Analysis of the Relationships between Sustainable Management Control and Performance Appraisal System

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Abstract: This study investigates management control from the perspective of intention of companies to engage into sustainable development. The authors mainly focused on analysing the relations between sustainable management control and the system of performance appraisal utilising resource-based theory. The theory behind these relations has been studied by reviewing the literature in the field, and the empirical investigation used questionnaire-based data, presenting the responses of top management, and the data available in the Annual Reports on the main segment of Bucharest Stock Exchange. The study proves that financial performance has a significant influence on management control therefore the authors recommend the return on capital employed as one of the most recommended indicators. The sustainable nature of management control is the result of the spread and development of the institutional theory, the provisions of Directive 2014/95/EU and the Guide of Global Management Accounting Principles (2015) using stewardship. Consequently, profits could no longer be the main element in the assessment of company’s financial „health”. Therefore, sustainable balanced scorecard is one of solid measures for managing financial and non-financial performance in the process of achieving sustainable success.

Keywords: sustainable development; management control; performance; balanced scorecard.

1. Introduction

As a guideline for executive management, management control aims to optimize performance in order to achieve management’s strategic business objectives. Some researchers view performance as a control measure specific to decentralised decision-making system. Others argue that performance varies depending on the attitude of people in charge of governance towards the events occurring both inside and outside the company. In the current context of knowledge management, all these have a special significance. From this perspective, the standpoint of top management is a key factor in ensuring a positive control environment that contributes to the implementation of a control system based on performance evaluation.

In discussing performance, we concentrated on special achievements of a company. So, the study aims to answer the following question: What theoretical background may be used for studying the relations between sustainable management control and performance and what is the actual status of companies in Romania? We carried out the theoretical research of these relations in several stages. First, we studied various concepts specifically related to performance and its appraisal. The resource-based theory was used as a fundamental background in researching these relations. The financial and non-financial performance supplemented by the sustainable balanced scorecard describe the main features of the performance evaluation system.

Three hypotheses were formulated to test and validate the theoretical approaches. The first hypothesis concerns the relations between management control and company performance. As the study is part of a larger one, we selected only the elements related to performance relations during each stage of management control. The second hypothesis derives from the first one, and shows the most important indicator for assessing financial performance within sustainable management control. The third hypothesis was used to analyse the relations between the institutional theory and the accounting through stewardship.

2. Literature review

The need for sustainable development of companies has been earlier mentioned in the studies of Anthony from Harvard Business School. In his most recent studies, he defines it as “the process by which managers influence other members of the organization to implement the organization’s strategies” (Anthony,
In the analysis of this definition, Cowton & Dopson (2002) placed management control between strategic planning required for reaching objectives, and the control of tasks, needed to ensure that operations are carried out efficiently and effectively. In this sense, Ditillo & Lisi (2016) provided additional explanations to the integration of sustainable management control into the traditional system of management control and mentioned that the success of a sustainable strategy should be secured by a wide range of information of financial, environmental and social nature. Caputo, Veltri, and Venturelli (2017) underlined, both in terms of theory and practice, the importance of internal and external factors in the process of sustainable management control integration into the management control system. Companies should revise their organizational structure, have proper personnel and implement long-term sustainable planning that would generate the improvement of social, environmental and economic efficiency. It should be noted that studies in the area of sustainable management control cannot be conducted without the inclusion of environmental efficiency. Journeault (2016) stated that “Anecdotal evidence posits that environmental responsibility improves operational efficiency and therefore it pays to be green.” Even if this perspective cannot be considered a valid balanced strategy for all companies except for the ones with unique resources that may benefit from environmental efficiency.

Company development in terms of social responsibility was described by Capron & Quairel-Lanoizelée (2004), as a managerial revolution. Constant pressure made by shareholders, employees, consumers and law-makers has been influencing more and more company management. Its behaviour and strategies should take into account transparency, risk and reputation. From this perspective, Cresti (2009) uses the stakeholder theory to explain the relations between management and stakeholders. Sustainable development of a company requires constant monitoring of the degree of achievement of social responsibility goals, of performance management, and their measurement system. We may note that the systemic approach predominates and is defined as: “the measurement and management of the interaction between business, society and the environment” (Schaltegger & Wagner, 2006). Therefore, Cresti (2009) brings a few additional explanations due to the fact that the goals set by managers should be reachable so that they could have a positive influence on business decisions and the conduct of employees.

Performance has been lately one of the most discussed concepts but it often refers to individual performance and to job appraisal. In his research, Campbell views it as "a virtual desert" (Campbell, 2002; Campbell, McCloy,
Oppler, & Sager, 1993). Also, literature in the field developed two types of performance measurement: formal and informal (Chiapello, 1996; Dupuy & Guibert, 2000; Ilgen & Schneider, 1991; Motowidlo, Borman, & Schmit, 1997; Sonnentag & Frese, 2002). The formal dimension involves a multitude of instruments. Managerial accounting plays an important role in assessing the cost of goods and services, developing the system of budgets and assessing commercial performance using a set of indicators. The informal dimension refers to indicators and information that are less verified by the formal system and addresses the intangible phenomena (Cappelletti, Khouatra, & Beck, 2007). Le Maitre (1993) and Gervais (1996) believe that the validation of the results of performance appraisal depends on the quality of assessor’s records and observations. Also, it depends on the process of appraisal between superiors and subordinates.

Nowadays, the Committee of Sponsoring Organizations of the Treadway Commission (COSO) and the World Business Council for Sustainable Development (WBCSD) use the notion of performance management defined as: "The measurement of efforts to achieve or exceed the strategy and business objectives". It should be noted that the current definition of performance, from the managerial perspective, focuses on measuring the effort required for reaching the strategic objectives. Secondly, company performance is assessed considering the degree to which the strategic objectives have been reached (ERM, 2018).

In his paper, Liu (2011) linked the budgets to management control identifying four stages in the development of the budgetary system: executive budget period (1910-1935), period of performance based on budgets (1940-1960), system of programming period, planning and budgeting period (1965 – mid 90s), budget reform period (from the mid-90s). The last stage is characterised by a global approach oriented towards control, planning and integration of budgets into strategic planning.

The advocate of the view of professional institutions concerning the relations between management control and business performance, ACCA and CIMA (2008) starts from the idea that companies have both financial and non-financial objectives, such as: provision of efficient services, growth of market share or reduction of environmental impact. There are several key areas that ensure the success of a business, and the use of non-financial indicators plays a major role. In this context, we should mention that non-financial performance indicators are used to assess the information delivered by human resources, marketing and production departments, which play the role of supervising and controlling business operations without using the accounting principles. The quality of services is one of the main indicators
and it refers to: number of complaints, volume of repeated reservations, volume of timely deliveries, customer waiting time, etc. But, we should not neglect the fact that financial performance views the interests of shareholders as a priority as they are the legal company owners.

In contrast, indicators assessing financial performance, study and interpret the company accounts presenting its financial standing against its competitors. Based on medium and long-term performance appraisal, the degree of incompetence in the process of governance is assessed, and the long-term value of shares is calculated using updated values of future cash flows. Short-term value of shares focuses on profit. In general, shareholders are interested in current and future income, dividend policy and investment risks.

According to Hansen & Schaltegger (2014), the typology of performance is very diversified and quite different from one company to another. In this context, Figge, Hahn, Schaltegger, and Wagner. (2002) discusses about the sustainability balanced scorecard as an adequate instrument for solving such problems. In searching solutions for social and environmental problems, they conventionally integrated strategic management into sustainable development. So, there appeared a system developed by unifying the environmental, social and financial management, and the research also suggested an efficient means for managing financial and non-financial performance (Kaplan & Norton, 1998).

Initially, the balanced scorecard was named prospectively and studied in detail by Kaplan & Norton (1998). In 1992, they suggested an instrument turning perspectives and strategies into objectives and measures. Boisselier et al. (2013) brings additional explanations stating that it transforms business missions and strategies into a set of performance indicators (scorecard). The system focuses especially on financial objectives correlated with the means needed for reaching them. Performances are appraised considering the four balanced axes (balanced): financial perspective, customer perspective, internal business process perspective and learning and growth perspective. The financial axis is best seen through financial indicators that a company may calculate. In case of sustainable scorecard, Figge and other researchers (Figge, Hahn, Schaltegger, & Wagner, 2002; Hansen & Schaltegger, 2014) identified the return on capital employed (ROCE) as the main indicator. It should reach a value between 6 - 8%, turnover should grow by 20%, and the return on sales should reach 4 - 4,5%.

The customer axis is the second element referring to the market segment targeted by the company. Boisselier et al. (2013) states that the indicators used to evaluate the customer axis are very diversified. The first
indicator refers to the market share that may be replaced with turnover and/or relative market share. So, attraction of new clients, customer return or company segment are very important for growing managerial performance. In another case, for the company Matra Marconi Space (Braganza, Heather, & Ngosi, 2003), the bankruptcy of a client created a decrease in sales, and implicitly, in profit. In terms of sustainable development, the customer axis is divided into two parts: strategic approach and the indicative performance indicators. Here, inadequate deliveries and compliance with the delivery deadlines are the main indicators. The strategic approach aims to grow the market share by 15-20% as a result of customer satisfaction that may be assessed by following indicators: product features (real content of nutrients and toxins, expiry dates), customer relations, company reputation and image.

The internal business axis refers to the processes that have a significant influence on customer satisfaction and financial objectives. Kaplan & Norton (1998) identified three fundamental processes: innovation, production processes and post-sale services. Strategic approach to internal processes, according to Figge et al. (2002) does not differ much from Kaplan and Norton (1998). Strategic directions of internal processes axis in the sustainable scoreboard refer to innovation, production processes and services. The second element of the internal processes axis refers to performance indicators, namely, quality control of the department of purchasing, use of substances contraindicated in manufacturing, energetic efficiency, quality of materials and water. Efficiency of energy consumption, materials and water result in the reduction of production cost. Quality control performed by the purchasing department aims to prohibit child labour, toxicity and expiry period for raw material.

The learning and growth axis identifies and monitors company development factors. Kaplan and Norton (1998) identified the following factors: potential and responsibility of employees, potential of computer system, motivation and convergence of the aim and objectives. Figge et al. (2002), similarly to customer and internal processes axes, divides it into two parts: strategic approach and indicative performance indicators. Customer satisfaction is the only strategic direction assessed by performance indicators: potential of employees, technical infrastructure, health and security at the workplace (Hansen & Schaltegger, 2014).

According Braganza et al. (2003), Hart (1994) and Peteraf (1993), the resource-based theory deals with management control in terms of performance. Other researchers believe that this theory focuses on the selection and management of heterogeneous resources by companies in order to obtain
advantages under sustainable development. According to Peteraf (1993), assets, internal and external capacities of companies are viewed as resources, Sveiby (1997) views assets as emerging, and divides them into two categories: tangible (financial and technological) and intangible (competencies of employees and organisational processes) assets. In this sense, the role of management control multiplies due to the fact that it should appraise the way in which a company manages resources by maintaining the four elements, valuable, rare, inimitable, non-substitutable (VRIN) of Penrose (1959) and Barney (1991; 2001) and succeeds to be competitive on the market.

In this study, we have started from performance as its assessment appears in the last stage of control, and it is the key element for ensuring company’s sustainable development. The integration of performance into the resource-based theory, from the perspective of sustainable balanced scorecard, aims to present, theoretically and pragmatically, the updated elements of sustainable management control. Even if authors have divergent views (Kant, 1991; Trafimow, Hunt, Rice, & Geels, 2011), they made a distinction between perfect and ill-performed tasks, and their impact on the set objectives. The most recent studies investigate sustainable development, in which, performance is compared to innovation (Illmeyer, Grosch, Kittler, & Priess, 2017), and especially to reputational risks (Kunitsyna, Britchenko, & Kunitsyn, 2018).

The position of sustainability accounting standards is quite firm, and there is a radical shift in research paradigm and it includes these categories: environment, social capital, human capital, business model and innovation, leadership and governance (SASBCF, 2017). Other authors (Sen, Roy, & Pal, 2018) believe that financial performance is improved by operational performance, based both on productive and non-productive process, and the environmental risk management system. Xie and Hayase (2007), or Trumpp, Endrikat, Zopf, and Guenther (2015) presented it in a slightly different way by underlining the two main research lines: management performance and environmental operational performance. Although the research lines differ from one author to another, what should be observed is that company performance research should be carried out from the perspective of sustainable development, in which control plays the role of contributing to increase in performance.

Therefore, sustainable balanced scorecard aims to make operations more efficient by combining financial and non-financial performance appraisal indicators as an element of sustainable management control. Literature review was based on international literature which was verified in different practical ways. Initially, we verified the degree of applicability of the
scoreboard in the reports of administrators from the main segment of the Bucharest Stock Exchange (BSE). As a result, we discovered that only one of 39 reporting companies included information on the balanced scorecard. Later, the study was diversified, and included a more extended population.

3. Materials and Methods

In the theoretical section presenting the relations between management control and company performance, we underlined both the financial and non-financial aspects of the sustainable scorecard. So, the study evaluates empirically the results presented above using data and information collected from the Annual reports of Romanian companies, and from the application of a statistical questionnaire.

The methodological elements required for this stage are presented in relation with the research hypotheses that are checked by this paper. So, the following three hypotheses will be verified:

- \( \text{H}_1 \): performance appraisal system of a company has a significant impact on sustainable management control;
- \( \text{H}_2 \): in sustainable management control, the return on capital employed is mostly used in the appraisal of financial performance;
- \( \text{H}_3 \): from the perspective of management control, financial responsibility is the most important element of stewardship.

To verify the first research hypothesis, we will use data collected from a questionnaire and will employ the econometric modelling as a method of statistical analysis. The sample of respondents includes top managers of companies listed on the regulated market and AeRO of the Bucharest Stock Exchange. Statistical data were collected in a larger survey research conducted in 2017.

![Figure 1](image_url)  
**Figure 1.** Scheme presenting the methodology used to verify the first research hypothesis

Scheme in Figure 1 explains the testing algorithm for the relations between management control, as an dependent variable \((Y)\), and company...
performance, through its elements, as an independent variable \((X)\). Questions in the statistical questionnaire enabled the collection of data using five-point Likert scale: total disagreement, disagreement, no agreement or disagreement, agreement, total agreement. This instrument was applied both to dependent and independent variables.

Dependent variable was represented by the following question: *In your opinion, management control is an instrument of executive management used to optimise company performance?*

The following questions provide data for the independent variables:
- Q1. Does the level of development of sustainable strategies match the level of performance evolution of the company?
- Q2. Does your company examine enterprise resource planning to identify new problems, and to solve them?
- Q3. The budget is an important instrument for performance control?
- Q4. Does financial performance directly influence company performance?
- Q5. How often the company uses cash flow to assess performance?
- Q6. The prospective scoreboard is the most efficient performance management method?
- Q7. To which extent does your company use product quality, market share, customer satisfaction in assessing performance?

The consistency of responses was checked using Cronbach’s Alpha indicator. The consistency of the measurement scale is good as coefficient 0.855, higher than 0.7.

Measurement of effects of explicative variables (independent) on management control is made using multiple linear regression analysis:

\[
Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_7 X_7 + \varepsilon
\]

To identify significant variables and to eliminate the insignificant ones, we used *Stepwise* procedure from SPSS 20.0 software. By estimating the regression model, we obtained regression coefficients showing partial contribution of independent variables to management control.

The second and third hypotheses were tested by analysing the reports of administrators for the year 2015. Data were collected from the web page of the Bucharest Stock Exchange (BVB) on the regulated market. Out of 50 companies with available data, companies from the financial sector were excluded, so that only 39 companies were left. The content analysis was used as a method for collecting information on management control, performance and company responsibility.
Figure 2. Scheme presenting the methodology for assessing the second research hypothesis

Scheme in Figure 2 presents the appraisal process of relations between sustainable management control, as a dependent variable (Y), and financial performance, as an independent variable (X). Financial performance is represented by return on capital employed. Of 39 studied reports, we collected data related to: operating profit, net profit, total assets, current liabilities and equity. Based on the data, we calculated ROA, ROE and ROCE indicators. The reason for choosing these three indicators is based on the results obtained from the analysis of data from the statistical questionnaire. The questionnaire included also a set of questions related to the importance of financial indicators for measuring company performance. It should be noted that seven indicators were included: ROCE, ROA, ROE, EVA (Economic Added Value), EBITDA (Earnings before interest, tax, depreciation and amortization), EPS (Earnings per share) and ROI (Return on investment). The results showed that respondents preferred the first three indicators included in this study, according to Figure 2.

To test the hypothesis $H_2$, we used the binary logistic regression analysis. The dependent variable is binary as it differentiates the two categories of companies; companies presenting in the Annual Reports information on how management control is organised, and companies lacking such information. Therefore, the dependent variable is given the values: 1 – Yes, 0 - No.

Binary logistic regression model has the following equation:

$$\ln\left(\frac{p}{1-p}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

or

$$\left(\frac{p}{1-p}\right) = e^{\beta_0+\beta_1 X_1+\beta_2 X_2+\beta_3 X_3+\epsilon},$$

where:
- $p$ presents the probability that dependent variable be 1 (success);
- $1-p$ is the complementary probability (when the dependent variable is zero);
- $X_1, X_2, X_3$ represents the independent variables;
- $\frac{p}{1-p}$ represents the odds (odds).

The independent variables are the financial return indicators ROA, ROE and ROCE calculated using the information from 39 Annual Reports. The three variables were included in the model in the logarithm form.

The third hypothesis plays the role of verifying how companies from the main segment of the regulated market of BSE take into account in their presentation of information in the Annual Reports the provisions of Directive 2014/95/EU on the publication of non-financial information as to generate “responsible” growth. The relation with performance was inspired by the statement: that „disclosure of non-financial information helps in the appraisal, monitoring and managing company performances and their impact on society” (Burlaud & Niculescu, 2015). Additionally, according to institutional theory, the appraisal of company behaviour should be based on three aspects: legal, normative and cultural-cognitive (Herremans & Nazari, 2016). In this sense, we studied the provisions of the Global Management Accounting Principles Guide (GMAP, 2015) on sustainable approach to management control.

So, one of the features of management control is stewardship playing the role of building trust towards financial and accounting information provided by a company. The H₃ research hypothesis was based on this approach.

Figure 3. Scheme presenting the methodology verifying the third research

Scheme in Figure 3 is the algorithm of the process of assessment of the relation between sustainable management control, as a dependent variable (Y) and stewardship, as an independent variable (X), reflected by financial responsibility.
4. Results and Discussion

The analysis of the degree of association between management control and company performance used the Pearson correlation coefficient. To validate the H1 hypothesis, we tested the significance of correlation intensity between dependent variable and the seven questions as independent variables.

Table 1. Correlation coefficient between management control and the elements defining company performance

<table>
<thead>
<tr>
<th>Management control</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>Q5</th>
<th>Q6</th>
<th>Q7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management control</td>
<td>1</td>
<td>.019</td>
<td>.074</td>
<td>.247</td>
<td>.400</td>
<td>.215</td>
<td>.022</td>
</tr>
<tr>
<td>Q1</td>
<td>.019</td>
<td>1</td>
<td>.306</td>
<td>.240</td>
<td>.272</td>
<td>.163</td>
<td>.148</td>
</tr>
<tr>
<td>Q2</td>
<td>.074</td>
<td>.306</td>
<td>1</td>
<td>.293</td>
<td>.146</td>
<td>.316</td>
<td>.208</td>
</tr>
<tr>
<td>Q3</td>
<td>.247</td>
<td>.240</td>
<td>.293</td>
<td>1</td>
<td>.455</td>
<td>.252</td>
<td>.217</td>
</tr>
<tr>
<td>Q4</td>
<td>.400</td>
<td>.272</td>
<td>.146</td>
<td>.455</td>
<td>1</td>
<td>.139</td>
<td>.177</td>
</tr>
<tr>
<td>Q5</td>
<td>.215</td>
<td>.163</td>
<td>.316</td>
<td>.252</td>
<td>.139</td>
<td>1</td>
<td>.474</td>
</tr>
<tr>
<td>Q6</td>
<td>.022</td>
<td>.148</td>
<td>.298</td>
<td>.217</td>
<td>.477</td>
<td>.474</td>
<td>1</td>
</tr>
<tr>
<td>Q7</td>
<td>.141</td>
<td>.125</td>
<td>.338</td>
<td>.364</td>
<td>.358</td>
<td>.261</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: own processing based on a questionnaire and SPSS 20.0.

The elements from Table 1 show positive correlations between management control variable and a set of independent variables describing the main features of company performance. The values of correlation coefficients show an association with the items Q3, Q4, Q5, Q7 from the questionnaire, reject the hypothesis $H_0$: $\rho = 0$, and accept the hypothesis $H_1$: $\rho \neq 0$. The aim of this hypothesis was to show the general aspects of the relation between sustainable management control and company performance. Therefore, this relation was verified by the budgetary system (0.247), cash flow (0.215), and non-financial performance (0.141). But the most important relation could be observed in financial performance (0.400), the fact that was used to formulate the research $H_2$ hypothesis.

The estimation of regression model coefficients by calculating the determination ratio plays the role of maintaining in the model only the variables with statistically significant influence. This model has retained only financial performance Q4 that directly influences the coefficients: $b = 0.578$, $t_{\text{calculated}} = 3.772$, $\text{sig} = 0.001$. Also, we ran test t to discover what is the probability for each parameter to be null.
Table 2. Regression coefficients of the model between management control and the elements defining company performance

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>1,685</td>
<td>.685</td>
<td>2,459</td>
<td>.015</td>
</tr>
<tr>
<td>Q4. Financial performance</td>
<td>.578</td>
<td>.155</td>
<td>3,722</td>
<td>.001</td>
</tr>
<tr>
<td>R</td>
<td>.517a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R Square</td>
<td>.267</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R Square</td>
<td>.248</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Std. Error of the Estimate</td>
<td>.714</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>13,856</td>
<td>Sig. = .001b</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: own processing based on a questionnaire and SPSS 20.0.

Based on testing statistical hypothesis, the independent variable represented by question Q4 was retained in the model, and the other variable was excluded. Even though the correlation results in Table 1 present the associations between sustainable management control and performance by means of budgetary system, cash flow, financial and non-financial performance, the regression model using Stepwise showed that only financial performance has a significant influence on the sustainable success of a company.

The determination coefficient R Square ($R^2$) may be between $[0; 1]$: if $R^2 = 0$ or has a very small value, then the chosen regression model does not explain the relation between the variables, and if $R^2 = 1$, then all observations fall on the regression line and the model explains perfectly the link between the variables. The coefficient 0,267 from Table 2 shows that approximately 27% of management control variation is explained by company performance.

From this perspective, test F statistic with a reasonably high coefficient 13, 856 calculated based on ANOVA regression analysis with a Sig. = 0,001b lower than 0.05, showing that the independent variable (company performance) explains the variation of the dependent variable (sustainable management control) and vice versa.

While hypothesis $H_1$ has a more general nature, then hypothesis $H_2$ aims to test and validate the relations between management control and
company financial performance. The coefficients of logistic regression model, its significance and model's significance are presented in Table 3.

Table 3. Coefficients of logistic regression model testing the relation between financial performance and management control

<table>
<thead>
<tr>
<th>Variables in the Equation</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1°</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lnROA</td>
<td>1.213</td>
<td>1.366</td>
<td>2.789</td>
<td>1</td>
<td>.374</td>
<td>3.364</td>
</tr>
<tr>
<td>lnROE</td>
<td>1.388</td>
<td>1.849</td>
<td>0.563</td>
<td>1</td>
<td>.453</td>
<td>4.006</td>
</tr>
<tr>
<td>lnROCE</td>
<td>-3.045</td>
<td>1.657</td>
<td>3.376</td>
<td>1</td>
<td>.066</td>
<td>.048</td>
</tr>
<tr>
<td>Constant</td>
<td>-7.702</td>
<td>1.463</td>
<td>2.330</td>
<td>1</td>
<td>.632</td>
<td>.996</td>
</tr>
</tbody>
</table>

Omnibus Tests of Model Coefficients

<table>
<thead>
<tr>
<th>Chi-square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.486</td>
<td>3</td>
<td>.037</td>
</tr>
</tbody>
</table>

° Variable(s) entered on step 1: lnROA, lnROE, lnROCE.

Source: own processing based on a questionnaire and SPSS 20.0.

Table 3 shows that only ROCE indicator has a significant effect on companies disclosing information on management control, the Sig value of Wald test is less than the undertaken risk of 10%. In this sense, we observe that financial indicators are commonly used in performance evaluation, and ROCE is preferred especially by companies disclosing information on sustainable management control in the Annual Reports.

The second hypothesis was tested by both econometric models, as well as conceptual content analysis viewed as a qualitative analysis method. To verify the authenticity of ideas presented in the theoretical part of this study, data were collected from the Annual Reports within the regulated market of BSE and presented in Figures 4-8.

Source: own processing based on the reports of administrators, BSE.
Figure 4 shows the degree of use of profitability indicators. The highest share of 31% is found in gross profit margin, namely, 12 out of 39 companies calculate this indicator. 13% of companies use ROCE, while 21% use gross profit margin. Even though ROCE has the lowest frequency use, recent studies in the field still report that it is the most representative indicator in sustainable performance evaluation. So, based on available data, it was calculated for 34 out of 39 companies (4 reported losses in the studied period). Figure 5 shows ROCE variation from one company to another, the lowest coefficient is 0.007, and the highest is 0.215.

![Figure 6. Indicators of economic and financial efficiency](image1)

![Figure 7. Liquidity and degree of indebtedness](image2)

Source: own processing based on the reports of administrators, BSE.

The analysis of pragmatic situation of financial and economic efficiency appraisal indicators shows their common use by local companies. Receivables turnover ratio from Figure 6 has the highest amount of 31%. The share of other ratios makes it possible to affirm that the indicators measuring financial and economic efficiency should be used in performance evaluation even if these are less known. Current liquidity ratio in Figure 7 had the highest share of 64% also showing the importance of liquidity ratios in appraising performance.

Johan Wolfgang Goethe was perfectly right when he said that „figures do not rule the world, but show the way it is ruled“ (Colasse, 2007). Profit has been until recently the main element in appraising the financial health of a company. Now, it has been replaced by a multitude of instruments. The sustainable scorecard is one of these instruments, but the results of the analysis of Annual Reports showed that only one company out of 39 included in the study used the prospective scorecard. This is the reason why we continued the study based on stewardship that, according to the Guide - Global Management Accounting Principles (GMAP, 2007) plays
the role of building trust by means of the following elements: responsibility and credibility, sustainability, integrity and ethics. This approach was used in the formulation of research hypothesis $H_3$. So, based on conceptual content analysis, we extracted information on features of stewardship.

The share of 100% in Figure 8 shows that 39 companies included in their Annual Reports information on financial responsibility.

![Figure 8. Elements of Stewardship (%)](image)

Source: own processing based on the reports of administrators, BSE

So, all companies at the moment of submitting the financial report of the company enclosed also the statement on financial responsibility, or a financial audit report. Credibility is the category justified by the accounting policies presented in the report annexes. The share of 95% proves that most companies implement adequate accounting policies. Even if other categories have a lower share, still, the fact that some companies are not indifferent towards ethical values (5%), sustainability (8%), social responsibility (18%), and environment (23%) make us state that Romanian companies have doubts regarding their prosperous future.

The third hypothesis has been tested using qualitative methods as the independent variable amounted to 100% and could be included in testing an econometric model.

5. Conclusions

Business development of a company stands for its success as its business operations have to be profitable and contribute to performance. Generally, performance refers to company’s outstanding results achieved in a specific field. But, if we discuss performance as a term, then research should be focused on financial and non-financial elements.
Performance reflects a success or all carefully planned actions that a company could measure. The elements of performance differ from one author to another but all companies should focus on competencies of employees and their attitude towards achieving targets.

Sustainable balanced scorecard is one of the instruments of management control contributing to more efficient business operations. Its four elements include indicators of financial and non-financial performance. Besides guiding the executive management in its daily operations, the prospective scorecard includes new approaches to company sustainable development. It provides a set of solutions to problems that appear in the process of turning the vision of the board of directors into strategic objectives, budgets and performance-led actions. So, it should keep its four elements: finance, clients, business and human capital, and it should include a new element. The environmental stewardship is the name of the fifth element that refers to environmental, social capital, and ethical values. The environmental element includes both company’s impact on the environment, and its effectiveness in the use of natural resources. Social capital indicates the perceived reputation of the company through its relations with clients, local community and other citizens.

The limitations of the study include:
- the relation of corporate governance and other types of risks has not been studied;
- focus has been more on financial than non-financial performance, for example, innovation, reputational risk;
- each category of financial indicators has not been studied separately.

Therefore, future research should focus on:
- correlation of performance appraisal system and sustainable development in terms of societal performance;
- detailed study of each element of prospective scoreboard in relation with sustainable development;
- influence of management control on the economy of a country by means of macroeconomic performance.

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