REALTIONSHIPS BETWEEN FINANCIAL AND LEARNING AND GROWTH PERSPECTIVES IN BSC

Ilona Berková¹, Markéta Adamová², Kristýna Nývltová³

¹Department of Applied Mathematics and Informatics, FEK, University of South Bohemia in Ceske Budejovice, Studentska 13, 37005 Ceske Budejovice, Czech Republic
²Department of Management, FEK, University of South Bohemia in Ceske Budejovice, Studentska 13, 37005 Ceske Budejovice, Czech Republic
³Department of Accounting and Finances, FEK, University of South Bohemia in Ceske Budejovice, Studentska 13, 37005 Ceske Budejovice, Czech Republic

Abstract


Balanced Scorecard (BSC) is one of the methods for measuring of the company's performance, strategy formulation and subsequent management leading to improving competitiveness. Nowadays company performance has an important role because the competitive environment is much more changeable and more difficult to predict because of the influence of globalization.

BSC is worldwide used both in large, medium and small businesses regardless of the field of business. According to Knápková, Homolka and Pavelková (2014), this model is used only by 13 % of the enterprises in the Czech Republic.

BSC monitors business performance from four perspectives: Financial, Customer, Internal Process, Learning and Growth. The main aim of this paper is to verify whether there is a correlation between Learning and Growth and Financial perspective. Data were obtained from the database Albertina Gold and from quantitative research in companies in 2015. As sample small and medium enterprises in Czech Republic were chosen by random selection. Data were analysed by using regression analysis.

Based on the analysis the dependence of some financial indicators on the attitude of the company to the risk and on long-term or short-term orientation was proved.

BSC is spread in 30–50 % companies all over the word, in Australia this method is used even in 88 % companies (Al Sawalqa, Holloway and Alam, 2011). Due to proven dependence it would be appropriate to raise Czech companies’ awareness of advantages of this method.

Keywords: BSC, competitiveness, efficiency, SMEs, cultural dimensions

INTRODUCTION

Balanced Scorecard (BSC) is a method for measuring of the company performance, which was developed with the realization that the explanatory power of aggregate financial indicators is very limited and the business environment is facing many changes, such as market segmentation, globalization, innovation, knowledge, etc. This method is used to formulate new strategies and communication in society. This method has evolved since its formation. Initially it was presented as a performance evaluation system (Kaplan and Norton, 1993). However In the final concept, BSC is taken as a strategic management system (Kaplan and Norton, 1996).

According to Mooraj et al. (1999) BSC is an essential tool for companies, as it provides important information for management in a concise form, and creates a favourable environment for organizational learning. It’s also a comprehensive management system that provides limits and explains the four perspectives and their key problematic factors of company. BSC is interactive due to the relationship
of cause and effect as well as diagnostic, because it includes long-term indicators. Authors such as Kanji and Sá (2001, 2002) conclude that the BSC is used in two different forms: as an information system that supports targeting senior managers and as a strategic system based on the criteria presented by Kaplan and Norton. This method swaps frequently used financial indicators of business performance focused on the future for measures that include driving forces of future performance. BSC is based on the vision and strategy of the company and monitors its performance from four perspectives i.e.: Financial, Customer, Internal Process and Learning and Growth. BSC is considered as a mechanism for implementing of strategy, not for its formulation (Kaplan and Norton, 2001).

Model BSC should be understood as a template. Every business can choose more or less perspectives according to its surrounding. Indicator in the BSC should be integrated into the chain of causation, which defines the strategy of the company (Kaplan and Norton, 2005).

In Sudan there was analysed relationship between business performance and using of BSC by Abdalkrim (2014). He used questionnaires to collect data using data from 77 questionnaires. The correlation analysis shows that there is a strong positive relationship between using BSC and business performance, as in the case for the relationship between all the perspectives and performance of the business. The highest correlation was measured between business performance and the internal processes perspective (0.768), the lowest between the Financial perspective (0.563). This analysis therefore supported research (0.768), the lowest between the Financial perspective (0.563). This analysis therefore supported research (0.768), the lowest between the Financial perspective (0.563). This analysis therefore supported research (0.768), the lowest between the Financial perspective (0.563). This analysis therefore supported research (0.768), the lowest between the Financial perspective (0.563). This analysis therefore supported research.

The Financial Perspective

The Financial Perspective uses traditional accounting indicators with the aim of assessing the short-term financial results of the company (Voelpel et al., 2006).

The indicators are focused on the past and usually include indicators relating to the profitability of the enterprise. Among the most commonly used indicators are included Growth in Sales, Gross Profit, Net Profit, Return on Sales, Cash Flow, Profit per Employee, EVA, Earnings per Share and Return on Equity or Earnings before Interest and Taxes (Al Sawalqa, Holloway and Alam, 2011). All the above mentioned indicators are focused on profitability. Net Working Capital is another used indicator. This indicator determines the available operating funds remaining after payment of short-term liabilities. According to Knápková, Pavelková and Šteker (2013) this indicator is one of the most important differential indicators and has a significant influence on the solvency of the company. Typical financial goals have to do with profitability, growth, and shareholder value (Kaplan and Norton, 2005b).

During setting of financial objectives related to income it is also necessary to consider the risk. The yield strategy should be complemented by strategies determining the degree of risk of the enterprise (Kaplan and Norton, 2005).

Benchmarks in the Financial Perspective differ from company to company, so there is no clear criterion that would be applied across organizational framework and environment (Abdalkrim, 2014).

Financial indicators and targets should define financial performance expected from the strategy and serve to evaluate goals and measures of all other perspectives BSC (Kaplan and Norton, 2001). The indicators of Financial perspectives are influenced by performance in other perspectives.

Petera, Wagner and Menšík (2012) and Tapanya (2004) agree with the opinion of Kaplan and Norton (2001) that it is the most important perspective. Each strategy according to lifecycle phases correspond to three financial areas that supported by them. It is:

a) An increase in sales mix of products/services (marketing mix),
b) Reducing costs/increasing productivity and,
c) Resource utilization/investment strategy.

The first area is influenced primarily by new products, new applications, new customers and markets, new relationships, new mix of products and services and new pricing strategy. Higher Turnover, Lower Unit Costs, Improving of the Mix of Sales Channels and reducing of Operating Costs act in the second area. The final area is dependent on improving resources utilization and cycle cash-to-cash, which represents the time from the payment for inputs to receiving payment from the customer (Kaplan and Norton, 2001).

The Customer Perspective

In this perspective, the company must define market segments and customers for who should be their product designated (Kaplan and Norton, 2005).

This perspective includes four key areas namely time, quality, service and performance. Market share, customer retention, new customer acquisition, customer satisfaction and customer profitability can be included to a group of basic indicators. The value of indicators reflects meeting customer needs and includes price levels, time of the order realisation, market share, percentage of new and existing customers, or customer satisfaction (Al Sawalqa, Holloway and Alam, 2011). Hoque and James (2000), customer satisfaction survey, the number of customer complaints, market share, percentage of mail returned because of poor quality, delivery time, warranty costs, customer
response time and cycle time from order to delivery considered an indicator.

**The Internal Process Perspective**

This perspective is based on the concept of the value chain – including processes required to implementation the desired product or service (Voelpel et al., 2006). According to Kaplan and Norton (2005) besides operational processes and after-sales services, innovative processes might be included into the evaluation of the perspective. Core business processes enable the organization not only to provide value to the customer, but also to satisfy shareholder expectations about the high financial performance (Al Sawalqa, Holloway and Alam, 2011).

In general, the key indicators of this perspective are: Material Efficiency Variance; Ratio of Good Output to Total Output at each production process; Manufacturing Lead Time; Rate of Material Scrap Loss; Labour Efficiency Variance; Product Defects; introduction of new products and the Efficiency of Product Design (Al Sawalqa, Holloway and Alam, 2011).

**The Learning and Growth Perspective**

The Learning and Growth Perspective identifies the intangible assets that are most important to the strategy. The objectives in this perspective identify which jobs (the human capital), which systems (the information capital), and what kind of climate (the organization capital) are required to support the value creating internal processes (Kaplan, 2005). Indicators belonging to this perspective are: employee skills, the way of leadership, organizational learning, employee satisfaction (Abdalkrim, 2014).

Opinion on employees has changed in recent years. Suggestions of improving processes owing to customers have to come primarily from employees who are close to customers. The satisfaction in the job affects loyalty, commitment and employee productivity (Kaplan and Norton, 2005). Activities of Learning and Growth Perspective are aimed on a strategy for increasing the organization's ability through its employees (Thompson and Mathys, 2008).

According to researches, satisfaction of employees is connected with various factors (for example suitable surrounding in workplace, creating good atmosphere and climate in workplace, communication between subordinates and superiors, attitudes of employees, etc.). Most of these factors are connected with organizational (corporate) culture. Communicating the BSC throughout the organization creates shared understanding and commitment about the organization's long-term objectives and its strategy for achieving them. Adherence to values and cultural norms can be measured within the learning and growth's organizational capital component (Kaplan, 2005).

Learning in organization is based on creating of environment that supports learning of all members (Garvin et al., 2008). Corporate culture, oriented on learning and development of employees, leads to new and useful knowledge and to innovative ways how to solve problems and optimize processes (Rebelo and Adelino, 2011). There are many traditional indicators of learning and growth perspectives. However corporate culture is very crucial for creating suitable climate for learning and growth. The climate is shaped by corporate culture. Thus corporate culture and its diagnosis were chosen as indicator of learning and growth perspectives.

“Culture is the glue which keeps organization together as a source of identity and distinctiveness competence” (Bass in Yildirim and Birinci, 2013). “To achieve a global vision is no question of the importance of using organizational culture” (Muscalu, 2014). Desirable and strong corporate culture is a crucial factor in the successful development and improving of the enterprise (Krninská, 2002).

“Excellent corporate culture has special function of encouragement, instruction and limitation. It can motivate and unite staffs to improve the long-term performance of the organization” (Li and Chan, 2006). Well-managed companies use their corporate culture as an effective tool for managing and leading their collaborators (Hitka et al., 2015).

Culture is often difficult to measure. Qualitative approaches are preferable (Acar and Acar, 2014). Many possible diagnostic methods of corporate culture exist.

According to Vetráková and Smerek (2016) “diagnostic of corporate culture can be classified into three groups:

a) Dimensional approaches (Hofstede and Hofstede, 2005; Sagiv and Schwartz, 2007).

b) Interrelated approaches (Homburg and Pflesser, 2000; Deshpandé and Farley, 2004).

c) Typological approaches (Deal and Kennedy, 2000; Cameron and Quinn, 2006).

The typological approaches are the most used in research papers. For evaluation of organizational culture the dimensional approach of G. Hofstede (G. Hofstede, 1994) was chosen. It was chosen due to correspondence with positive features of suitable culture for learning and growth of employees. The flexibility has a positive impact on performance, as well as external orientation of the company, but mainly in combination with values as flexibility, creativity, risk-taking attitude, team and freedom (Naranjo-Valencia et al., 2016). It can be added taking care of interpersonal relationships and sharing information and knowledge, long-term performance within organization. These features are contended in G. Hofstede approach.

**Cultural dimensions according G. Hofstede**

According to Hofstede and Hofstede (2005) we perceive values as a general trend to differ some facts
from other states, and thus it is possible to define the core of the culture.

The small power distance can express cohesion between subordinates and superiors, and enables the development of the human capital. It generally allows contributing ideas to the development of the company and working with an innovative potential of the company to all employees. It also supports the transfer of information and it is a prerequisite for their better utilization (Krninská, 2014). Within large power distances superiors and subordinates consider one another to be existentially unequal. It is felt that the hierarchy of power is based on this existential inequality (Hofstede and Hofstede, 2005).

Collectivism opens a possibility of cooperation and teamwork, since the individual is encouraged to give their unique individual abilities for the benefit of the society (Krninská and Duspivová, 2014). The employees in an individualistic society are considered to be in accordance with their own interest and the work should be organized so that their interest and the interest of the employer match.

Femininity is focused on the care of mutual interpersonal relationships guaranteeing an openness and trust. Caring for the quality of the environment is also associated with a responsible attitude towards the concept of corporate social responsibility (Krninská, 2014). In a masculine society men are socialized in the direction of assertiveness, ambition and competition (Hofstede and Hofstede, 2005).

The small uncertainty avoidance, change management and risk allow easier dealing with discontinuous changes in a global society (Krninská, 2014). In an environment in which people avoid uncertainty there is a number of formal laws and informal conventions that determine the rights and obligations of employers and employees (Hofstede and Hofstede, 2005).

Long-term orientation is the cultural dimension of corporate culture, fulfilling the principles of sustainability (replacement of immediate profit by optimal profit) and related with objectives and long-term perspective of business, which is based primarily on invest to the human capital development and its potential (Krninská, 2014). Considering short-term orientation, extreme personal peace and stability can discourage from initiative, exploration risk and willingness to change, which requires from the entrepreneur to rapidly change market conditions (Hofstede and Hofstede, 2005).

**MATERIALS AND METHODS**

The main aim of this paper is to verify whether there is a correlation between Learning and Growth and Financial perspective. It is the first phase of the research project, its main aim is analysing a dependence and an interconnection within all 4 perspectives of BSC.

Data set for empirical analysis consists of randomly chosen companies in the Czech Republic and includes information about the Learning and Growth and the Financial perspectives. Values of indicators were gained in different ways in both perspectives. Data set contains 67 companies from the year 2015.

Enterprises were divided into microenterprises (0–9 employees), small enterprises (10–49 employees), and medium-sized enterprises (50–249 employees). These categories of enterprise sizes defined by the number of employees were determined by Commission Regulation No. 800/2008. In the examined sample, the following sectors are represented: trade 29 %, services 30 %, construction 8 %, and manufacturing 33 %.

The criterias for data selection were only size and

<table>
<thead>
<tr>
<th>I: Cultural dimensions</th>
<th>Value of dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Index</td>
<td>&lt;50</td>
</tr>
<tr>
<td>Power distance index (PDI)</td>
<td>Lower power distance</td>
</tr>
<tr>
<td>Individualism vs. collectivism (IDV)</td>
<td>Collectivism</td>
</tr>
<tr>
<td>Masculinity vs. femininity (MAS)</td>
<td>Femininity</td>
</tr>
<tr>
<td>Uncertainty avoidance index (UAI)</td>
<td>Risk-taking</td>
</tr>
<tr>
<td>Long-term vs. short-term orientation (LOT)</td>
<td>Short-term orientation</td>
</tr>
</tbody>
</table>

Source: Hofstede (1984)
First of all, companies filled out a questionnaire VSM 94. VSM 94 was evaluated according to the methodology for data processing of VSM 94 (Hofstede, 1994). The research is on the edge of qualitative and quantitative approach (Pavlica, 2000). Thus qualitative data was transferred into qualitative value. According to this methodology, individual indices of the dimensions take values from 0 to 100, but it is not an exception that it takes lower or higher values. From the questionnaire were gain values for Hofstede's cultural dimensions (Hofstede, 1984), where dimensions reflect structure of cultural system. Information about the Learning and Growth Perspective was gained by index of cultures dimensions that are defined in Tab. I below.

Secondly for each company, that had provided the filled questionnaire, information about The Financial Perspective was searched. Financial data were collected by database Albertina Gold and contains financial reports of given companies. The financial reports were used for computation of financial performance of companies. As indicators of financial performance were chosen Earnings after Taxes (EAT), Earnings before Interest and Taxes (EBIT), Return of Equity (ROE), Net Working Capital (NWC) and Cash Flow (CF). Formulas used for chosen indicators are defined in Tab. II. These indicators were chosen because of simple computation and recommendation of Al Sawalqa, Holloway and Alam (2011) and Norton and Kaplan (1193).

The study of the Financial and the Learning and Growth perspective independence is based on multiple regression analysis that is tool for description of statistical dependency between the dependent variable Y and independent variables \( X_1, X_2, \ldots, X_k \) (regressors).

The general formula for prediction function is: 
\[
y = f(x_1, x_2, \ldots, x_i; b_0, b_1, \ldots, b_m)
\]
where \( b_0, b_1, \ldots, b_m \) are parameters that specify the functional form. To find out parameters \( b_0, b_1, \ldots, b_m \) the least squares method is used. The suitability of models was evaluated via the coefficient of determination \( R^2 \).

The regression model was estimated by STATISTICA 12 software with the significant level 5 %. Values of financial performance of companies were subsequently chosen as the dependent variables (Y) and indices of the cultural dimension were chosen as the independent variables (\( X_1, X_2, \ldots, X_k \)).

### II: Indicators of financial performance

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAT</td>
<td>Given in financial report</td>
</tr>
<tr>
<td>EBIT</td>
<td>EBT + interest</td>
</tr>
<tr>
<td>ROE</td>
<td>EAT / shareholders' equity</td>
</tr>
<tr>
<td>NWC</td>
<td>Current Assets – Current Liabilities</td>
</tr>
<tr>
<td>CF</td>
<td>EAT + depreciation</td>
</tr>
</tbody>
</table>

Source: Knápková, Pavelková and Šteker (2013)

### III: Estimated models

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Formula</th>
<th>Estimated models (t-ratios)</th>
<th>F (5,61)</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAT</td>
<td>( -24977,4 - 546,8PDI + 7,51DV - 230,0MAS + 477,3UAI + 564,7LOT )</td>
<td>( -0,70320 - 1,90073 + 0,03589 - 1,12632 + 2,56171 + 1,59844 )</td>
<td>2,826</td>
<td>0,193</td>
</tr>
<tr>
<td>t(61)</td>
<td>0,484698</td>
<td>0,062226 + 0,971490 + 0,264589</td>
<td>0,012991</td>
<td>0,115287</td>
</tr>
<tr>
<td>p-value</td>
<td>( -1,70320 - 1,90073 + 0,03589 - 1,12632 + 2,56171 + 1,59844 )</td>
<td>( -0,70320 - 1,90073 + 0,03589 - 1,12632 + 2,56171 + 1,59844 )</td>
<td>2,826</td>
<td>0,193</td>
</tr>
<tr>
<td>EBIT</td>
<td>( -32070,8 - 459,9PDI - 37,8IDV - 111,0MAS + 495,2UAI + 578,4LOT )</td>
<td>( -0,93640 - 1,61595 - 0,18035 - 0,54696 + 2,68511 + 1,64792 )</td>
<td>2,602</td>
<td>0,176</td>
</tr>
<tr>
<td>t(61)</td>
<td>0,352760</td>
<td>0,111267 + 0,837476 + 0,586399</td>
<td>0,009125</td>
<td>0,104510</td>
</tr>
<tr>
<td>p-value</td>
<td>( -0,93640 - 1,61595 - 0,18035 - 0,54696 + 2,68511 + 1,64792 )</td>
<td>( -0,93640 - 1,61595 - 0,18035 - 0,54696 + 2,68511 + 1,64792 )</td>
<td>2,602</td>
<td>0,176</td>
</tr>
<tr>
<td>ROE</td>
<td>( 0,117420 - 0,0018PDI - 0,0019IDV - 0,001MAS + 0,001UAI - 0,001LOT )</td>
<td>( 2,64677 - 1,35021 + 0,19301 + 2,04739 + 2,04739 - 2,04739 )</td>
<td>2,076</td>
<td>0,031</td>
</tr>
<tr>
<td>t(61)</td>
<td>0,009706</td>
<td>0,181938 + 0,847594 + 0,044933</td>
<td>0,246239</td>
<td>0,374868</td>
</tr>
<tr>
<td>p-value</td>
<td>( 0,117420 - 0,0018PDI - 0,0019IDV - 0,001MAS + 0,001UAI - 0,001LOT )</td>
<td>( 2,64677 - 1,35021 + 0,19301 + 2,04739 + 2,04739 - 2,04739 )</td>
<td>2,076</td>
<td>0,031</td>
</tr>
<tr>
<td>CF</td>
<td>( -3898,29 - 20,50PDI - 54,81IDV - 154,3MAS + 209,5UAI - 130,9LOT )</td>
<td>( -0,16516 - 0,10455 + 0,37942 - 1,10306 + 1,64881 - 0,54139 )</td>
<td>0,957</td>
<td>0,073</td>
</tr>
<tr>
<td>t(61)</td>
<td>0,869365</td>
<td>0,917072 + 0,705691 + 0,274334</td>
<td>0,104329</td>
<td>0,590209</td>
</tr>
<tr>
<td>p-value</td>
<td>( -3898,29 - 20,50PDI - 54,81IDV - 154,3MAS + 209,5UAI - 130,9LOT )</td>
<td>( -0,16516 - 0,10455 + 0,37942 - 1,10306 + 1,64881 - 0,54139 )</td>
<td>0,957</td>
<td>0,073</td>
</tr>
<tr>
<td>NWC</td>
<td>( -1383,52 - 3510PDI - 6651IDV - 343MAS + 1811UAI )</td>
<td>( 1811UAI )</td>
<td>( 4679LOT )</td>
<td>2,04666</td>
</tr>
<tr>
<td>t(61)</td>
<td>( -62020 - 1,89395 - 0,48725 - 0,25962 + 1,50733 )</td>
<td>( 2,04666 )</td>
<td>( 3,691 )</td>
<td>0,054</td>
</tr>
<tr>
<td>p-value</td>
<td>( 0,537436 + 0,062976 + 0,627830 + 0,796028 + 0,136887 )</td>
<td>( 0,045007 )</td>
<td>0,045007</td>
<td></td>
</tr>
</tbody>
</table>

Source: Own processing in Statistica 1
RESULTS

The analyses reveal dependences between cultural dimensions and chosen financial performance indicators of companies. In the Tab. III there are displayed relationships between indicators of corporate culture and financial performances of companies. Significant relationships are displayed by bold.

From the Tab. III can be seen, that not all indicators are significant, thus in the next step there were removed insignificant variables. That is showed in the Tab. IV.

Results show the existence of positive linear relationship between cultural dimensions and EAT and also EBIT, where these indicators are statistically dependent on the Uncertainty avoidance index in both cases. The scatterplots in the Fig. 1 depict relationship between Uncertainty avoidance index and Earnings after Taxes and Earnings before Interest and Taxes.

As emerged from the analysis when companies try to avoid uncertainty they achieve better economic results. In that case companies create a number of formal laws and informal practices that determine the rights and obligations of employers and employees. This result is inconsistent with Hofstede and Hofstede (2005) who argue that to be afraid of uncertainty is not desirable state of the cultural dimension of the knowledge economy that allow easier coping with discontinuous changes in global society.

In the Fig. 2 we can see outlying points that are not a measurement error. They describe the situation in the given companies and are therefore an essential part of our pilot sample.

Further it was found out negative linear relation between Return of Equity and the Learning and Growth Perspective where the Masculinity vs. femininity index is statistically significant. In the Fig. 2 there is depicted the scatterplot of relation between Masculinity vs. femininity index and Return of Equity.

According to the research companies are more profitable in case more feminine culture. This kind of companies prefers to reward people on the basis of equality, i.e. according to their needs. Hofstede and Hofstede (2005) claim that femininity is desirable cultural dimension of corporate culture for the knowledge economy that takes care of mutual relationships, guarantees openness and trust as a prerequisite for self-knowledge and self-developing processes. Therefore it is essential for the development of human capital. This atmosphere is the strongest factor that guarantees the continuity of knowledge and thus the performance of the organisation (Krninská, 2014).

The estimated model shows that there is significant relationship between Net Working Capital and the Learning and Growth Perspective. This relationship is illustrated in the Fig. 3.

The result shows that the amount of the NWC is positively affected by the long-term orientation of the company. This result is consistent with the assumptions of a successful company by Krninská (2014) who argues that the long-term orientation is a required cultural dimension for a knowledge economy, fulfilling the principle of sustainability and related to long-term objectives and sustainable business that is primarily based on investments in human capital and its potential.

Last it was tested if there is any relation between Cash Flow and the Learning and Growth Perspective. There were not found out any statistically significant relations. Thus, corporate culture has no direct significant impact on Cash Flow, it can be determined by many factors.

IV: Estimated models

<table>
<thead>
<tr>
<th>Estimated models (t-ratios)</th>
<th>F (5,61)</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAT = −18,516.2</td>
<td>6.807</td>
<td>0.194</td>
</tr>
<tr>
<td>t(61) = −0.79804</td>
<td>0.010398</td>
<td></td>
</tr>
<tr>
<td>p-value = 0.427943</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EBIT = −20,831.4</td>
<td>6.445</td>
<td>0.186</td>
</tr>
<tr>
<td>t(61) = −0.77236</td>
<td>0.012503</td>
<td></td>
</tr>
<tr>
<td>p-value = 0.442883</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROE = 0.191793</td>
<td>0.01019MAS</td>
<td></td>
</tr>
<tr>
<td>t(61) = 1.18608</td>
<td>2.077</td>
<td>0.110</td>
</tr>
<tr>
<td>p-value = 0.240191</td>
<td>0.046451</td>
<td></td>
</tr>
<tr>
<td>NWC = −141,387</td>
<td>3.776</td>
<td>0.152</td>
</tr>
<tr>
<td>t(61) = −0.65366</td>
<td>0.043267</td>
<td></td>
</tr>
</tbody>
</table>

Source: Own processing in Statistica 12
2: Relationship between UAI and EAT (on the left), EBIT (on the right)
Source: own processing in Statistica 12

3: Relationship between MAS and ROE
Source: Own processing in Statistica 12

4: Relationship between LOT and NWC
Source: Own processing in Statistica 12
CONCLUSION

In this paper, relationships between chosen perspectives BSC were analysed. These perspectives were chosen with regard to their meaning. The Financial Perspective is generally considered the most conclusive. It reflects the financial performance in the fastest, most easy and most accurate way. The Learning and Growth Perspective was chosen as the second dimension, because it gets to the forefront with an emphasis on innovation capacity of enterprise and related competitiveness in recent years. Earnings after Taxes, Earning before Interest and Taxes, Return of Equity, Net Working Capital, and Cash Flow have been used in the financial analysis.

Within the Learning and Growth Perspective, diagnostic of corporate culture has been selected. Diagnostic of corporate culture is not included in most frequent indicators according to BSC authors, but it is crucial according to its definitions and practice managers. It is crucial for BSC and promotes the implementation and operation of this model as a whole. The dimensional model of the G. Hofstede was chosen. All by Hofstede specified dimensions are related to learning and growth in the company, whether by investing in human capital, building an environment for learning, sharing information or encouraging innovative behaviour of employees.

Our analyses showed dependences between the Learning and Growth and The Financial perspectives. The positive statistically significant relations were observed between UAI and EAT and then UAI and EBIT. Similar results are caused primarily by slight differences in method of calculation EAT and EBIT. Coefficient of determination in the model with EAT is 0.1935 and in the model with EBIT is 0.1858. It can be said that the variability of companies’ earns is explained by Uncertainty avoidance index from 19%. Then it was found out that MAS has an influence on ROE where the relation is explained from 11% and LOT affects NWC where the model can explained from 15. Dependences were proved between 3 of 5 selected indicators. The results show that results Learning and Growth perspective has an influence on indicators of Financial perspectives.

Low coefficient of determination of estimated models can be explained by another factors that can influence values of financial indicators such as customers’ needs and behaviour, operational processes and innovation, etc., that are included in other perspectives. These results proved the Kaplan a Norton (2001)’ claim, that Financial perspective is the result of other perspectives.

The research is part of the project that is focused on BSC perspectives. In the project all perspectives will be gradually analyse. The output of the project will be an interconnection all perspectives into one analyses with more representative sample and thus reliable and plausible results will be reached. The aim will be to increase an awareness of benefits from using BSC in the Czech Republic and to help organizations to implement methods into routine daily work.

Limitation is caused by uniqueness of each Company, so it is necessary to look at the results in general. So we believe that improving corporate culture can improve performance, but it can not be generalized to all company because of their uniqueness.

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REFERENCES


