

The Modern Concept of Measuring Efficiency - Implementation and Attitudes of BSC

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Abstract – In modern information environment it is not enough that companies measure their results only using data from the past. BSC (Balanced Scorecard) can be considered superior to previous approaches of strategic performance management that focus only on financial measures. Balanced Scorecard includes both financial and non-financial measures that drive future financial organization performances. The research questions, which this work provides answers to, is concerned by the level of awareness of 37 surveyed managers of small, medium and large companies in the Republic of Serbia with the BSC, then identifying the degree of BSC implementation in these companies, as well as the reasons for not adopting the BSC and tests which use similar performance measures

Keywords – Key Performance Indicators, performance measures, BSC (Balanced Scorecard), small, medium and large companies

1. Introduction


Modern business environment requires the need for companies to implement multidimensional systems of performance measurement. Decisions made by companies should go in the direction of improving the company performance. To improve performance, it is necessary to choose and use the right metrics or criteria which show the level of their achievement. The measurement itself is not the aim, rather it

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should have some meaning, and that is, what to do next with the measurement results. In practice, managers cannot apply all possible performance measures and the choice may depend on numerous factors. One of these measures is an adjusted scorecard - BCS (Balanced Scorecard). Theoretically BSC metrics is ideal, but there are still factors which limit its use. In order to investigate the application of BSC in practice in the Republic of Serbia, managers of 37 companies were surveyed.

The aim of this study was to gain insight into the position and presence of BSC (Balanced Scorecard) as a performance measure in small, medium and large companies in the Republic of Serbia. A secondary objective is to establish the possible differences that exist in its implementation between companies. The following part of the paper presents the theoretical basis and review of the literature related to the BSC. After that, the results and analysis of the conducted research are shown as well as conclusions which have been reached.

2. Theoretical background and literature review

Modern business environment is characterized by complexity, heterogeneity and dynamism, requires the application of modern performance criteria of individual companies. Mutual to modern criteria is linking the mission, vision, strategy and derived objectives upon which the company operates [17], [8]. In addition to financial, new performance company measures include non-financial measures. Traditional financial measures are a necessary but not sufficient condition for successful company development in the future [1]. In today's market conditions in order for a company to succeed, operate and develop its business dealings on the market, they must expand the focus of their objectives beyond financial goals.

Since modern systems for measuring company efficiency are customer and employee satisfaction and innovation, unlike traditional efficiency measuring systems they contribute to the importance

of non-financial company performance. Traditional efficiency measuring systems are connected to the efficiency which is achieved on a functional level, but they do not always succeed to measure the organizational long-term business success [6], [3].

Research results conducted by the Institute of Management Accounting in the United States show the data on the examinees' views regarding the traditional efficiency measuring methods. 15% had a view that the existing systems applied in the company are sufficient and well-monitored leadership targets. 43% of examinees looked upon their efficiency measuring systems as less adequate, 60% of examinees responded that they were ready to replace their current efficiency measuring systems [6].

Managing company performances determines the objectives and resources necessary to achieve the set goals, encourages mutual employee cooperation towards achieving results, and controls, and compares the achieved results with the planned ones [24]. BSC emphasizes non-material assets as the basis for the successful strategy implementation.

Balanced scorecard (BSC) as a measuring system helps companies to overcome two basic problems, first the problem of efficient performance measurement, and second, the successful strategy implementation. In this regard, it is a complete system for measuring various performance aspects of the use of company resources [8], [14], [20].

Unlike traditional measuring systems which were directed towards periodically perceiving financial results, the BSC is directed to the main carriers, the cause and effect of the existing results [1], [15]. This method of measuring achieved company performances is based on a two-way communication process where the strategy was created as a set of hypotheses; it can be tested, evaluated and modified. In a changing environment, organizations cannot focus using only one strategy on meeting the set objectives, it is necessary to carry out checking and change the strategy based on set hypotheses [1], [9].

BSC is one of the major innovations in the recent history of management accounting, based on the integration of financial and non-financial performances in order to support and implement the strategy. BSC has four perspectives: internal business processes, learning and growth, customer satisfaction and financial perspective [12], [23], [3], [4], [18]. BSC is a process that is based on coordination and self-control, and it cannot be said that it is a one-time activity [22], [4], [5], [21]. Unlike traditional company performance measures, companies that

apply BSC have all the necessary documentation provided by this method, and thus its application in future research is made easier for the various projects and the frequency of reporting information from the system [19].

As a management process BSC can motivate and encourage improvements in the business areas such as products, processes, customers, market development [17], [14]. Figure 1. shows the basis of the BSC, which in its center has a vision and strategy which have to be successfully implemented, as well as the four basic assumptions of this concept.

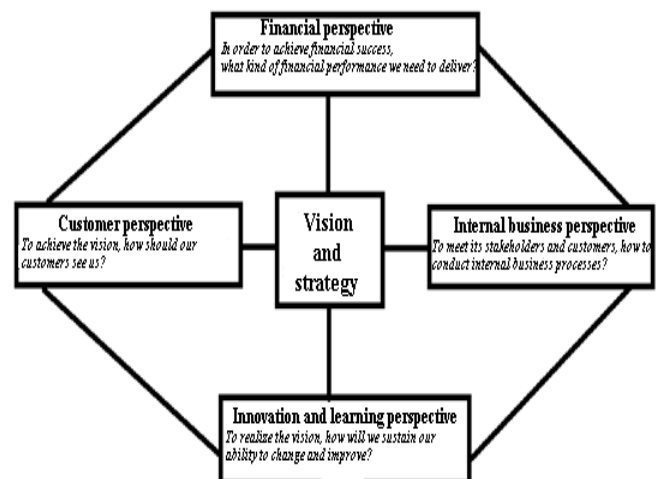


Figure 1: Four perspectives BSC
Source: Shaik and Abdul-Kader, 2014: 93

BSC's financial perspective indicates to the results, while others provide signals for early response and performing necessary corrective actions. Financial measures alone are not sufficient company performance indicators, but non-financial dimensions are necessary as well. Financial dimensions show the corresponding contribution to the profitability of the company. On the other hand with the consumer dimension in the foreground is customer satisfaction which determines the level of retention or abandonment [2], [14]. Measuring customer satisfaction is important, but it must be translated into measures that relate to what inside of the company needs to be done in order to meet customer expectations. After all, customer satisfaction arises from the process of decision making and action, which occurred with the organization [12]. BSC's perspective dealing with customers is essentially a simple macro model of the market where the receivables rate generates based on the number of customers who currently form the customer base. The dynamics of the customer base is a function with two variables "Customer Loyalty" and "Recommendations" [19]. Out of all the customers who file complaints between 54% and 70% will do business with the organization again if their

complaint is accepted. The positive effect of company responses to customer complaints can also be seen in the data that customers notify five persons on average about the process being good to them [13]. Consumers form expectations about products and services through information acquired from the sellers, friends and other sources, and thus the word of mouth effect is of great importance. The greater the gap between expectations and performance, the greater the dissatisfaction.

In order to create the messages for consumers and understand them in the right way, it is necessary for the marketers to know their customers, to gather information, enter them into a database, and use them to maintain contact with customers while improving relationships and fighting for long-term loyalty [13]. The employees play a major role in the consumers' satisfaction and loyalty. The human resource management role should allow the employees highly participating in decision-making in order to present the organizational commitment [16]. The employee dimension, learning and growth should point out to measuring the quality of human resources and their innovation, and it can be used in creating long-term value. To monitor employees as key stakeholders, the frequency of carrying out training programs, opportunities for advancing, norm compliance and quality of the work environment, the personnel rate transfer can be used, etc. [14]. As technology is rapidly changing in today's circumstances, current skills and technology knowledge by the staff needs to be improved and developed along with the changes. Organizations cannot be successful, in the long term, without people who possess the characteristics of entrepreneurs [26]. Entrepreneurs therefore need to continue to invest in staff training or on the other hand to invest in advanced technology [10], [6], [5]. Dimensions of internal processes are related to monitoring and measuring the efficiency of procurement, manufacturing, distribution and other business processes in the company. Internal efficiency and effectiveness will improve if the company is viewed holistically, as a system of coordinated mutually intertwined and interdependent business processes [14]. The company can remain efficient, but lose effectiveness. Drucker pointed out that the most important thing is 'to do the right thing' (effectiveness) rather than 'doing things the right way' (efficiency). The most successful companies do both [13].

BSC has had successful application from the moment it was developed, but for certain authors it had drawbacks which they tried to remove by applying BSCKBS or BITS. A balance system based on knowledge (BSCKBS) is a powerful tool for strategic

planning and assists in strategy implementation. BSCKBS consists of three main components: decision support systems, including a database, managing system. The main objective of this system is to reduce costs, and achieve other successes such as quality and human aspect control [11]. The BSC implementation is necessary with IT support, BITS. It is of crucial importance for managing a vast amount of information relating to the company, such as mission, vision, strategic goals and objectives, perspectives, measures, causal link and initiatives. It is based on the software use that processes information regarding the performance of company business processes [11].

In a study whose results are shown in Table 1., senior managers and managers from the control sector from renown and chosen five companies in Serbia participated. The research results were published in 2013. and we will use them to compare them with the data we obtained from the 2016. survey.

Table 1. Application of multidimensional performance measures in the Republic of Serbia

BSC perspectives	Number of companies
Finances	5
Customers	5
Internal business processes	3
Learning and growth	4
Other	/

Source: Domanović, 2013:39

According to a conducted survey, managers were not familiar with the BSC model or are partially familiar. Some managers were not aware that it was the BSC. The greatest emphasis is on the financial perspective, then customers, learning and growth, and only at the end on the internal business processes [7]. In Serbia outcomes relating to performance are significantly explained by the financial assumption of customers by 100%, and the outcomes that relate to personnel within the internal business processes with 60%, learning and employee growth by 80% [7]. The situation in 2016. has not significantly changed, a more detailed overview follows below.

3. Research methodology

The aim of the research was to gain insight into the presence and attitude, in small, medium and large companies in the Republic of Serbia, towards BSC as a performance criterion, as well as to establish possible differences between these companies in its implementation. The study, whose data will be presented later in this paper, was conducted in the

Republic of Serbia in the form of surveys. The request for survey was submitted to examinees via e-mail, whereby each mail included a description of the study and research objectives, link to access the survey, the promise of anonymity of answers, and the ability to obtain reports on the results and findings that have been reached. The e-mail with the request for participation in the survey was sent to 150 e-mail addresses of companies that are on the list of 300 most successful companies in Serbia. From a total of 150 sent questionnaires to companies in the Republic of Serbia, the response rate was 24,66≈25%. The remainder of this paper will analyze responses from 37 companies in Serbia whose employees gave their answers to the questionnaire.

The starting point of the research was the assessment of the extent to which the theoretical concepts are actually applied by managers in business practice. The questionnaire designed for the purpose of this study consists of two parts, whereby the second part of the questionnaire can be divided into three subparts. In the first part of the questionnaire, examinees were asked questions regarding the dominant business activity of the company in which they work, the number of people currently employed in it, the average annual income that their company achieves, functions as well as the years of service of the person who completes the questionnaire. The second part of the questionnaire relates to the importance of performance measures for the company, where the examinee is expected that by giving marks from 1-5 (1-unimportant, 5-very important) he grades the importance of financial as well as non-financial performance measures. After a brief explanation of the BSC concept examinees were asked whether they were familiar with it. They were offered three answers (1. Yes, 2. No, 3. Unknown), and depending on the answers they gave, they filled in further questionnaires. The first set of the second part of the questionnaire concerns the questions that were answered by all those examinees who gave a positive response to the previous question. For them, the questionnaire went further in the direction of grading claims that they were given concerning the BSC. Each claim was evaluated using a Likert five-point scale (1- completely disagree, 5- completely agree). Other subpart of the same part of the questionnaire was intended for all those who answered the question about being familiar with the BSC concept negatively. Their task was to check the box in front of the offered answers that describes the reasons for not using BSC. In addition to provided

answers they could independently fill in the blank with a reason which influenced them not to apply the BSC, one that had already not been among the offered answers. And the third subpart of the second part of the questionnaire was intended for those examinees who indicated that the concept of BSC is unknown to them. The asked question related to the selection of areas in which the company has formal performance measures. Examinees gave the answers to this question by checking the boxes in front of the offered areas.

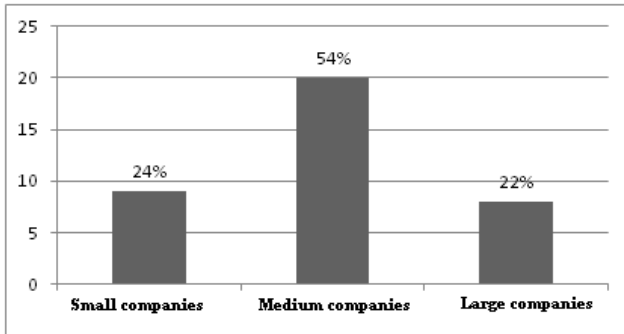
The questionnaire that the examinees filled is no test of knowledge, among their replies there is no right or wrong or more valuable and less valuable, they are all essential and important if they reflect the true opinion of the examinee. All those who participated in the study were familiar with this. This method of collecting data in addition to being relatively inexpensive has certain limitations. Getting data using this type of research primarily depends above all, on the consent of the individuals and the companies that participate in it. An additional disadvantage is that the views and opinions of the employed managers do not necessarily reflect their actual behavior in decision making. It is very difficult to determine to what extent they were really honest and what the actual situation in the application of different performance measures in business practice is.

4. Results and analysis research

In practice, managers cannot apply all possible performance measures. In order to investigate practices in the Republic of Serbia 37 employees were surveyed in small, medium and large companies. The presence of the Balanced Scorecard is not negligible, but based on the obtained results one can see its increased use in large companies rather than in small and medium ones.

The research involved companies with different characteristics, in terms of the dominant business activity they are engaged in, number of employees, average annual revenue, etc. To determine how the different company characteristics reflect on the performance measurement practice, all companies in the sample were divided into three groups, where the criteria was the division of companies according to size: small, medium and large. This sample division was based on examinees' answers to questions from the first part of the questionnaire, concerning the current number of employees and average annual revenue of the company.

Graphic 1: Structure of the sample according to the type of company

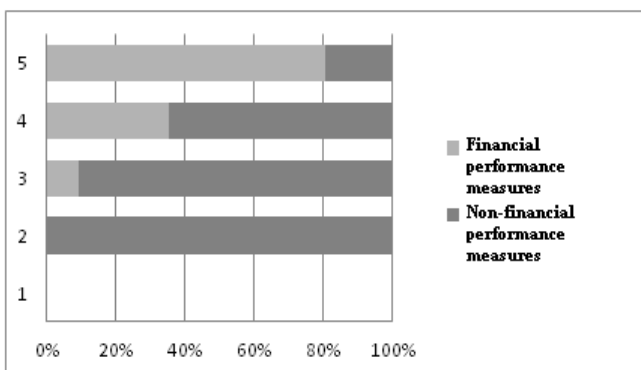


Source: Authors

Classified in the category of large companies are all those companies whose representatives filled out the questionnaire indicating that the number of current employees in their company exceeds 250, and the operating income is bigger than 4,256,914. Medium-sized companies include all those where the number of employees ranges from 50 to 250, and operating income from 1.070.310 to 4.256.914. And in the end, small businesses, all those who have up to 50 employees, and operating income of up to 1.070.310 [25]. In figure 1., we see that the most represented in the sample are medium companies, and the least the large ones. The dominant company business activity which participated in the survey is the production, 60%. Wholesale 16%, providing services 16%, transport 8% and at the end 3% construction.

Figure 2. shows grades of importance, financial and non-financial performance measures. Examinees by giving a rating ranging from 1 to 5 (1-unimportant, 5-very important) gave a greater importance to financial performance criteria, in comparison to non-financial. Over 80% of examinees gave the highest grade to financial performance criteria. The necessity of financial indicators is based on the fact that the ability to create value in business processes makes sense only if it results in a financial effect. The lack of financial impacts after operational process improvements casts doubt on the strategy.

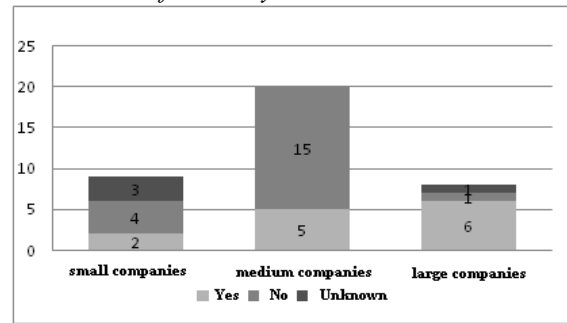
Graphic 2: Assessment of the importance of measures / performance metrics for the company



Source: Authors

Examinees filling in the questionnaire have roles: head of department 43%, director 32%, owner 11% and worker 14%. The position of the examinee indicates that credible information was given and as a result valid and reliable data can be obtained. After a brief explanation of the BSC concept examinees were asked whether they were familiar with the BSC concept (Balanced Scorecard), and their responses are shown in Figure 3.

Graphic 3: Structure of the sample according to familiarity with the BSC



Source: Authors

As stated earlier, the sample was divided into three groups, responses in terms of small, medium and large companies were observed. 22% of small businesses gave a positive response, 44% negative response regarding the BSC concept, while for 34% the BSC concept was unknown. It should be noted that the BSC concept was originally designed to be used by medium and large companies, because small businesses have characteristics that distinguish them from most other companies. In medium-sized companies that participated in the survey, the response that the BSC is unknown was not noted, while the largest number 75% was familiar with it, and 25% gave a negative answer. Large companies in the highest percentage apply the BSC, 75% of the examinees, while the number of companies where this concept is unknown or not applied is equal. It can be concluded that in relation to small and medium-sized businesses, large companies are the most familiar with and implement the BSC. All companies that responded that they are familiar with the BSC concept answered the question of where they first heard about it. Interview, seminar or lecture is the dominant source with large companies, while for medium-sized companies it is the financial press. Small companies that are familiar with the concept of BSC as a source of information, cited scientific literature or textbook, but discussion, seminars or lectures are equally represented.

Based on the responses of employees, we obtain information that 46% of surveyed companies use BSC less than one year, while 54% of examinees use it between 1 and 3 years.

The section of the survey relating to those companies that have declared to use the BSC, frequency of use, was investigated using a Likert scale of five divisions, where the score 1 denotes- completely disagree, and 5 completely agree.

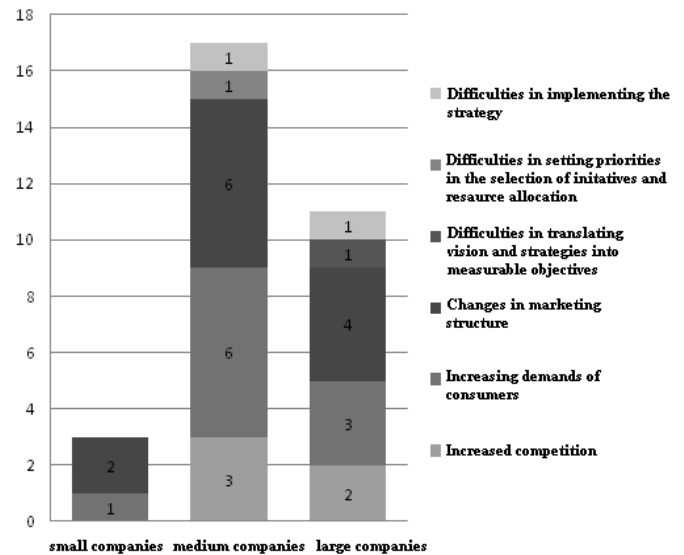
Table 2. Average grades of statements by small, medium and large companies

Offered claims	Small companies	Medium companies	Large companies
1. BSC is an effective measure of system performance.	3	3,8	4,16
2. My company is satisfied with using the BSC.	5	2,6	4,16
3. With BSC it is easier to achieve the objectives of the company.	3	3	4,33
4. With BSC employees better understand the strategy and vision of the business.	3	4,2	3,66
5. Information from the BSC can help managers to improve customer satisfaction.	3	3,6	4,33
6. Information from the BSC can help managers to improve the quality of products and services.	3	3,4	4,16
7. Information from the BSC can help managers to improve employee skills.	3	3,4	4,16
8. Information from the BSC can help managers to reduce costs.	3	3	4,50

Source: Authors

Based on the data presented in Table 2., it can be seen that the small businesses that apply BSC are satisfied with its use. Their attitude regarding other claims they were offered was balanced and neutral (which is grade 3, neither agree nor disagree), it concerns the improvement of product and service quality, improving employee skills, help managers to reduce costs. Medium-sized companies mostly considered that employees using BSC better understand strategy and vision of the business. Large companies give the highest advantage to the fact that information from the BSC can help managers to reduce costs. In the graphical representation of number 4 you can see the reasons small, medium and large companies chose to implement the BSC.

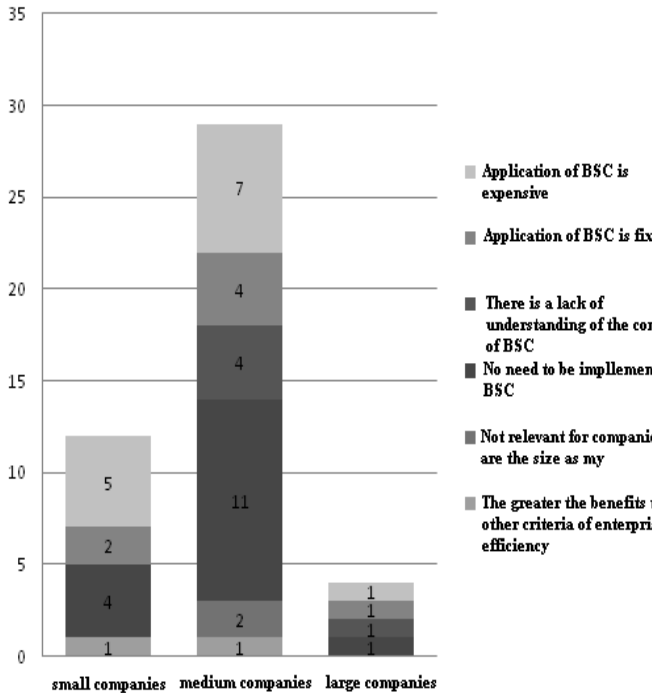
Graphic 4: Reasons for medium, small and large companies to introduce BSC



Source: Authors

From the graphic we can see that the decisive reasons for introduction of BSC in small, medium and large companies have been changes in the market structure and increased consumer demand. For small businesses, only these two are listed, while with medium and large ones other reasons are present, but to a lesser extent. Those companies that have stated that they do not use the BSC gave answers to the question what the reason for that is. The answers are shown in figure No. 5.

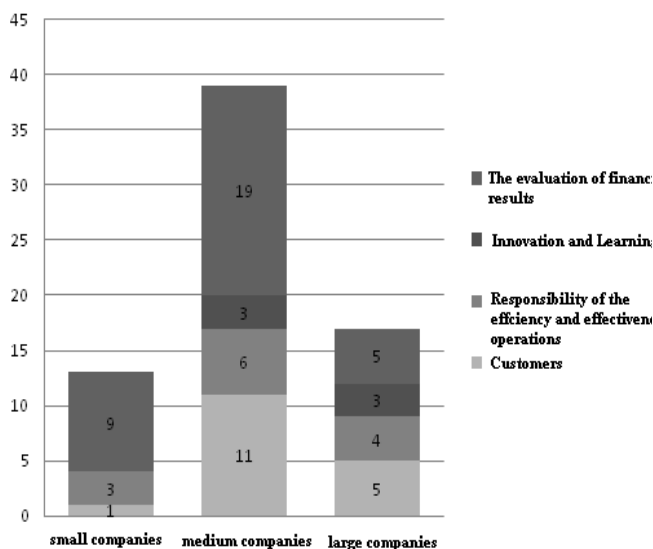
Graphic 5: Reasons due to which small, medium and large companies do not apply BSC



Source: Authors

Small, medium and large companies in the Republic of Serbia, which do not apply BSC, agreed that the main reason for that is that the use of BSC is expensive, and that its use is long-lasting. In addition to this, medium-sized companies state as their most dominant reason that there is no need for them to implement BSC.

Graphic 6: The structure of examinee responses according to the areas where the companies have a formal performance measures



Source: Authors

Based on the data presented in Figure 6., it shows that the most common criteria for performance evaluation of financial results (revenue, total costs, inventory, profit was achieved in the organizational unit, etc.), with all three types of companies. In medium-sized and large companies in the second place by presence, there are customers (monitoring of customer pleasure, loyalty, market share, sales per customer, etc.), with small companies it is the responsibility for the efficiency and effectiveness of operations. The area of innovation and learning involves investment in training, practice, satisfaction of employees, etc., while responsibility for the efficiency and effectiveness of operations includes compliance with deadlines, the state of the stock, malfunctions.

The results show that companies in Serbia are still experiencing financial performance as more important than non-financial. Which means that a greater focus on them continued from 2013. until 2016. when this research was conducted.

Although the past is usually a good indicator of future results, it cannot be the sole basis for measurement. The financial perspective is of crucial importance for the success of BSC. It accurately measures and how good improvements are in the other three perspectives that BSC monitors. In today's information environment, companies cannot measure only their own results based on data from the past.

5. Conclusion

The aim of this study was to investigate the practice of measuring the impact and implementation of BSC in small, medium and large companies in Serbia. The results show that companies are still experiencing financial performance as more important than non-financial. When comparing and reviewing the results of surveys conducted in 2013. and 2016. it shows that the emphasis in the companies in Serbia is still on financial measures. Since financial measures are still considered to be more important than non-financial, we believe that companies need to make more of an effort in the implementation and utilization of the integrated performance system criteria and provide the right information to decision makers. For long-term success they should base their decisions on non-financial measures as well that allow monitoring many significant opportunities for achieving long-term strategic goals. The results showed that the companies immediately after the criteria for assessing the financial results have formal performance measures in the customer area. More precisely, the criteria are based on monitoring customer satisfaction, customer loyalty, market

share, sales per customer, etc. When we look at answers from 37 companies from Serbia which participated in the study, we see that the use of BSC is still slight. There is a higher percentage of companies that do not apply BSC (65%) than those that apply it (35%). On the other hand, when we compare the results with the use of BSC in 2013, we can conclude that the awareness and application of Balanced Scorecard is recording growth.

The reasons why managers in Serbia poorly implement BSC model are primarily a lack of understanding, lack of financial resources for introducing and implementing the model, and also unreadiness for change and managerial innovation, while some small businesses responded that there is no need for applying the BSC. The companies that apply the balanced scorecard stated that they were satisfied with the use because employees understand the strategy and vision of the business better, it also helps managers to reduce operating costs. The reasons that have led these companies to implement the BSC are primarily changes in market structure as well as the increasing consumer demands. The views and opinions of employees who participated in this study do not necessarily reflect their actual behavior in decision making. It is difficult to accurately determine to which extent their answers were honest in terms of the actual situation in the application of BSC in business practice. Companies should develop guidance that will be balanced and based on a combination of indicators so that all functions in the company jointly determine what its best interests are.

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