билансним картама успеха више значаја придају нефинансијским критеријумима? Одговори на ово питање су потражени употребом савремених статистичких алата: Т Тест независног узорка, АНОВА теста и мултиваријабилном анализом.

Кључне речи: Билансне карте успеха, процена ефикасности, финансијски критеријуми