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Usage of Customer Profitability Management Tools on the Textile Market of Bosnia and Herzegovina

DOI: 10.5604/01.3001.0011.7295

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Abstract

The modern market puts new demands on companies in terms of customer segmentation and relations with them. Companies facing the pressure of globalisation must adopt new views in the domain of adaptation of all functions in the company, which have a trend of integration, including the function of marketing and that of accounting. One of the results of the integration of company functions is, among others, the concept of customer profitability management. The subject of this paper is analysis of the profitability management tools of domestic companies operating on the textile market of Bosnia and Herzegovina. The aim of the paper is to point out the necessity of applying customer profitability management tools as one of the ways that companies adapt better to changes that occur on the textile market of Bosnia and Herzegovina. The methods used in this paper are analysis, synthesis, and generalisation in the part related to the literature review. Statistical methods are used for analysis of data collected on the basis of research conducted on a simple random sample of domestic companies operating on the textile market of Bosnia and Herzegovina.

Key words: marketing, textile market, accounting, customers, profitability, JEL classification, L81, M31, M41.

Introduction and literature review

Within the former Yugoslavia, the market of Bosnia and Herzegovina was regulated in a way that allowed a domestic monopoly in all sectors of the economy. In this environment, company management based its decision making process more on the sales department and, therefore, on the profit. The accounting function was essentially a bookkeeping department that only dealt with the collection and processing of data. The marketing function was reduced to sales because the economy was planned and everything produced was marketed without piling up large amounts of stock. In a planned economy, management of the company relied on the internal part of analysis – the company's strengths and weaknesses.

In the 1990s, the B&H market entered a transition phase, followed by the phenomenon of globalisation. Consequently the traditional domestic monopolistic market collided with the modern approach to business, with the effect of a turbulent and restless market of rapid changes, affecting all sectors of the economy. Management was forced to face the challenge of using new tools for monitoring the market and customers in order to survive and retain the market share. Today, management begins its analysis with costs and is increasingly reliant on reports coming from accounting. The imperative of changing the way of doing

business is imposed on the management of a company by constant changes in the market, where, as one of the consequences, there is the integration of traditionally observed functions of the company. One of these integrations is that of the accounting and marketing functions. As a product of this integration, the concept of managing the profitability of customers occurs as well. This concept requires that the management conducts an analysis of both internal (strength and weakness) and external factors (opportunities and threats) in order to adapt the company to new market forms.

A modern management tool that integrates the functions of marketing and accounting is called a balanced scorecard. According to Cobbold and Lawrie [10], balanced scorecard methodology consists of several parts: TQM (Total Quality Management), BPR (Business Process Reengineering), EVA (Economic Value Added), VBM (Value Based Management), ABC (Activity Based Costing), CRM (Customer Relationship Management) and KM (Knowledge Management). In addition, Morisawa and Kurosaki [30] cite four perspectives for explaining the phenomenon of balanced scorecard: strategic focus of the organization, operational efficiency, strategic maps, and cause and effect relations. Apart from financial reporting, quality management decisions require inclusion of views regarding customers, processes, and organisation. Kaplan and Norton

[21] suggest that BSC concept could be the link between strategic goals and tactical goals through the operations that are done daily in an organisation. Kraus and Lind [23] concluded in their research that organizations tend to adopt the BSC concept, favouring usage of financial dimensions in relation to non-financial dimensions. Cheng and Humphreys [8] researched the link between strategic goals and measures of performance developed by the BSC concept. According to the authors previously mentioned, balanced scorecard measures should help managers to have a better recognition of opportunities from the external environment. Busco and Quattrone [5] tried to point out both theoretical and practical strengths of the BSC concept. According to Cooper, Ezzamel and Qu ([11], it is not a hard task to conclude why the BSC concept is so popular considering the fact that BSC measurement is derived from the practice of leading companies. Coe and Letza [9] in their conclusion of the paper emphasise that “the Harvard Business Review labelled the BSC concept as one of the most influential management ideas of the twentieth century”. Tjader et. al [37] examined models resulting from the combination of the Analytic Network Process (ANP) and Balanced Scorecard. The authors concluded that there is limitation in creating the model previously mentioned, such as the fact that the BSC concept does not always include all its dimensions in every measure. Martello et al. [27] conclude that the BSC concept can be used both in financial and non-financial organizations. Taylor and Baines [36] emphasize the usage of the BSC concept in the universities of Great Britain. Rigby and Bilodeau [33] point out that 54% of 1.230 companies in their sample confirm usage of the BSC concept. All these finding tell us that the BSC concept is widely accepted as a modern management tool, whose usage can be adopted in various kinds of organizations.

Regarding the benefits of using the ABC concept, Anderson and Young [3] cite three: cost reduction, quality improvement and shortening of the production cycle. According to Carolfi [6], the ABC system provides detailed information about the company’s activities through costs and cost-generating activities. According to Gering [14], traditional accounting reports were based on historical events, and, as such, were often untimely, therefore leading the enterprise’s management to the wrong conclusions.

The traditional approach treated financial statements primarily as a basis for external decision making. However, the modern business environment requires that the financial statements should be the basis for internal users when making business decisions. According to Gunasekaran, Marri and Yusuf [18], the concept of customer profitability management and its ABC (activity based costing) tool should not be a “one-time” management solution but a process with continuous application and improvement. The same author further states that the concept of cost management per activity may not necessarily be used in all parts of the system, but only in those that are profitable or the most profitable in the company. The use of this system improves the quality of decision making in the domain of product development and the marketing mix of the company. Kaplan and Norton [20] state that this approach should be used in conjunction with the BSC system (balanced scorecard). Furthermore Park and Kim [32] discuss the application of the ABC method in designing a calculation method, together with the application of Just In Time (JIT) and Total Quality Management (TQM) concepts. Regarding the benefits of using the ABC concept, Anderson and Young [3] cite three: cost reduction, quality improvement and shortening of the production cycle. According to Carolfi [6], the ABC system provides detailed information about the company’s activities through costs and cost-generating activities. Rohani, Azman and Zakaria [34] conclude in their paper that in comparison with traditional accounting systems, the ABC system is a “better, more accurate way of allocating overhead costs.” According to the same authors, implementation of the ABC system can boost the profits of a company. Mahal and Hossain [26] point out the advantages and disadvantages of the ABC system and conclude that a change in management structure is needed for the successful implementation of ABC systems. Almeida and Cunha [2] did research on the usage of the ABC system in the coffee production process of a Portuguese company. The same authors concluded that implementation of the ABC system resulted in a “wide set of information, with high detail, relevance and usefulness.” According to Ajupov, Kurilova and Ivanov [1], the result of the ABC system can be ABC budgeting, but only after Pre-ABC, that is measuring the ratio analysis in a function to decide whether the ABC system should or should

not be used. Onat, Anitsal and Anitsal [31] examined the connection between the ABC system and service marketing and concluded that the implementation of ABC results in better usage of capacity and better management of supply and demand. Becker et al. [4] found a paradox because although companies in their sample pointed out that the ABC system is very important; the diffusion of it in the said companies is low. Hoozee and Hansen [15] examined the relationship between the ABC system and TDABC (time driven ABC) and concluded that both systems have their advantages and disadvantages depending on how traceable resources to activities are.

The following examples can be cited as an illustration of the positive practice of introducing the BSC and ABC systems. Cizmic and Crnkic [12] conducted research on the application of the BSC model in enterprises of B&H. The conclusion of this research is that the application of the balanced scorecard concept has a positive impact on a company’s business. Charkha and Jaju [7] identified performance measures for the textile supply chain in small and medium enterprises in the region of central India. In this research the authors concluded that supply chain measurement is driven by financial and internal elements of BSC measurement. The greatest score (on the Likert scale) among financial evaluation is shown by the cost of each activity, followed by the cost of entire production. From the perspective of measuring customers, customer satisfaction is the main element. Maqbool [29] researched a model for the implementation of BSC in the textile industry of Pakistan. The author concludes that the model of BSC with six perspectives proposed would be better for Pakistan’s textile industry than that with four perspectives. These six perspectives, according to Karabay and Kurumer [22] and Lohman [24], are financial, customer, supply chain and market, sustainable growth, internal process and internal learning perspective. Lueg and Lueg [25] researched the balanced scorecard and different business models in the textile industry in Denmark. This paper presents a model of the implementation of BSC in company strategy. The authors also made a checklist which should be followed for successful implementation. Masum, Fakir and Hossain [28] concluded that BSC can help companies of the textile industry of Bangladesh to compete globally. According to

Table 1. Statistical data of textile industry of B&H. Note: International trade of goods of B&H. www.bhas.ba.

Year	Import	Export	Total sold goods
2014	159.061.996 KM	1.509.300 KM	120.905.000 KM
2015	153.167.200 KM	1.859.379 KM	148.270.000 KM
2016	159.043.023 KM	21.315.602 KM	150.317.000 KM

Table 2. Survey data – size of the company (authors' own elaboration).

Sample	Frequency	Percentage	Valid percentage	Cumulative percentage
Size	Micro	15	21.7	21.7
	Small	52	75.4	97.1
	Medium	1	1.4	1.4
	Large	1	1.4	1.4
	Total	69	100.0	100.0

the authors mentioned, any company that wants to implement BSC should have an average industry scorecard in order to create their own goals. Hughes [16] researched the effects of usage of the ABC system in the textile industry in the United Kingdom and concluded that this approach has a potential to improve the competitiveness of UK textile and clothing companies. Duh et al. [13] discussed the design and implementation of ABC in a Taiwanese textile company and concluded that there are benefits from implementing the ABC system after adopting a few elements, which are product cost distortions, impact of rework, complexity-related cost drivers, volume-based and non-volume based drivers and revision of strategy.

The textile market of Bosnia and Herzegovina had been successful and recognisable both in Europe and around the world until the 1990s. Those years brought processes of economic transition as well as transformation of the market itself. Our economy and we ourselves were not ready for a new system, accompanied by great upheaval and new rules of business. This is, among other things, the reason why domestic companies in the field of the textile industry have been losing out to the competition on the textile market of B&H, and why there has been negligible presence on the market of developed countries. Data from The Chamber of Commerce of B&H [19] (Table 1) show that compared to 2015, the foreign trade of the Bosnian-Herzegovinian textile, leather, clothing and footwear industry grew in 2016. Moreover the trend of export growth and reduced imports of the textile, leather, clothing and footwear in-

dustry continued. According to the statistical data, an amount of 794.780.020 KM was exchanged (449.161.099 KM of imports and 345.618.921 KM of exports). In the aforementioned period, the export-import ratio increased by 3.02% in favour of export. Looking at the overall foreign trade of B&H, according to the data for 2015, the share of the textile, leather, clothing and footwear industry in the country's total economy was 13.28%.

When it comes to this branch of industry, Bosnia and Herzegovina has great potential. In addition to numerous weaknesses and shortcomings, the textile industry of Bosnia and Herzegovina possesses certain advantages because this is a labour intensive and low accumulative branch of industry. The advantage is also reflected in the geographical position of Bosnia and Herzegovina, which represents the crossroads of Eastern and Western Europe. Today, in the field of Bosnian textile industry, loan operations are mostly performed in terms of the services, finishing and sewing of textile products in small and medium-sized enterprises. The textile industry needs to thoroughly explore customer preferences in the domain of the traditional culture of the customer (traditions, customs, culture and habits) in order to create a successful offer. If we look at the example of Poland, according to Grandys and Grandys [17], one of the conclusions is that domestic textile companies have a competitive advantage reflected in final products made of high quality materials. According to them, the interpretation of quality and fashion depends on the national culture of the buyer.

Data collection, methodology and hypotheses

This paper will examine the following hypotheses:

- First hypothesis (H1): The attitude of the respondents regarding the use of tools for managing the suitability of buyers is not correlated to that of the respondents regarding the satisfaction of small enterprises with their market share in the textile industry of B&H.
- Second hypothesis (H2): The attitude of the respondents regarding the importance of monitoring customer satisfaction is not correlated to that of the respondents regarding the use of tools of profitability management of the customers of small business in the textile industry in B&H.
- Third hypothesis (H3): The attitude of the respondents regarding the importance of using the BSC concept is in positive correlation with that of the respondents regarding the importance of using the ABC concept in small enterprises in the textile industry of B&H.
- Fourth hypothesis (H4): The attitude of the respondents regarding the contribution of the BSC concept is not correlated to that of the respondents regarding the satisfaction with the market share of small enterprises in the textile industry of B&H.
- Fifth hypothesis (H5): The attitude of the respondents regarding the contribution of the ABC concept is not correlated to that of the respondents regarding satisfaction with the market share of small enterprises in the textile industry of B&H.

During the process of preparation for this paper, we collected data by sending survey questionnaires to 145 e-mail addresses of companies that are registered in the Chamber of Commerce of B&H and have active participation in the textile market of B&H. Data were collected during the period July – September 2017. We used the number of employees to determine the size of the companies and classified them as micro (1 to 9), small (10 to 49), medium (50 to 249) and large (250 and more). We received answers (poll form) from 69 companies, which we later classified as micro (14 enterprises), small (51 enterprises), medium (1 company) and large (1 company), as can be seen in Table 2. According to the data we received and the environment in which we operate, due to the size of the sample, we chose small enterprises to

confirm the hypothesis and analyse the results. The market environment of Bosnia and Herzegovina justifies our selection of the sample because the structure of the market is such that small enterprises possess development opportunities in the field of the textile industry of Bosnia and Herzegovina. The structure of the textile market of Bosnia and Herzegovina during the past 20 years is such that large enterprises in this sector of the economy are mostly subsidiaries from foreign countries, and domestic companies are once again struggling for a better market position.

Data analysis and hypothesis testing were performed using the SPSS program package. The first part of the data processing presents the results of descriptive statistics. This section presents the following: the structure of the size of the company, the structure of the use of tools for managing the profitability of customers, views on the market participation of the company from the selected sample, views on the importance of the BSC and ABC concepts in the companies from the sample, the presumption regarding monitoring the satisfaction of customers, and views on the BSC contribution and ABC concepts. Inferential statistics were used to check the hypothesis. The methods for checking the hypotheses are the Pearson and Point-biserial correlation coefficients.

■ Research results

The questionnaire consisted of 14 questions, from which we obtained 16 variables. Of the 14 questions, 13 were closed and 1 question was an open type question. For the closed-type questions, answers were offered at a nominal and interval (Likert's) scale from 1 to 5 (1 – lowest and 5 – the highest grade). On the question of satisfaction with the current market share of the company, the average satisfaction rating based on 52 responses is 3.79, and the standard deviation is 0.996.

When asked about whether companies use customer profitability management tools, 21 out of 52 companies (40.40%) answered YES, while 31 (59.60%) answered NO. If we look at the use of the BSC and ABC concepts, 21 companies (40.40%) replied that it uses the BSC concept and 31 companies (59.60%) that they did not use the BSC concept of business. 19 companies (36.50%) use

the ABC concept, while 33 companies (63.50%) do not. When examining the importance of the BSC and ABC concepts (**Table 3**) for the companies surveyed, we can conclude that the average estimate of the significance of the BSC concept is 2.92, with a standard deviation of 1.13, and that of the ABC concept for those companies is 3.10, with a standard deviation of 0.99.

If we take a closer look at the BSC and ABC, companies were given the opportunity to give individual ratings for individual parts of the BSC and ABC concepts. Within the BSC concept, on the Likert scale from 1 to 5, the importance of the BSC in relation to finance, customers, organization and process was evaluated. Within the ABC concept, the importance of it in monitoring individual customers and that of the ABC concept in the monitoring of customer groups was evaluated. The average rating of the importance of the BSC concept in relation to finance was 3.17, with a standard deviation of 1.08, the importance of the BSC customer concept was 3.71, with a standard deviation of 1.02, the importance of the BSC concept in relation to organization was 3.12, with standard deviation 1.08, and the importance of the BSC concept related to processes was 3.08, with a standard deviation of 1.08. The average assessment of the importance of the ABC concept in relation to individual customers was 3.48, with a standard deviation of 0.90, and that of the ABC concept in relation to customer groups was 3.50, with a standard deviation of 0.87. It should be noted that the answers to the questions about the importance of the aforementioned parts of the BSC and ABC concepts were not only by the companies that used those concepts but also by those who replied that they did not use them.

In addition to the aforementioned, the companies also had an opportunity to answer questions regarding their evaluation of the importance of monitoring customer satisfaction, as well as those regarding the contribution of the BSC and ABC concepts, also on the Likert scale from 1 to 5. The average evaluation of the importance of monitoring customer satisfaction was 3.62, with a standard deviation of 1.01, while the contribution of the BSC concept was 3.60, with a standard deviation 1.01, and the contribution of the ABC concept was 3.54, with a standard deviation of 1.09.

Table 3. Importance of BSC and ABC according to respondents (authors own elaboration).

Sample	Importance of BSC	Importance of ABC
N	52	52
Mean	2.9231	3.0962
Median	3.0000	3.0000
Mode	3.00	3.00
Std. Deviation	1.13494	0.99528

Furthermore the answers to the questions we received in this research serve to confirm the defined hypotheses.

Hypothesis 1 reads: The attitude of the respondents regarding the use of tools for managing the profitability of buyers is not correlated to that of the respondents on satisfaction with the market share of small enterprises in the textile industry of B&H. Based on the analysis of the Point-biserial coefficient of correlation, we accept the hypothesis ($r = -0,018$, $p = 0.902 > 0.05$).

Hypothesis 2 reads: The attitude of the respondents on the importance of monitoring customer satisfaction is not correlated to the position regarding the use of profitability management tools of small business customers in the textile industry in B&H. Based on the analysis of the Point-biserial coefficient of correlation, we accept the hypothesis ($r = -0,003$, $p = 0,983 > 0,05$).

Hypothesis 3 reads: The attitude of the respondents regarding the importance of using the BSC concept is in positive correlation with that of the respondents regarding the importance of using the ABC concept in small enterprises in the textile industry of B&H. Based on the analysis of the Pearson coefficient of correlation, we accept the hypothesis ($r = 0,580$, $p = 0.000 < 0.05$).

Hypothesis 4 reads: The attitude of the respondents regarding the contribution of the BSC concept is not correlated to that of the respondents regarding satisfaction with the market share of small enterprises in the textile industry of B&H. Based on the analysis of Pearson's correlation coefficient, we accept the hypothesis ($r = 0,050$, $p = 0.727 > 0.05$).

Hypothesis 5 reads: The attitude of the respondents to the contribution of the ABC concept is not correlated to that of the respondents regarding satisfaction

with the market share of small enterprises in the textile industry of B&H. Based on the analysis of Pearson's coefficient of correlation, we accept the hypothesis ($r = -0,073$, $p = 0.605 > 0.05$).

Limitations and suggestions for future research

The mere fact that the research is based on a sample rather than a population tells us that this paper has its limitations. The first limitation refers to the size of the sample and the method of collecting the answers from the questionnaire, which were requested via the Internet, which can give different results from survey questionnaires based on a direct interview. This way of surveying led to a sample that consists of companies that use the Internet in their business, and therefore those companies that do not use the Internet were omitted. This can lead to overestimation of the results regarding the use of modern business concepts, since it is assumed that those companies that use the Internet are more likely to use modern business concepts. Furthermore there is a high probability that there are companies that are in the preparation phase of the implementation of modern business concepts. Also only small enterprises were used in the analysis, and other categories (micro, medium and large) were not used due to the insufficient number of companies that responded to the survey. The data collection period includes the holiday season, and in this we can also find reasons for the poor response of companies from the above-mentioned categories.

Beside the textile sector, some of the future research could include others of the economy in Bosnia and Herzegovina. It should also include the categories of micro, medium and large companies in the textile industry of Bosnia and Herzegovina. Moreover one of the proposals for future research is that beside the BSC and ABC concepts, others of modern business related to managing customer profitability should be considered. Also it would be possible to make a comparative analysis based on the research from several different countries.

Conclusion

All of the above stated points lead to the conclusion that the textile industry is one of the possible drivers of the entire Bosnia and Herzegovinian economy. We

can also conclude that companies are reluctant when deciding to change the way they operate, which in some ways seems quite understandable, as sometimes the changes are very costly and time-consuming. The significance of the BSC and ABC concepts is not sufficiently clarified. Managers of the companies find it difficult to decide on the introduction of modern business concepts because they are not sure that they will produce benefits in the future.

Based on the results of descriptive and inferential statistics, we can conclude that companies generally use modern business concepts in an insufficient way. However, it brings hope that even 40% of the companies surveyed use some of the concepts of managing customer profitability. These data also show that companies that use customer profitability management tools do not necessarily use the BSC and ABC concepts. The companies surveyed use the BSC (21 companies) more than the ABC concept (19 companies). We can conclude that the companies surveyed perceive the importance of the BSC and ABC concepts neutrally, which can be seen through the average assessment of their relevance (paired sample t-test $p = 0.21 > 0.05$). By observing the evaluation of the importance of parts of the BSC concept, we can conclude that there are differences in the mean value of the views on the importance of the BSC concept related to finance as well as on the BSC customer concept related to customers, BSC concept related to processes and the BSC concept related to the organisation (Friedman test $p = 0,000 < 0.05$). It can be seen that the importance of individual parts of the ABC concept in relation to individual customers and customer groups has the same average value (paired sample t-test $p = 0.322 > 0.05$). The presumption regarding the importance of monitoring the satisfaction of customers of the companies surveyed is not neutral (the average value is 3.00); it reaches a higher value (the average score is 3.62, the standard deviation – 1.01, one sample t-test $p = 0.000 < 0, 05$) and the views on the contribution of the BSC and ABC concepts do not differ (paired sample t-test $p = 0.261 > 0.05$).

The hypotheses in the paper are designed in accordance with the current position of the economy of Bosnia and Herzegovina, viewed in relation to the developed European countries. For this reason, hypotheses are not formed in the classical

sense, rather it has been emphasized that there is a connection between certain variables instead of there being no correlation between the variables in question. The reason for this approach is that one of our assumptions is that the economy of Bosnia and Herzegovina was not developed because it still does not recognise the importance of modern business concepts. For this reason, companies do not see a clear correlation between market share, the necessity of tracking customer satisfaction and the use of modern tools for managing customer profitability.

Our assumptions are supported by the first hypothesis i.e. a link should be made between the use of customer profitability management tools with the assumption of the satisfaction of the companies surveyed with the market share. Logic dictates that in a modern operating environment these two variables should be linked. From the results of the survey we conclude that this is not the case, and that there is no connection between these two variables. The same thing can be seen in the second, fourth and fifth hypotheses, where the results obtained show a discrepancy between the variables which, according to the literature, should be linked. The third hypothesis speaks of a positive correlation between the presumption regarding the importance of the use of the BSC concept and that regarding the importance of using the ABC concept, for which a strong positive correlation has been established here.

References

1. Ajupov AA, Kurilova AA, Ivanov DU. Formation of Financial Planning for the Automotive Industry. *Mediterranean Journal of Social Sciences* 2015; 6(1 S3): 40.
2. Almeida A, Cunha J. The implementation of an Activity-Based Costing (ABC) system in a manufacturing company. *Procedia Manufacturing* 2017; 13: 932-939.
3. Anderson SW, Young SM. The impact of contextual and process factors on the evaluation of activity-based costing systems. *Accounting, Organizations and Society* 1999; 24(7): 525-559.
4. Becker SD, Wald A et al. The Role of Perceived Attributes for the Diffusion of Innovations in Cost Accounting: The Case of Activity-Based Costing. *Comptabilité-Contrôle-Audit* 2015; 21(1): 105-137.
5. Busco C, Quattrone P. Exploring how the Balanced Scorecard engages and unfolds: Articulating the visual power of accounting inscriptions. *Contemporary Accounting Research* 2015; 32 (3): 1236-1262.

6. Carolfi IA. ABM can improve quality and control costs. *CMA Magazine* 1996; 70(4): 12-16.
7. Charkha PG, Jaju SB. Identification of Performance Measures for Textile Supply Chain: Case of Small & Medium Size Enterprise. *International Journal of Supply Chain Management* 2015; 4(3).
8. Cheng MM, Humphreys KA. The differential improvement effects of the Strategy map and scorecard perspectives on managers' strategic judgments. *The Accounting Review* 2012; 87(3): 899-924.
9. Coe N, Letza S. Two decades of the balanced scorecard: A review of developments. *The Poznan University of Economics Review* 2014; 14(1): 63.
10. Cobbold I, Lawrie G. The development of the balanced scorecard as a strategic management tool. *Performance measurement association* 2002.
11. Cooper DJ, Ezzamel M, Qu SQ. Popularizing a management accounting idea: The case of the balanced scorecard. *Contemporary Accounting Research* 2017.
12. Cizmic E, Crnkic K. Enhancing organizational effectiveness and efficiency through balanced scorecard application. *Problems and Perspectives in Management (open-access)* 2010; 8(4-1).
13. Duh R R, Lin T W, Wang W Y, Huang C H. The design and implementation of Activity-Based Costing: a case study of a Taiwanese textile company. *International Journal of Accounting & Information Management* 2009; 17(1): 27-52.
14. Gering M. Activity based costing and performance improvement, *Management Accounting* 1999.
15. Hoozée S, Hansen S. A comparison of activity-based costing and time-driven activity-based costing. *Journal of Management Accounting Research* 2014.
16. Hughes A. ABC/ABM-activity-based costing and activity-based management: A profitability model for SMEs manufacturing clothing and textiles in the UK. *Journal of Fashion Marketing and Management: An International Journal* 2005; 9(1): 8-19.
17. Grandys E, Grandys A. Development of Polish Textile-Clothing Industry and Cross-Culture Management. *FIBRES & TEXTILES In Eastern Europe* 2011; 19, 4 (87): 8-13.
18. Gunasekaran A, Marri HB, Yusuf YY. Application of activity-based costing: some case experiences. *Managerial Auditing Journal* 1999; 14(6): 286-293.
19. International trade of goods of B&H. www.bhas.ba. Access date: July 2017.
20. Kaplan RS, Norton DP. The balanced scorecard measures that drive performance. *Harvard Business Review* 1992.
21. Kaplan RS, Norton DP. Mastering the management system. *Harvard Business Review* 2008; 86(1): 62-77.
22. Karabay G, Kurumer G. Managing through Strategic Performance Management in Apparel Companies. *Fibers & Textiles in Eastern Europe* 2012; 20, 4(93): 13-19.
23. Kraus K, Lind J. The impact of the corporate balanced scorecard on corporate control – a research note, *Management Accounting Research* 2010; 21: 265-277.
24. Lohman C, Fortuin L, Wouters M. Designing a performance measurement system: a case study. *European Journal of Operational Research* 2004; 156, 267-286.
25. Lueg K, Lueg R. The Balanced Scorecard and different Business Models in the textile industry – A case study. *International Journal of Strategic Management* 2013; 13(2): 61-66.
26. Mahal I, Hossain MA. Activity-Based Costing (ABC) – An Effective Tool for Better Management. *Research Journal of Finance and Accounting* 2015; 6(4): 66-74.
27. Martello M, Watson JG, Fischer MJ. Implementing a balanced scorecard in a not-for-profit organization. *Journal of Business & Economics Research (Online)* 2016; 14(3): 61.
28. Masum MH, Fakir AA, Hossain MK. Industries: A Comprehensive Study from Bangladesh. *Research Journal of Finance and Accounting* 2017; 8(10).
29. Maqbool MH. A consolidated model for putting Balanced Scorecard into action in Pakistan's textile industry. *Journal of Strategy and Performance Management* 2015; 3(1): 40.
30. Morisawa T, Kurosaki H. Using the balanced scorecard in reforming corporate management systems. *Nomura Research Institute Papers* 2003; 71: 1-15.
31. Onat O K, Anitsal I, Anitsal M M. Activity based costing in services industry: A conceptual framework for entrepreneurs. *The Entrepreneurial Executive* 2014; 19: 149.
32. Park C S, Kim G T. An economic evaluation model for advanced manufacturing systems using activity-based costing. *Journal of Manufacturing Systems* 1995; 14(6): 439.
33. Rigby D, Bilodeau B. Management tools and trends 2011. available at: www.bain.com/management_tools/home.asp (accessed 25.11.2017).
34. Rohani JM, Azman NA, Zakaria MH. Development of Activity-based Costing in Fabrication Company: A Case Study. *Jurnal Mekanikal* 2015; 38: 44-52.
35. Sharman P. A Practical Look at Activity-Based Costing, *CMA Magazine* 1990; 8-12.
36. Taylor J, Baines C. Performance management in UK universities: implementing the Balanced Scorecard. *Journal of Higher Education Policy and Management* 2012; 34, 2: 111-124.
37. Tjader Y, May JH, Shang J et al. Firm-level outsourcing decision making: A balanced scorecard-based analytic network process model. *International Journal of Production Economics* 2014; 147: 614-623.

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scientific and industrial
achievements in the
nanotechnology and will enable
dialog between the world
of science and business.

This year's edition will focus
on nanomaterials applicatory
issues, materials functionalization
and use in medicine,
achievements in ethical
and legislative areas, newest
research and development
equipment, and the possibilities
of co-joint R&D projects. Agenda
will cover science-business
sessions, topic on funding
of research and projects as well
as networking sessions.

Conference is organized by
Nanonet Foundation and Silesian
Nano Cluster with cooperation
with the city of Katowice

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☐ Received 18.09.2017 Reviewed 29.11.2017