

# NON-FINANCIAL INDICATORS AND THEIR IMPORTANCE IN SMALL AND MEDIUM-SIZED ENTERPRISES

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## Abstract

Measuring enterprise performance plays an important role in maximizing business efficiency. A modern business performance measurement tool is the Balanced Scorecard (BSC) method. This method helps assess not only the financial situation of the enterprise, but also indicators, and evaluates non-financial indicators, which is important for achieving the maximum competitiveness of the enterprise. This paper points out the importance of non-financial indicators in small and medium-sized enterprises in Slovakia, using the BSC method as a strategic management tool. Three hypotheses were established and then verified using the method of proportionality of the given phenomenon in the population and the chi-square test of independence. A partial objective of the study was to find out the existence of a statistically significant link between the use of the BSC method and the importance of non-financial indicators in small and medium-sized enterprises in Slovakia, as the BSC method attaches the same importance to both financial and non-financial indicators. It has been shown that these two variables are related.

*Keywords: balanced scorecard, indicators, non-financial indicators, small and medium-sized enterprises*

*JEL Classification: G39, M40, M52*

## 1. INTRODUCTION

The present time is characterized by constant business changes, which have a major impact on the competitiveness, growth, efficiency, and survival of any enterprise (Pohulak-Żołędowska, 2016; Dobrovič & Timková, 2017). Business entities must respond to the ever-changing market situation and be able to adapt to these changes professionally. The increase of entrepreneurial activities is a major issue on which the sustainability of future growth depends (Kljucnikov & Belás, 2016; Belás et al., 2017; Kot, 2017). Business entities do not only focus on financial aspects, but also have to focus on development as well - preparedness, ability to learn, innovation, and the use of information. Moreover, they must continually improve relationships with customers and suppliers. In this context, it is important to focus on business management and performance measurement.

The question of how to measure and manage performance is the subject of ongoing discussions by experts looking for a solution for how to create a management tool that would continually improve and evaluate the performance of business processes (see Monni et al., 2017; Illmeyer et al., 2017; Rajnoha & Lesníková, 2016; Petera, Wagner & Mešík, 2012; Gabčanová, 2012). The process of business performance measurement is currently influenced by two basic views on how a business should run. The first view focuses on the financial side - the financial investment of the owner who expects a return on investment and an increase in the value of the enterprise. The second



view sees enterprises as a socio-economic system, i.e., a complex network of internal and external relations, which must be balanced carefully. The Balanced Scorecard (BSC) method is also based on this point of view - its main goal is to provide a strategic view on the business management based on enterprise's vision, mission and strategy, not excluding performance measurement (both financial and non-financial).

## 2. THEORETICAL BACKGROUND

The BSC method is a business performance measurement system that takes into account the most important aspects of business. These aspects are expressed in a corporate vision and business strategy. The vision reflects the basic concept and the way the vision is to be carried out. The important success factors will determine what is important in order to be successful, and special indicators serve to measure whether these factors are doing what they are supposed to do (Niven, 2002; Kovacs & Kot, 2016). The BSC method was introduced in an article by Kaplan & Norton (1992).

The BSC method is more of a conceptual tool, where the enterprise and each unit within the enterprise must customize the scorecard to their particular goals and strategy. In the areas of management and performance measurement, enterprising subjects are focused not only on financial aspects, as their development potentials are increasingly dependent on flexible factors such as readiness for implementation, capability of learning, innovation of the workforce and making best use of the information-based society (Gallo & Mihalčová, 2016). Although enterprise or business units are encouraged to identify and customize their own areas of measurement, four broad perspectives are associated with the BSC method: customer, internal processes, innovation and learning, and financial (Sasse, 2014). Figure 1 shows the BSC method's perspectives and how they are linked to the vision and strategy.

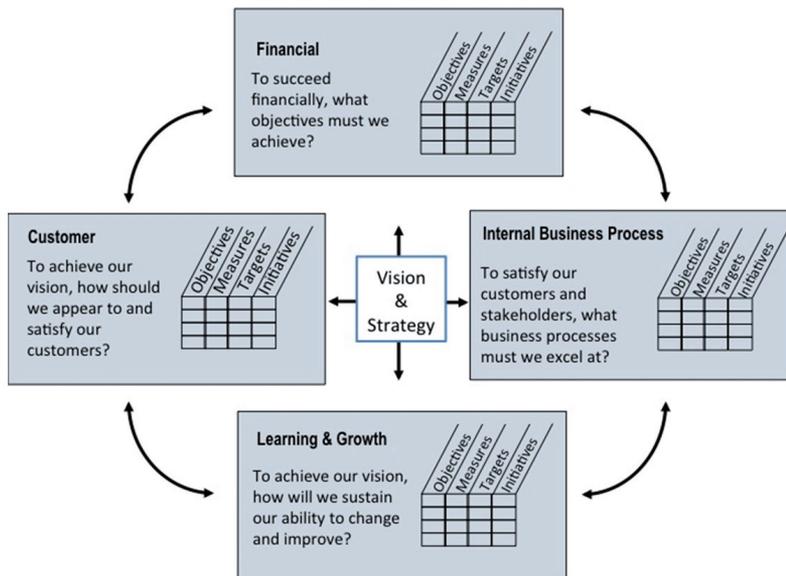


Fig. 1 – Perspectives of the Balanced Scorecard method. Source: own processing according to Kaplan & Norton (2005)

The BSC method is often used by various companies. There are many studies that address the application of the BSC method in small and medium-sized enterprises in different countries. Bain and Company's 2017 survey, which had approximately 1,200 respondents from businesses operating in advanced economies, has shown that 53% of companies now use the BSC method. Compared to the most commonly used management tools, the BSC method is roughly in the middle of the rankings. Figure 2 shows the 10 most-used management tools.

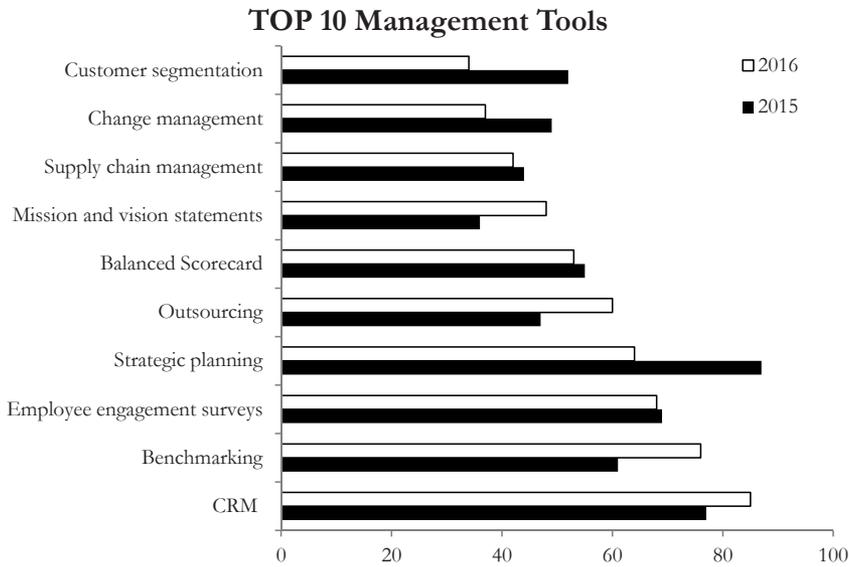


Fig. 2 – Top 10 Management Tools. Source: own processing according to Bain and Company (2017)

A research on the use of the Balanced Scorecard method was conducted in Slovakia in 2010. The research was carried out on the basis of the dissertation thesis by Karabášová (2010). The research sample was made up of enterprises with a turnover exceeding 5 mil. EUR in 2008. Together, Karabášová reached out to 956 respondents of which 110 were willing to take part in the research (11.51% returns rate). The research has shown that the Balanced Scorecard is used or known to only 8% of the enterprises addressed. When comparing the use of the method between the world and Slovakia, the difference is staggering 45%.

The area of measuring the company performance is very extensive, and many authors, such as Gumbus & Lussier (2006) have focused their attention to this issue. In their article, they presented three small to medium-sized enterprise (SME) case studies, with a copy of their BSC, to illustrate how these enterprises use the BSC to set the strategy and align operations to achieve breakthrough results. The results of the case studies support the prior literature from large companies, which the implication for entrepreneurs is that they can also benefit from developing and using the BSC. The authors argue that the development of the BSC should be a team-based ongoing process. Thus, the BSC is used for continuous improvement, which is important to the SME growth (Gumbus & Lussier, 2006).

Falle et al. (2016) dealt with the use of BSC in an enterprise of the SME category. This case study describes the development of the SBSC (Sustainability Balanced Scorecard) in a middle-sized Austrian brewery. The findings show that when developing the SBSC, it is important to take specific SME characteristics into account and apply methods that allow for adaptation to the prevailing conditions, such as strategic management, organizational structure and resources. Moreover, the paper highlights the supporting factors and challenges experienced. Whereas top management support, the presence of a project team and high employee involvement were identified as key supporting factors. The lack of specific resources and a blurry strategy formulation exert a negative influence on the development process.

Small and medium-sized enterprises represent the primary moving mechanism for creation of a new job and increase of the gross domestic product (Belás et al., 2017). The dynamic development of small and medium-sized enterprises is one of the basic prerequisites for healthy economic development of the country (Slovak Business Agency, 2016; Androniceanu & Popescu, 2017). The impact of SMEs on the Slovakian economic system is significant. The current number of small and medium-sized enterprises is growing year on year. Risk-taking and competitive aggressiveness, substantial elements of the entrepreneurial orientation of SMEs, have a significant impact on the management of SMEs (Ključnikov et al., 2016). The ability of SMEs to grow highly depends on their potential to invest in restructuring, innovation and qualification. Slovak Business Agency (2016) focuses its activities on supporting small and medium-sized enterprises in Slovakia and performs regular monitoring of the current state and the entrepreneurial environment of these enterprises. Small and medium-sized enterprises account for 99.9% of the total number of business entities in Slovakia, provide employment to nearly three quarters (73.6%) of the active labor force in the private sector and contribute more than half (52.8%) to the creation added value. Almost 97% of small and medium-sized enterprises are micro-enterprises employing less than 10 employees.

Despite the large number of small and medium-sized businesses in Slovakia, there are problems in this area. Frequently criticized issues are the business conditions in the country highlighted by Belás et al. (2015) in his research. This research focused on the perception of the entrepreneurial environment of small and medium-sized enterprises in Slovakia and the Czech Republic. The research results point to the negative business environment and business conditions in these countries.

Measurement and performance evaluation are also important for these businesses. By examining and evaluating its performance an enterprise can improve its current state. So far, we have not been able to find a research on the current state of using the Balanced Scorecard method in small and medium-sized enterprises in Slovakia. Therefore, one of the research objectives is to find out the current state of usage of the BSC methodology in Slovakia.

### 3. RESEARCH OBJECTIVE AND METHODOLOGY

The aim of the research is to highlight the importance of using non-financial indicators and their interconnection with the use of Balanced Scorecard method in small and medium-sized enterprises in Slovakia. The use of the BSC method is based on the principle of using the above-men-

tioned indicators which evaluate the performance of the enterprise not only through financial indicators, but also places the same importance to non-financial indicators. The main objective of the research was accompanied by partial objectives - namely the use of the BSC method in small and medium-sized enterprises in Slovakia and the issue of statistically significant relationship between the use of the BSC method and the importance of non-financial indicators.

The questionnaire survey was a primary method of data collection in this research. The questionnaire survey was conducted in an online form. Answers to the questions in the questionnaire were formulated in the form of the Likert scale of importance. The questionnaire submitted to the enterprises was divided into two basic parts. The first part consisted of questions focused on the size of the enterprise, the ownership of the enterprise and the sector in which the enterprise operates. The second part focused on the strategic management research, where the questions were divided into three categories: strategy, business performance measurement, and the Balanced Scorecard method. The strategy category included questions about strategy definition in the enterprise, how the strategy is defined, and in case the enterprise does not have a defined strategy, we asked why this is so. The research category concentrating on the business performance measurement focused on questions whether the enterprise indicators its performance and, if so, what performance measurement tool it uses. We were also interested in why the enterprise does not measure its performance (if so reported). The Balanced Scorecard method belongs to the area of strategic management and related performance measurement, which was the reason why the questionnaire was divided into such parts. The questions related to the Balanced Scorecard method form the broadest part of the questionnaire, and their aim is to find answers to questions on how the Balanced Scorecard method is used, what reasons for not using the method are, and what preferences of individual indicators that include the reference to the Balanced Scorecard method are.

The analysis of the current state of the Balanced Scorecard method use was preceded by data collection in small and medium-sized enterprises in Slovakia. The enterprises were selected based on NACE classification. To obtain the relevant data, it was necessary to obtain a quality database of small and medium-sized enterprises. This database is regularly updated by the Slovak Business Agency as part of its activities aimed at supporting the development and growth of small and medium-sized enterprises. The analytical materials serve as information and analytical outputs in connection with the preparation and implementation of the policy to support the development of small and medium-sized enterprises (Slovak Business Agency, 2016). The survey sample was made up of small and medium-sized industrial enterprises in Slovakia. The selection file was created in accordance with the probability theory, which means that the results found in the sample file can be generalized to the basic file, which is saved or censored. In our research, we applied a random selection that allows the results not to be distorted by the tendency of choice. The advantage of the random selection is that each base unit has the same likelihood of becoming a selection element. By using this method, it is important that a basic set is known and that each element is accessible to it. Each base file unit has the same likelihood of being able to access the selection file while being selective. The sample selection was carried out through the Enterprise Index database. The Entrepreneur Index project was created as a database of enterprises whose main role is to support and develop a transparent business environment in Slovakia. All informa-

tion and data on which the Business Index is based are drawn from publicly available databases and registers. The basic information frame consists of digital structured data, pdf, csv, xls, and electronic scans of various documents. We sent a questionnaire to 623 small and medium-sized businesses in Slovakia in total. Based on CZ NACE and SK NACE, we focused on industrial enterprises. Of all the questionnaires sent, we received 60 properly filled in questionnaires, the return rate thus reached 9.63%. The return of the questionnaires was considered to be inadequate for this value of less than 10%, so we decided to take another second round of questioning. We consider the second round to be successful because our return on questionnaires more than doubled on the number of respondents in 135 businesses. Based on our re-engagement, our return on questionnaires increased to 21.6%. We consider this payback to be more relevant to determine the conclusions of our research.

Based on the main aim of the research, the following research hypotheses were formulated:

*H1: We assume that more than 20% of small and medium enterprises in Slovakia use the Balanced Scorecard method to measure enterprise performance.*

*H2: We assume that there is a statistically significant relationship between the use of the Balanced Scorecard method and the importance of non-financial indicators.*

*H3: We assume that at least 50% of businesses using the Balanced Scorecard concept use the most common indicators of the financial perspective (ie, profitability, return on capital, increase of cash flow and increase of value of the company).*

To evaluate the obtained data, we used the following research methods: descriptive statistics, pivot tables, analyses, comparisons, synthesis, selection, induction and deduction. The questionnaire was created bearing in mind the established hypotheses, which were subsequently verified statistically. In order to verify the hypotheses, we used the method of proportionality of the given phenomenon in the population and the chi-square test of independence. When verifying the hypotheses, we made use of higher statistics methods together with the appropriate statistical software. In our case, we used the statistical program Statistica by the software company StatSoft, version 5.5 and the program Gretl. The formulas used for statistical calculations are shown in Tab. 1.

Tab. 1 – Calculation of selected indicators. Source: Marcheová et al. (2011)

Method of proportion of the given phenomenon in the population	Pearson's chi-square test of independence
$p = \hat{p} \pm z_{\alpha} * \sqrt{\frac{\hat{p} * \hat{q}}{n}}$	$\chi^2 = \sum \frac{(f_e - f_t)^2}{f_t}$
<p><math>\hat{p}</math> - Method of proportion of the given phenomenon in the population</p> <p><math>q</math> - proportion of the opposite phenomenon in the selected sample</p> <p><math>n</math> - size of sample</p> <p><math>z_{\alpha}</math> - confidence level</p>	<p><math>f_e</math> is the empirical frequency of the phenomenon examined</p> <p><math>f_t</math> is the theoretical frequency of the phenomenon examined</p> <p><math>\chi^2</math> is the value obtained, that is the chi-square which we will compare with the table value according to the chosen error probability</p>

## 4. RESULTS AND DISCUSSION

In our research, we looked at the importance of non-financial indicators in managing and measuring the performance of small and medium-sized enterprises. In order to have more detailed information, we decided to conduct a research in which we investigated the use of the Balanced Scorecard method in Slovak enterprises (both financial and non-financial indicators).

To verify the state of use of the BSC method, we used the data from the questionnaire. A direct question was asked in the questionnaire to find out whether respondents (in our case, SMEs) use the BSC method. The results were calculated using the method of proportionality of the phenomenon in the population, as shown in Table 2.

Tab. 2 – The results of testing the first hypothesis using the method of proportionality of the given phenomenon in the population. Source: own processing

Method of proportion of the given phenomenon in the population
$\hat{p} = 0.1555$
$\hat{q} = 0.8445$
$p = 0.1555 \pm 1.96 * \sqrt{((0.1555 * 0.8445) / 135)}$
$p = 0.1555 \pm 0.0467$
$0.0638 \leq p \leq 0.2472$

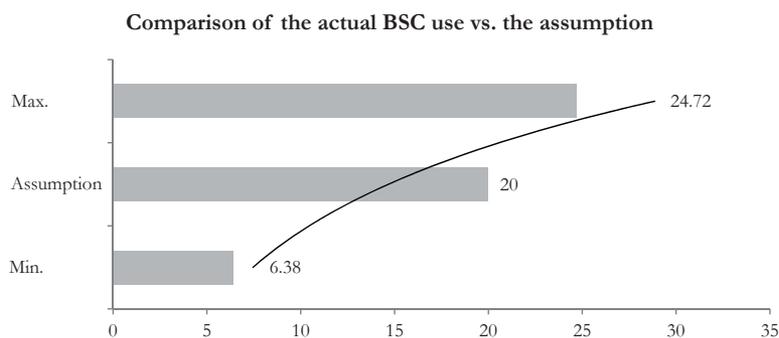


Fig. 3 – Comparison of the expected and actual results of the BSC use in small and medium enterprises in Slovakia. Source: own processing

The statistical hypothesis verification gave us the values ranging from 6.38% to 24.72 %. We obtained these values using the calculations with the following variables. As the first variable, we listed the proportion of the given phenomenon in the population, which in our case represented the percentage of enterprises using the BSC method. The second variable uses the opposite phenomenon of the proportion of the phenomenon in the population - the percentage of respondents who did not use the BSC method. The third variable was the total number of respondents

who participated in the questionnaire. In order to reach the result, we had to add a confidence level, in our case it reached 95% and was rated with the coefficient 1.96.

From the calculations, it is evident that the 20% value is within the specified interval, which means that the Balanced Scorecard method is used by less than 20% of enterprises in their business activity. Thus, we cannot accept the established hypothesis based on the received data. We agree with the authors Horváthová et al. (2014), who argue that, the implementation of the Balanced Scorecard method to the management system of Slovak businesses (especially in Slovak SMEs) seems to be a real problem. Gumbus & Lussier (2006) in their article describe, why small businesses should use the BSC concept:

- Promotes growth-due to focus on long-term strategic outcomes, not just short-term operational results.
- Tracks performance-individual and collective results can be tracked against targets in order to correct and improve.
- Provides focus-when measures are aligned to a few critical strategies, the BSC provides focus on what is important to the company.
- Alignment to goals-when you measure what is truly important to success, the measures become linked and support each other. Alignment occurs across the organization.
- Goal clarity-the BSC helps respond to the question, "How does what I do daily contribute to the goals of the enterprise?"
- Accountability-individuals are assigned as owners of metrics in order to provide clear accountability for results.

The importance of non-financial indicators in managing and measuring business performance is now undeniable, and the Balanced Scorecard method itself contains both financial and non-financial indicators. Based on the above, the partial aim of the research was to find out the existence of a statistically significant link between the use of the BSC method and the importance of non-financial indicators in small and medium-sized enterprises in Slovakia. Based on the sub-objective, the Hypothesis 2 was formulated, which assumes that enterprises that know and use the Balanced Scorecard method regard non-financial indicators as equally important as financial indicators. In this regard, we focused on businesses that know and use the Balanced Scorecard method and the consequent link to the importance of non-financial business indicators.

To determine the relationship between the specified variables, the Pearson's chi-square independence test method was used. Using this method, we calculated the chi-square test characteristic, which we then compared with the critical table value for the error probability chosen and the degree of freedom found. Tab. 3 contains the expected dependencies of enterprise ownership, and Figure 4 shows the direct relationship of these two variables in XY scatterplot.

Tab. 3 – The results of the second hypothesis testing using a chi-square test. Source: own processing

Pearson's chi-square independence test	
Calculated p-value	$p = 0.0446$
Probability of error	$\alpha = 5\% (0.05)$
Degree of freedom	$DF = 1$
Critical value	$\chi^2 = 0.01$

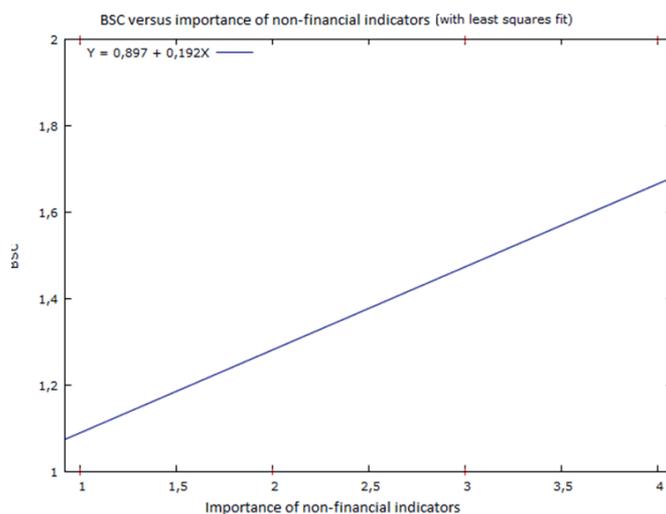


Fig. 4 – The BSC versus importance of non-financial indicators. Source: own processing

Based on the chi-square test calculations, it can be concluded that there is a statistically significant relationship between the use of the Balanced Scorecard method and the importance of non-financial indicators. This assertion results from the calculated value of  $p$  which is less than 0.05. The H2 hypothesis is thus accepted because there is a statistically significant relationship between the variables.

Based on our research, we can conclude that the situation with the use of the BSC method is gradually improving and its utilization is approaching the threshold of 20%. This result can be compared with the result of the research carried out in previous years. Karabašová (2010) mapped the situation regarding the knowledge and use of the BSC method in Slovak enterprises, and found that 6% of enterprises use the Balanced Scorecard method, and 12% of enterprises are considering introducing it. This research was carried out in 2010 and focused on all enterprises. A newer research was conducted by Lesáková & Dubcová, 2016, and dealt with the issue of Balanced Scorecard method. They found that only 13.73% of respondents fully understand the BSC method and only 9.15% of the respondents use it. Compared to advanced countries, we are still lagging behind since the use rate in Europe is 53% (mainly Western Europe) (Bain & Company, 2017).

To verify the hypothesis on the use of financial and non-financial indicators under the Balanced Scorecard concept, we asked the question: What importance do you put on individual indicators in the Balanced Scorecard perspective? Judging from the acquired data, we adjusted our hypothesis by using the methods of the descriptive statistics. We followed the frequency of the indicators, we focused on the average of all answers and on the standard deviation.

Tab. 4 – The Statistical evaluation of BSC perspectives. Source: own processing

Indicator Balanced Scorecard	Average	Min.	Max.	Standard deviation	The most common answer
Customer satisfaction	4.9	4	5	0.32	5
Profitability	4.7	4	5	0.48	5
Increase cash-flow	4.4	2	5	0.97	5
Effective IT system	4.4	3	5	1.00	5
Return on capital	4.3	3	5	0.67	4
Customer's service	4.3	3	5	0.67	4
Qualified workers	4.3	4	5	0.48	4
Motivation of workers	4.3	3	5	0.67	4
Increase the value of the business	4.2	3	5	0.79	4
Process optimization	4.2	2	5	0.92	multiple
Market share	4.1	2	5	0.99	multiple
Improving service	4	1	5	1.25	multiple
Improving working conditions	4	3	5	0.94	multiple
Innovation process	3.88	2	5	1.05	multiple
New customers	3.7	1	5	1.25	multiple
Lifetime value of the business	3.55	1	5	1.24	multiple

Indicators of financial perspective are leading after the statistic analysis. The profit indicator is number one, which means that companies have always been focused on their profit. Much attention has been given to the cash flow, which was revealed thanks to our research questionnaire. Companies are planning their cash flow in order to avoid financial problems. Thus, we can conclude that the companies do their best to achieve their goal and to pay back their loans, taxes and other expenses. However, the success of the company is also attributed to the information system and its effectiveness, thanks to which the company can analyze their own data. Here we see that the companies find it important to have an effective and up-to-date information system to achieve success. Regarding the importance of financial perspective of the BSC, rentability of investment is an essential indicator. Companies watch the rentability of their investment, to know what profit they achieve by 1 Euro invested. Rentability is, therefore, a key indicator especially for shareholders, stockholders and other investors. By comparing the first 6 indicators, we can say that there are 3 financial indicators, representing 50%. Therefore, we accept the hypothesis. The most common response also points to the importance of the indicators (2 financial indicators were numbered 5 - which means the highest importance).

The main indicator of the perspectives of BSC is not one from the group of financial indicators. Instead, it is a part of the customer perspective, specifically, the customers' satisfaction. Without a satisfied customer, a company would achieve neither profit nor positive financial flow, since only the satisfied customer can make a business transaction, thereby fulfilling the company aims. By the questionnaire - saving, we found out that the companies have started to realize the importance of employees and are trying to improve their motivations and qualifications. Without motivated employees, the company would not be able to meet the requirements of the owners. Judging from the process perspective, we can say that the companies are involved in improvement of customer service. We can also say that the companies have started to realize the importance of non-financial services. However, in comparison with the financial ones, it is still of less importance.

Enterprises will soon realize that using only financial indicators will not help them survive among stronger competition, and that such a strategy is inappropriate for future-oriented enterprises, too. As a result of failing to innovate, the enterprise loses its ability to compete because it insufficiently invests in non-material areas of business. Such areas include, in particular, product and process innovation, investment in employees' skills, motivation and customer satisfaction. Investing in new products, new techniques, and practices worsens the company's short-term financial results. Also, investments in human capital and employee training negatively impact short-term financial results. However, this does not mean that the enterprise will get into trouble because of that. In the long run, this investment will bring profits and increase the value of the business - which is the main objective of the business owners after all. Creating lasting and mutually beneficial customer relationships is a prerequisite for long-term successful business operations. We agree with Dimitropoulos (2017), who argues that application of the BSC method can give the enterprise a certain competitive advantage. The business environment in Slovakia is not favorable, as Belás et al. (2015) pointed out, therefore achieving a competitive advantage over other enterprises is not easy. The BSC method can be used in a number of areas, whether it is improving internal processes, streamlining activities or achieving higher employee productivity.

Our research has also attempted to prove the link between the use of the BSC method and the importance of non-financial indicators, which clearly shows that enterprises using the BSC method consider non-financial indicators to be important in carrying out their activities. This connection is confirmed by the evaluation of the data obtained, which proves a statistically significant connection.

The BSC method also uses non-financial indicators, thus making it one of the most popular, newly introduced business management tools that requires at least as much attention as financial indicators. Financial indicators assess the short-term impact of managerial decisions in areas such as revenue growth, asset utilization, and cash flows (Kaplan & Norton, 2001), while non-financial indicators capture variables that are likely to influence future financial performance, such as customer service and quality products. Strategic Performance Measurement Systems (SPMS) are expected to help organizations achieve and maintain strategic alignment in their decisions, resource allocations and activities, in order to obtain results and increase shareholder value both in times of stability and during times of change in strategic direction (Bento, Bento & White, 2014; In: Rajnoha & Lorincová, 2015).

## 5. CONCLUSION

Business performance measurement is a topical issue in strategic management, and thus more research regarding this topic can be expected (Tizroo et al., 2017; Petera, Wagner, & Menšík, 2012; Horváthová et al., 2014; Becerra-Alonso, Androniceanu & Georgescu, 2016; Lakomy-Zinowik & Horváthová, 2016; Gumbus & Lussier, 2006). Enterprises are largely managed through financial indicators, but the current trend is showing the increasing importance of non-financial measurers, too. A number of complex systems have been developed to measure business performance, including both financial and non-financial management indicators. One such system is the Balanced Scorecard method, the subject of this article. The main objective of this study was to determine the current state of use of the BSC concept in small and medium-sized enterprises in Slovakia. We found that only 20% of SMEs in Slovakia use this method, which we consider to be a huge disadvantage for the enterprises. Slovak SMEs are now experiencing an unfavorable business environment. Therefore, they should focus on improving the internal environment of their own business, thus helping themselves to a number of competitive advantages. The partial objective of the study was to find a link, if possible, between the use of the BSC method and non-financial indicators. Based on our research, we have found that enterprises that use the BSC method place importance on non-financial indicators, like employees. It is employees who can bring the expected benefits to owners and other interest groups involved in an enterprise. In our research, we focused on the category of SMEs in Slovakia. However, in the future, we plan to conduct a study in the category of large enterprises, so we can come up with further information on using the BSC method in Slovakia. We assume that the use of this method will be at a higher level for these companies than it is for SMEs. Every study carried out in this area has its limits, and in our case, it is mainly the number of respondents. Nevertheless, in the future, we would like to get more respondents involved.

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