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THE PRACTICES OF MANAGEMENT ACCOUNTING IN SPAIN

Lect. Anca Antoaneta Vârzu Ph. D
University of Craiova
Faculty of Economics and Business Administration
Craiova, Romania

Abstract: Until two decades ago management accounting has had a limited importance in the management of the Spanish companies. The purpose of this study is to highlight that the new importance of management accounting in Spain is not only a consequence of a competitive environment, but rather is closely linked to the characteristics of the social and organizational contexts of the Spanish enterprises, in particular, to the changes experienced over the past few decades. Accounting is a vast area and to study the elements, this study had to study and interpret carefully its notations. The study notes a growing trend openness of management accounting in Spain to influences from the social and organizational contexts.

JEL classification: M41, M42

Key words: management accounting, practices of management accounting, organizational context, social context

1. INTRODUCTION

Management accounting is a necessary tool for achieving a more efficient and effective management, and is obliged to respond to a complex challenges of a progressive demand for information in quantitative and qualitative terms. Management is understood as a continuous process of planning and control to the purpose of the organization. The new guideline considers management accounting as a discipline of learning that seeks to anticipate problems caused by the changes in the environment and organization (Escobar 2002).


2. OBJECTIVES

The aim of this study is to highlight that the new importance of management accounting in Spain is not only a consequence of a competitive environment in growth, but is rather linked to the characteristics of social and organizational contexts of Spanish companies and, in particular, changes experienced in recent decades.

The research focuses on the evolution of management accounting practices in Spain as well as social and organizational contexts situation in the early 1990s to the present. The study focuses mainly on management accounting practices in special
companies and professionals of accounting. Therefore, the literature chosen for this study deals with special management accounting practices.

3. **Methodology**

The study includes primary data, meaning quantitative and qualitative methods of data collection.

The quantitative method consists of a questionnaire distributed to different companies and professionals of accounting in the Spanish region of La Rioja (appendix 1). The selection of the companies was made with SABI (online platform that offers general information and annual accounts of over 1.25 million Spanish companies and more than 500,000 Portuguese ones) and data was collected within a month of research. The questionnaire had as purpose to describe the actual situation of management accounting in Spain.

4. **Questionnaire about the management practices in La Rioja**

Regarding the data obtained, the questions were formulated using simple statements and avoiding the inclusion of complex concepts that could be misleading concerned only accounting and management accounting issues. The questionnaire did not contain open questions. There were used only multiple choice and yes/no answers in order to facilitate the posterior analysis.

The questionnaire was sent to the financial department of each selected company, concretely to the contact person also included in the provided list of companies.

The size of the sample was 19 responses from the professionals sample was 26 responses, obtaining levels of response of 45% and 40%.

All the professionals interviewed were accountants or auditors. The size of the companies consulted by the surveyed professionals is distributed as it follows (table 1)

<table>
<thead>
<tr>
<th>Table no.1 Size of the companies consulted by the surveyed professionals</th>
</tr>
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<tbody>
<tr>
<td>No. of workers</td>
</tr>
<tr>
<td>% Companies</td>
</tr>
<tr>
<td>Turnover (euros)</td>
</tr>
<tr>
<td>% Companies</td>
</tr>
</tbody>
</table>

These figures confirm the existence of mainly SMEs in La Rioja, since almost half of the companies are middle sized, 40% are small firms and about 10% are large companies.

The size of the companies surveyed have the following distribution (table 2).

<table>
<thead>
<tr>
<th>Table no.2 Size of the companies included in the sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of workers</td>
</tr>
</tbody>
</table>


We can observe that one third of the companies are small companies, two thirds are middle-sized and around 10% are large size.

The opinion of the interviewees (professionals and companies) about the objectives of management accounting is resumed in the following table (table 3).

### Table no.3 Objectives of management accounting

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Grades %</th>
<th>1= disagree, 5 = agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Information for planning</td>
<td>17</td>
<td>19</td>
</tr>
<tr>
<td>Information for control</td>
<td>7</td>
<td>26</td>
</tr>
<tr>
<td>Information for decision-making</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Costs calculation</td>
<td>12</td>
<td>11</td>
</tr>
<tr>
<td>Information for the annual accounts</td>
<td>31</td>
<td>9</td>
</tr>
</tbody>
</table>

From these results, in order to rank them we obtained the means as shown below (Table 4).

### Table no. 4 Ranking of objectives of management accounting

<table>
<thead>
<tr>
<th>Rank/Objective</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Info for decision-making</td>
<td>3,35</td>
</tr>
<tr>
<td>2. Cost calculation</td>
<td>3,18</td>
</tr>
<tr>
<td>3. Control</td>
<td>2,75</td>
</tr>
<tr>
<td>4. Information for the annual accounts</td>
<td>2,67</td>
</tr>
<tr>
<td>5. Planning</td>
<td>2,41</td>
</tr>
</tbody>
</table>

It can be observed the low significance given to the planning, which contradicts the importance given to management accounting as a source of information for the decision-making processes.

Both the professionals and the companies are in favour of the existence of the principles of the management accounting.

The double accounting register was supported by only 20% of those surveyed.

Around 50% of the companies surveyed integrate cost accounting into financing accounting, and only 42% keep a total independency between cost accounting and financing accounting.
Almost 40% percent of the companies that utilize an accounting balance sheet, utilize Group 9 from the Spanish General Accounting Plan (P.G.C.), while the others prefer the French, English or other model (table 5).

<table>
<thead>
<tr>
<th>Model of costs</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 9 of PGC</td>
<td>39</td>
</tr>
<tr>
<td>French model</td>
<td>23.3</td>
</tr>
<tr>
<td>English model</td>
<td>13</td>
</tr>
<tr>
<td>German model</td>
<td>2.3</td>
</tr>
<tr>
<td>Others</td>
<td>22.4</td>
</tr>
</tbody>
</table>

Almost 90% of the companies interviewed have a budgeting control system. In all the cases, the normal duration of the budgeting period is one year and normally the budgets are revised quarterly.

From the companies interviewed 62% of them use short term planning while the 38% use long term planning.

Management accounting is considered useful in most of the cases with the exception of approximately 23% of the interviewed, which could probably represent one part of the small Spanish companies’ opinions regarding the usage of management accounting. But, the SMEs and large companies have certainly accepted the usefulness of management accounting (Castelló, 1996a).

The register of costs presents an extraordinary variety of possibilities. And confirms an excessive complexity of the accounting regulations that could lead to confusion. The Spanish government tries to deal with the problem by updating the regulations.

One third of the companies use long term planning and two thirds prefer the short term and it’s a contradictory fact with the actual tendencies that stress more in the long as a way of consolidating a proper vision for the company.

5. NEW TRENDS OF MANAGEMENT ACCOUNTING

Some of the new trends of management accountig today include information systems, quality costs, ABC and Strategic Management.

Due to the increase in the competition and the globalisation of the economy, new management and production techniques have appeared that led to a new way of managing companies.

The new ideas in management accounting is that they tend to focus on costs, time and quality. This means that the new practices in management accounting must pay attention on the social and organisational contexts of the companies, which confirms the appearance of a new way of managing companies that focus mainly on customer satisfaction.

The new practices in management accounting focus on the improvement of the efficiency of the processes as well as the empowerment of all the employees. To reach
this, there is a greater level of integration of management accounting with the other managerial practices of a company (the major orientation of M.A. towards the decision-making processes, the linkage between planning, information and evaluation).

Nowadays a company can study the possibility of incorporating one of these new management accounting or control system as a solution for a concrete problem. However, these “new” trends are no solutions in themselves most of the time, they are just different perspectives, shades or subsets of a new way of managing companies (Mallo and Merlo, 1996).

6. CONCLUSIONS

The future trends of management accounting reflect an increasing openness of management accounting to “new” influences on certain fields which in Spain have had a limited relevance until today, such as the motivation of employees. This means that the organizational context is increasing its importance among the influences on management accounting.

7. ACKNOWLEDGEMENT

This work was cofinanced from the European Social Fund through Sectoral Operational Programme Human Resources Development 2007-2013, project number POSDRU/159/1.5/S/140863, Competitive Researchers in Europe in the Field of Humanities and Socio-Economic Sciences. A Multi-regional Research Network, sau Această lucrare a fost cofinanțată din Fondul Social European prin Programul Operațional Sectorial pentru Dezvoltarea Resurselor Umane 2007 – 2013, Cod 204 Finance – Challenges of the Future Contract: POSDRU/159/1.5/S/140863, Cercetători competitivi pe plan european în domeniul științelor umaniste și socio-economice. Rețea de cercetare multiregională (CCPE).

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Appendix 1

1.- From 1 up to 5, being 5 the most valuable, which are the objectives targeted with the costs models?
   ( ) Provide information for the planning
   ( ) Provide information for the control
   ( ) Provide information for the decision-making
   ( ) Provide the necessary information for the annual accounts
   ( ) Calculate the costs and results of products, product lines and activity centres

2.- Valuate from 1 up to 5 in the actual context, the utility of the information provided by M.A.
   1 2 3 4 5

3.- Do you believe M.A. in Spain needs some principles to clarify the actual diversity of accounting practices?
   -Yes
   -No

4.- Who should take part in the elaboration of those principles from your point of view?
   -Entrepreneurs
   -Chartered accountants
   -Professionals
   -Professors
   -State
   -Consultants
   -Others
   -Accounting register of costs

5.- Do you use the double accounting of costs?
   -Yes
   -No

6.- Are the cost accounting and the financial accounting completely independent in your case?
   -Yes
   -No

7.- Which plan do you use for your balance sheet?
   -Spanish (Group 9 PGC)
   -French
   -English
8.- Do you consider that the group 9 of the General Plan of Accounting (G.P.A.) of 1973 (published in 1978) fulfills the objectives that are pretended in the costs accounting?
   - Yes
   - No

9.- Would you update the mentioned plan?
   - Yes
   - No

10.- In the case you would like to update it, which aspects would you improve from it?
   - A simple update of it without transforming it
   - Quite a lot of aspects
   - A new model should be establish, official but not obligatory

11.- Do you use budgets?
   - Yes
   - No

12.- If so, do you revise them?
   - Yes
   - No

13.- And how often?
   - Diary
   - Weekly
   - Biweekly
   - Monthly
   - Quarterly
   - Annually
   - Biannually

14.- Do you use short term planning or long term planning
   - Short term
   - Long term

15.- Does your company have a quality control system for the manufactured products?
   - Yes
   - No

16.- Does your company have a quality control system for the supplied materials?
17.- Among the following M.A. trends, which are in your opinion actual in Spain?

- Costs evaluations: location of costs, calculation of costs, indirect costs.
- Social and environmental issues: M.A. from an organizational context perspective, Human resources accounting, Environmental accounting
- New trends: Agency theory, information systems, quality costs, ABC, strategic Management
- Applied management: M.A. in sectors, M.A. in the public administration
- Planning and control: ratio analysis, internal control systems, financial and non-financial measurements, standard costs, budgeting.
VALUE RELEVANCE AND THE ADOPTION OF THE IAS/IFRS FRAMEWORK – A LITERATURE REVIEW

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Abstract: The change in the basis for preparation and presentation of financial-accounting information generates changes in the quality attributes of reported information. The purpose of this paper is to qualitatively assess the scientific literature examining the variations of value relevance due to the voluntary or mandatory adoption of IASs/IFRSs. We carry out a qualitative analysis concerning the mixed findings of these studies. These results and their variation can be explained by various factors called moderator variables. Although our study has several limitations, we make a contribution to the value relevance research field by classifying approximately 40 studies that analyze the changes occurred in value relevance after the adoption of the IAS/IFRS reporting framework.

JEL classification: M40; M41; M48

Key words: Value relevance; Accounting information; IAS/IFRS; GAAP; Literature review

1. INTRODUCTION

The E.C. Regulation No. 1606/2002 stating that from 2005 the use of the International Accounting Standards (IASs) for the reporting of European Union publicly traded companies becomes mandatory encouraged the interest of the academia regarding the study of value relevance in relation to the IAS/IFRS framework. Thus, a large number of papers focusing on value relevance and the changes in value relevance occurring after the adoption of IASs/IFRSs are found after The European Parliament and the Economic Council issued E.C. Regulation No. 1606/2002. As mentioned by Barth, Beaver & Landsman (2001: 77) the research concerning value relevance is of a particular importance for the rule-making process and the process of accounting standards formulation. The papers addressing the topic of value relevance in relation with the IAS/IFRS standards are debating the idea of a higher quality and a higher usefulness of financial-accounting information produced following the adoption of the international reporting framework. The large number of papers generates a similar number of results, but the findings do not converge towards a final conclusion in this regard.

Following the qualitative approach of similar studies (ICAEW, 2014: 39-50; Brüggemann, Hitz & Sellhorn, 2013: 1-37), our paper represents a descriptive review of the current state of knowledge in the research field of value relevance of financial information in relation to the reporting framework. The purpose of this paper is to
qualitatively assess the scientific literature examining the changes occurred in value relevance due to the voluntary or mandatory adoption of IASs/IFRSs. We make a contribution to the value relevance research field by classifying and summarizing the main results of studies examining the changes occurred in value relevance as a result of adopting the IAS/IFRS reporting framework. In order to carry out the objective of the paper we conducted a search in scientific journals published online by the American Accounting Association, the Romanian Chamber of Financial Auditors, the Emerald Group Publishing, Franklin Publishing Company, Heckner, Inderscience, John Wiley & Sons (Wiley-Blackwell), JSTOR, Oxford University Press, Palgrave Mcmillan, Questia, SAGE Publication, Springer, Reed Elsevier, and Taylor & Francis. Several of the expressions used in order to perform the search are exemplified in the following: “IAS/IFRS framework and value relevance”; “value relevance of accounting information and the adoption of IASs/IFRSs”; “the adoption of IASs/IFRSs and its effects on value relevance”; “IASs/IFRSs’ adoption effects on the value relevance of disclosed accounting information”.

Approximately 40 value relevance studies were included in our literature review and classified according to the specification of the econometric models used for the assessment of changes in value relevance. The present literature review consists of two separate sections. In the first section the focus of our review are the main results of research papers in which the econometric models used for analyzing the changes in the value relevance have a price specification. This type of research papers allows both the examination of changes in the value relevance of book value of equity and the examination of changes in the value relevance of earnings. The second part (section) presents studies in which the econometric models have a return specification. The return specification model considers earnings as a single independent variable, thus these types of studies allow only the analysis of changes in the value relevance of earnings as financial information. According to Biddle, Seow & Siegel (1995: 1) there are two types of value relevance, incremental and relative value relevance. The incremental value relevance examines whether a certain reported accounting item has an incremental informational contribution to another already known reported accounting element. The relative value relevance assesses which one of the reported accounting items has the greatest informational content. In this paper we do not distinguish between incremental and relative value relevance.

2. LITERATURE REVIEW


A large number of studies which we identified as quantifying the impact of the adoption of IASs/IFRSs on the value relevance of accounting information focus their analysis on data samples from European countries. We discuss the studies of Morais & Curto (2008) and Oliveira Rodrigues & Craig (2010), in which the authors consider samples of Portuguese companies; the studies of Hung & Subramanyam (2007), Beckman, Brandes & Eierle (2007), Jermakowicz, Prather-Kinsey & Wulf (2007), whose findings are based on samples of companies from Germany; the studies of Athianos, Vazakidis & Dritsakis (2005), Karampinis & Hevas (2009), Dimitropoulos, Asteriou, Kousenidis & Leventis (2013), in which the authors take into consideration samples of Greek companies...
and the study of Horton & Serafeim (2010) regarding the value relevance of a sample of UK companies.

For the samples of Portuguese companies, Morais & Curto (2008: 103) report a decreasing value relevance of financial-accounting information after the adoption of the international reporting framework. These findings are confirmed by the results reported in the study of Oliveira et al. (2010, p. 241). For the samples of companies from Germany, the results obtained by Hung & Subramanyam (2007: 623) suggest that in the period following 1998 until 2002 the financial-accounting information regarding earnings or book value of equity, that was reported according to the IAS framework, did not show a superior value relevance compared to the financial-accounting information reported in compliance with the German GAAPs. Beckman et al. (2007: 254) presents an analysis of the value relevance of financial-accounting information concerning items that affect the value of earnings or book value of equity reconciled between the German GAAPs and the IFRSs or U.S. GAAPs. The study concludes that the reconciled information and the information relating to the reconciled items reported in conformity with the German GAAP standards have almost the same level of value relevance for the financial market, with undistinguishable differences. Jermakowicz et al. (2007: 151) include in their study on the value relevance of financial-accounting information a sample of DAX-30 companies listed on the German premium capital market. The research paper remarks upon a significant increase in the value relevance of the earnings variable after the adoption of the new accounting reporting referential. These conclusions were contrary to those of Hung & Subramanyam (2007: 623).

In regards to the samples of Greek companies, the results from various studies lead to divergent conclusions about the value relevance of accounting information recorded since the adoption of the international accounting referential IAS/IFRS. Athianos et al. (2005: 3) argue that there is no evidence to suggest that IASs’ adoption improved the relative value relevance of reported earnings or book value of equity. The analysis performed regarding the incremental value relevance of this two elements leads to the conclusion that following the adoption of the IAS framework only book value of equity shows an increased value relevance, whilst the value relevance of earnings records a decline. Karampinis & Hevas (2009: 73) suggests that the influence of the international accounting reporting framework – IFRS generates an increase in the value relevance of consolidated financial statements’ reported elements, namely earnings and book value of equity, but the same effect is not recorded for the individual financial statements published by the parent company. In support of the findings mentioned above, Dimitropoulos et al. (2013) concludes that the value relevance of accounting information increases following the adoption of IFRSs. Horton & Serafeim (2010: 2) report mixed results on the value relevance of accounting information after the adjustments made in order to reconcile UK GAAPs with the IFRS framework. The information content of the positive adjustments carried out in order to reconcile earnings records value relevance before financial statements’ publication, whereas the information content of negative adjustments becomes relevant only after publication.

The scientific literature published on the subject of changes in the value relevance as a result of the adoption of the international financial reporting referential includes studies (Prather-Kinsey, Jermakowicz & Vongphanith, 2008; Narktabee & Patpanichchot, 2011; Macias & Muñio, 2011; Agostino, Drago & Silipo, 2011; Müller, 2014) which perform tests on the value relevance of accounting information reported at a European
level. This type of research papers use samples of companies from several European countries. We also identified works (Clarkson, Hanna, Richardson & Thompson, 2011) in which the changes in the value relevance of accounting information is tested at a global level. The findings of these studies converge and are favourable towards an increase in the value relevance of accounting information after the adoption of international financial reporting standards for the samples of companies operating in the banking sector (Agostino et al., 2011: 437) but also for the samples of companies operating in sectors other than the financial one (Prather-Kinsey et al., 2008: 2; Naratdee & Patapanichchot, 2011: 79; Müller, 2014: 976). Macías & Muñó (2011: 75) provide evidence for the superiority of the value relevance of accounting information after the implementation of IFRSs for countries that have fully adopted the IFRSs, requiring their application for both the consolidated financial reporting and the parent company’s separate financial statements. By comparison, the findings of this study suggest lower value relevance for the accounting information reported in countries that have adopted IFRSs only partially, requiring the use of national GAAPs for the preparation and presentation of the parent company’s individual financial statements. (Macías & Muñó, 2011: 75) In contrast with the results previously mentioned is the analysis of Clarkson et al. (2011: 1) on two groups of countries classified according to their legal system in common law countries, category in which Australia was included alongside other European countries, and code law (Roman law) countries. This study’s results suggest that the value relevance tested by using a linear econometric model with a price specification does not change after the adoption of the new accounting referential for either of the two groups of countries.

The examination of changes in value relevance through econometric models with a price specification is also carried out on samples of companies from several other countries like Turkey, China, Indonesia, Hong Kong, Singapore, Malaysia, Australia, New Zealand, and Pakistan. An analysis of the findings provided by research papers using data samples that consist of Turkish companies (Türel, 2009; Suadiye, 2012; Karğın, 2013; Bilgic & İbis, 2013) reveals uniform results regarding a general increase in the value relevance of accounting information after the adoption of the new accounting reporting framework. Several differences concerning changes in the value relevance of earnings and book value of equity considered individually are also discussed. Türel (2009: 119) reports that following the adoption of IFRSs Turkey records an increase in the incremental value relevance of earnings in addition to a decrease in the incremental value relevance of book value of equity. Suadiye (2012: 301) reports an opposite result, namely higher value relevance for the book value of equity compared to earnings. Karğın (2013: 71) supports the conclusions of the previous study suggesting that after the adoption of the international accounting referential an improvement is detected regarding only the value relevance of the book value of equity. The findings of Bilgic & İbis (2013: 126) show an increase in the value relevance of both accounting elements (earnings and book value of equity), with a more pronounced increase in the value relevance of the book value of equity.

Several studies focusing on data samples consisting of Chinese companies listed on their local financial markets (Hu, 2002; Qu, Fong & Oliver, 2012; Chamisa, Mangena & Ye, 2012) provide mixed evidence in regards to the association between the capital market price and the accounting information reported in accordance with the two accounting frameworks, namely the Chinese GAAPs and the international accounting referential IAS/IFRS. In this context, Hu (2002: 1) claims superior value relevance for the accounting information reported in accordance with the Chinese GAAPs’ regulations. In
the analysed period the study also reports a progressive decrease in the value relevance of earnings. Contrary results are found in the study of Qu et al. (2012: 187), in which the authors conclude that the Chinese financial market investors consider the value relevance of earnings to be superior compared to the value relevance of the book value of equity. The same study suggests that the value relevance of accounting information, particularly earnings, increases with the adoption of IFRSs. This conclusion is supported by the results reported in the study of Chamisa et al. (2012: 162).

2.2. Changes in Value Relevance Analyzed with Return Specification Econometric Models

In the following section, the reviewed studies present a regression model with a return specification. This type of econometric model represents the association between the return on market traded capital and the amount of reported earnings. The degree of association between the two variables is measured through the coefficient of the explanatory variable. In this case, the explanatory variable is represented by the reported earnings. We identified several studies with data samples collected from European companies. We discuss studies with the analysis performed on samples of German companies (Bartov, Goldberg & Kim, 2005; Gassen & Sellhorn, 2006), Finnish companies (Kinnunen, Niskanen & Kasane, 2000), Polish companies (Dobija & Klimczak, 2010) and French companies (Chiha, Trabelsi & Hamza, 2013). Regarding the German data samples, Bartov et al. (2005: 95) compares the value relevance of accounting information reported observing the regulations of three accounting frameworks, namely the German GAAPs, the U.S. GAAPs and the IASs. The results of the comparison reveal that reporting the accounting information in accordance with the two international accounting frameworks carries forth superior value relevance than reporting the same accounting information by enforcing the national German GAAPs. The same study concludes that no significant difference can be found between the value relevance of the accounting information reported in accordance with the IASs and in accordance with the U.S. GAAPs.

Gassen & Sellhorn (2006: 17-35) report significant differences regarding the value relevance of accounting information, all being in favour of the national German GAAP standards. Regarding the Finnish data samples, (Kinnunen et al., 2000: 499) performs an analysis of the value relevance of the accounting information published by dual reporting companies between 1984 and 1992. The dual reporting companies use for the preparation and reporting of accounting information two sets of accounting standards, depending on the category of users this information is addressed to. If the information content of the accounting reports is addressed to foreign investors, the information is reported in line with the IAS referential. If the reports are addressed to the local investors, the accounting information included is reported in accordance with the national accounting standards – LAS. The results of this study suggest that the accounting information prepared and reported applying the IAS framework meets the informational needs of the international investors, being thus value relevant for these users. At the same time this type of accounting information it’s not value relevant for the local stock market investors. (Kinnunen et al., 2000: 499) Dobija & Klimczak (2010: 1) report evidence favourable to the existence of value relevance for the information embedded in earnings. Their findings are not in favour of the increasing level of earnings’ value relevance following the adoption of IFRSs. Contrary evidence appears in the study of Chiha et al. (2013: 35), whose results refer to a data sample of French companies listed on the Paris Stock
Exchange. The authors of the study suggest an increase in the value relevance of reported earnings.

3. CONCLUSIONS

As we notice from the qualitative analysis carried out, the results of the studies regarding the changes in value relevance owing to the change in the basis for preparation and presentation of financial-accounting information from national general accepted accounting principles to an international reporting framework are mixed. Some of the research papers report an increase in the value relevance as a financial reporting quality, whereas other papers report the opposite results. Some papers report an increase in the value relevance only for one of the accounting variables, namely book value of equity, or earnings, while others report an increase in the value relevance of both accounting variables.

The variation of results can be explained by various factors called moderator variables. Some of these moderator factors relate to the general business environment in a given country, like the legal system, the level of investors protection, the level of influence of the tax system on the accounting system and the financial reporting framework or the type of financing mainly employed by companies (financial market investments, or bank loans). (Jeanjean & Stolowy, 2008; Brown Preiato & Tarca, 2014) Other moderator variables concern only the accounting system. We mention here several examples: the manner in which the adoption of the new financial reporting framework took place (on a voluntary basis or on a mandatory basis), the level of involvement of private bodies in the accounting regulation and standardisation, the degree of enforcement of the international framework for accounting and financial reporting or the degree of congruence between the national GAAP standards and the international standards IAS/IFRS. (Ding, Hope, Jeanjean & Stolowy, 2007; Ding, Jeanjean & Stolowy, 2009)

The limitations of our paper are the subjectivity and the lack of transparency concerning the criteria used for selecting the studies included in the analysis, the different levels of importance given to the various studies, or the reason for including a certain number of papers in the review. In addition, due to the fact that we perform a qualitative analysis we cannot specify the manner in which the moderator factors (covariates) have an effect on the variation in value relevance. Thus, our qualitative analysis does not allow us to formulate general conclusions concerning the subject of interest. In addition, the usefulness of our summarization is limited due to the fact that new papers are published and new results are made available continuously.

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THE UNIVERSITY BUDGET – A TOOL TO STREAMLINE THE RELATIONSHIP BETWEEN RESOURCES AND EXPENSES

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Abstract: The current investigative approach is the extension of a research conducted in 2014 through the paper entitled “The Revenues and Expenditures Budget - Main Instrument in the University Management.” The main research axis remains the university budget, but this paper brings further developments on the topic due to its amplitude and complexity. Therefore, in this paper we propose to bring into the light of the concerns of those who are interested, through a persuasive exhibit, the main characteristics that define the university budget as a tool to streamline the relationship between resources and expenses. Specifically, after the discussion on the concept of revenues and expenditures budget in public institutions of academic education in terms of the opinions issued by the specialized literature, we shall focus on the budgetary framework and the university budget functions, insisting on its quality as a tool to streamline the relationship between resources and expenses. The end of the presentation is intended for the conclusions through which we aim to advance our point of view on the investigated issue.

JEL classification: H52, H61, I22

Key words: university budget, budgetary autonomy, revenues, expenditures, forecasting, efficiency

1. INTRODUCTION

State universities in Romania, as public institutions involved in the budgetary process and entirely funded from own revenues respect and apply the Public Finances Law provisions regarding the preparation, approval, execution and reporting of their budgets.

The current university financial strategy is based on the budgetary autonomy, on the freedom of higher education institutions to design, approve, execute and report an own budget in accordance with the applicable law and its aims.

In the context of diminishing contribution from the state budget in order to attract additional resources, there is a need to diversify the funding sources, universities being forced to develop so-called "revenue generating" activities.
This paper is part of an extensive research which will result in the development of the doctoral thesis entitled "The accounting and financial management of public higher education institutions".

2. Conceptual delimitations regarding the revenues and expenditures budget of public universities

In general, the budget can be viewed as a list or as a document which provides the receivable incomes and the costs to be made and their destination, estimated over a period of time of one year (Jitaru & Jitaru, 2007).

Other specialists consider the budget as a tool for forecasting the revenues and restricting the expenditures which will be covered by the preset revenues (Ionescu et al., 2012).

The university budget is, on one hand, a document through which the incomes and expenditures are provided with the authorization of their destination, and on the other hand, a decision and administration tool that serves the institutions’ policy, decided by the Senate and put into application by the rector, as authorizing officer (Stancu et al., 2011).

Through this tool, each university provides the administration under the equilibrium conditions of its incomes and expenses in accordance with the criteria and the requirements set by the Ministry of Education and Scientific Research (Cerne et al., 2001).

The public universities budget facilitates the resources allocation planning, the economic and financial information on its execution and the control of the legality, efficiency, economy and effectiveness in the management of these resources for the primary aim of ensuring the improvement of the economic rationality (Carrasco et al., 2011).

In our opinion, the incomes and expenditures budget of the institutions of academic education is the document through which the revenues and the expenses are provided and approved annually and is the main tool in the university management through which the objectives set out in the strategic plan during the financial year are pursued.

3. The budget preparation framework

Structurally, the budget includes the universities’ revenues and expenditures, grouped according to the existing budgetary classification as follows:
- incomes – by chapters, subchapters, paragraphs;
- expenses – by chapters, subchapters, titles, articles and items.

Particularly important is the fact that incomes designate minimum limits, while expenses fix maximum limits that cannot be exceeded.

From our point of view, in the revenues and expenses budget preparation project, academic education institutions must take into account factors such as regulations, the organizational chart of the university, the income sources and the legal basis of their collection, the prices on the market, the consumption of raw materials, fuel, spare parts, the expenses appraisal in the planned year compared to the base year.

The numerical forecast is made on the budgetary period that coincides with the calendar year. The budget is drawn up annually, and broken down by quarters to
establish a short-term action plan.

In our opinion, it is imperative to prepare the budget starting from the organizational chart of the university. Therefore, the budget financially binds the academic education institutions’ organizational links.

![Source: Own projection after the organizational chart of the University of Craiova](image)

**Figure 1 - Presentation of the university organizational links which contribute to the budget preparation**

As it can be seen in Figure 1, in general, they include: rectorship and vicerectorship, faculties and departments, doctoral schools, libraries, printing house, TV studio, botanical garden and the General Administrative Direction with its structures: financial-economic, human resources, procurement and supply, administrative and hostels-canteens, technical, legal, audit, security and labor protection, auto sector etc.

At the level of every organizational link the target objectives are predicted, by year and broken down by quarters, the necessary resources are allocated and the budgetary control is organized.

By budgeting the activity of the revenues and expenses centers allows the forecasting, the coordination and control of the movement of all structural variables in order to increase their contribution in achieving the predetermined objectives, to improve profitability, while saving also resources.

### 4. UNIVERSITY BUDGET FUNCTIONS

In debating the revenues and expenses budget issue in the context of higher education institutions, we must not neglect its functions.

Thus, as it can be seen from Figure 2, by adapting the vision of certain specialists (Ionescu et al., 2012) we can put into highlight three functions of the revenues and expenditures budget as a primary tool in the university management, namely:

- the prediction function based on the fact that the budget is actually an estimative financial quantification of revenues and expenditures for all the activities carried out in the university;
- the control function based on the principle that the budget gives expression to the control during the commitment and spending of the resources and funds of the university; concretely, the control function involves the analysis and tracking of the implementation of the budget with the establishment of the
objectives’ achievement, identifying the deviations and causes that generated them, and finally to decide which are the organizational links that work effectively and which are the deficient ones;

- the budgetary balance ensuring function materialized by using the budget as a tool to harmonize and streamline the relationship between revenues and expenses; for ensuring the overall equilibrium of the institution, it must be provided and performed on each activity and each center of revenues and expenses.

Source: Own processing after Ionescu, I., Iacob, C., Țaicu, M., Control de gestiune. Sinteze și aplicații, Editura Universitară, Craiova, 2012

**Figure 2 – Presenting the incomes and expenses budget functions of public academic education institutions**

5. THE UNIVERSITY BUDGET – BALANCE TOOL BETWEEN RESOURCES AND EXPENDITURES

A university budget form can be viewed in Table 1.

**Table 1 - University budget form**

<table>
<thead>
<tr>
<th>No. crt.</th>
<th>Indicators</th>
<th>Anual</th>
<th>Quarter I</th>
<th>Quarter II</th>
<th>Quarter III</th>
<th>Quarter IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Opening balance at 1 January 2014</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>TOTAL INCOMES, from which:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1.</td>
<td>Amounts received from the Ministry of Education and Scientific Research – institutional funding</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.</td>
<td>Own incomes obtained from fees and other activities carried out by higher education institutions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.3.</td>
<td>Other own incomes + donations and sponsorships</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1.4. Projects financed from post-accession nonrefundable external funds

1.5. Revenues from the scientific research activity

1.6. Allocations with special destination granted by the state budget, from which:
   a) capital repairs
   b) subsidies for student hostels and canteens
   c) equipments and other investments
   d) scholarships
   e) other forms of students' social protection
   f) allocations for making investment objectives
   g) subsidies for purchasing computers for students
   h) students accommodation subsidies

1.7. Own revenues of hostels and canteens

2.1. Expenses for the basic activity (row 2.1 = row 1.1 + row 1.2 + row 1.3)

2.4. Projects financed from post-accession nonrefundable external funds (row 2.4 >= row 1.4)

2.5. Expenses for the scientific research activity (row 2.5 = row 1.5)

2.6. Expenses from allocations with special destination granted by the state budget, from which: (row 2.6 = row 1.6)
   a) expenses for capital repairs
   b) expenses from subsidies for students' hostels and canteens
   c) expenses for equipments, other investments, consolidations, rehabilitations
   d) expenses for scholarships
   e) expenses for other forms of social protection
   f) expenses for investments objectives
   g) expenses from allocations for purchasing computers for students
   h) expenses from students accommodation subsidies
With its help, we can notice the equilibrium equation underlying the incomes and expenses budget preparation as follows:

\[
(1) \text{Opening balance at 1 January} + \text{Total revenues} - \text{Total expenses} = \text{Closing balance at 31 December}
\]

Focusing on the university resources, we can observe that they include:

- allocations from the state budget as institutional funding stipulated in the institutional contract and sized according to the number of unitary equivalent students and certain quality indicators;
- own revenues obtained from: fees, capitalization of lectures and non-periodical publications, provision of services, arts and sports events, rentals, donations and sponsorships and other categories of own incomes:
  - the revenues from tuition fees are estimated based on the number of students paying fees and the fees quantum established by decision of the Senate, after the proposals of the faculties;
  - the incomes from publishing are estimated by reference to the plan of printing books and courses, and according to the price per page;
  - the incomes from rentals are established according to the provisions of the rental agreements signed between universities and their partners, depending on the rented area and the rate per square meter;
  - the incomes obtained from sponsorships, based on the signed contracts in compliance with the regulations in effect, are included in the budget and are used according to their purpose;
- amounts from post-accession nonrefundable external funds for implementing projects co-financed from the state budget and structural funds;
- incomes from scientific research which operate on extra-budgetary principles and which can come from research contracts signed with legal entities or from grants obtained through competition from the National Council of Scientific Research;
- allocations with special destination granted by the state budget as complementary funding for: repairs, subsidies for student hostels and canteens, equipments and other capital expenditures, scholarships and other forms of social protection of students, facilities for making investment objectives, and subsidies for the purchase of computers for students:
  - the amounts allocated for supporting the students transportation, scholarships and other forms of social protection and amounts granted to fund the investment objectives are specified in the institutional contract;
  - the allocations for repairs, equipments and other capital expenditures
and subsidies for hostels and canteens are set by the complementary contract.

- own revenues of student hostels and canteens including: collections from hostels and canteens overheads, counter value of food, incomes from rentals and other incomes of hostels and canteens.

On the other hand, we find the following categories of expenditures depending on the sources of funding from which they are covered:

- basic activity expenses including: current expenditures and capital expenditures necessary for the proper functioning of the institutions of academic education for training students enrolled in the three cycles: bachelor, master and doctorate. These expenses are paid from two sources of funding: core funding and own incomes;
- expenses related to projects financed from post-accession nonrefundable external funds;
- expenditures for scientific research;
- expenditures from budgetary allocations for special destination: capital repairs, covering a part of consumptions and maintenance of student hostels and canteens, facilities and other investments, consolidations, rehabilitations, scholarships and other forms of social protection of students, achieving the investment objectives, and expenses related to the purchase of computers for students;
- expenses for hostels and canteens (hostels overhead expenses and food expenses).

Typically, in the exercise of estimating the university costs it can be proceeded as it follows:

- the wages are determined by the human resources and payroll department based on the functions states, the legislative provisions and those from the collective agreement;
- related contributions are determined by applying the percentage set by the law on the wages fund;
- expenses for traveling within the country and abroad are predicted depending on: the average number of employees traveling, the average duration of travel, the subsistence amount under the law, the average cost of transportation, the average expenditures from accommodation;
- the cleaning costs are estimated in relation to the surface, normalized consumption and prices;
- the utility costs (heating, lighting, water, sanitation) are predicted in relation with the existing surfaces, the prices at the time of the estimation and their forecasted evolution;
- the costs of spare parts, maintenance, fuel and lubricants are estimated based on the number of cars in the fleet, the mileage program, the physical condition of cars, the price level and the inflation rate;
- the expenditure for students transportation to various scientific competitions and actions are determined by the distance, the number of participants and the average cost of transportation.

In the costs estimation is essential to take into account the periods of peak
collections, as well as periods in which the expenses are crowded.

The budgets of public institutions of academic education are approved by the rector, with the consent of the spending ministry (Ministry of Education and Scientific Research) and the Ministry of Finances until February 28 of the current year.

The completion and approval of universities budgets by the tutelary ministry, with quarterly distribution, is achieved after the adoption of the state budget. Following the approval in their final form by the Ministry of Education and Scientific Research, the incomes and expenditures budgets of academic education institutions start the implementation.

6. CONCLUSIONS AND SCIENTIFIC CONTRIBUTIONS

In conclusion, the incomes and expenditures budget of the academic education institutions is a major tool for the academic leadership that can provide through it the financial estimation of the university resources and how to use them in terms of economic efficiency.

In other train of thoughts, with the budget, the institutions’ management can provide planning, organizing, coordinating and controlling the structural university movement in order to achieve its financial and economic objectives.

Moreover, even if universities do not aim primarily profit, in the context of budgetary pressure exacerbated by the chronic underfunding of Romanian academic education, we consider the incomes and expenses budget as a useful tool to ensure universities’ economic and financial performance improvement, framing with the approved provisions.

To achieve the objectives set in the strategic plan, the budget becomes a short-term plan, including an allocation of resources closely related to an assignment of responsibilities. In this sense, since the budget is based on the organizational chart of the university, we can talk about a network of budgets, something which, in our view, is an opportunity because it provides the decision makers the ability to identify precisely those activities effective or after case, those that adversely affect the expected result.

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Fast Fashion and Sustainable Supply Chain Management

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Abstract: Sustainability is a sensitive issue in the fast fashion industry, a field confronted with high competition, intense use of resources and breach of basic human rights and working conditions in some of the outsourced countries, which affect the sustainability of fashion supply chains. In this paper, we will examine the sustainability of Inditex Group's supply chains and the activities they underwent with, to ensure the constant improvement of their overall activity throughout their supply chains, from a triple perspective: economic, social and environmental.

JEL classification: L290, C490, Q560

Key words: supply chain management, sustainable supply chain management, sustainability

1. INTRODUCTION

Sustainable supply chain management is becoming a fashion in supply chain management literature. All industries, not only the fashion industry, embrace the concept of sustainability in managing their supply chains. Currently, a lot of suppliers of the fashion industry are outsourced in Asia, due to lower labor costs, production costs, and overall costs. However, this low cost, affordable fashion for the Western World is possible only with high costs for the Eastern society, unthinkable and unbearable for the Western one. Thanks to corporate social responsibility and sustainability concerns, companies were forced to rethink their outsourced supply chains and prevent unsustainable activities within them, so as to minimize the negative impact on society and environment.

2. SUSTAINABLE SUPPLY CHAIN MANAGEMENT

Part of an increasingly popular research field, the concept of Sustainable Supply Chain Management (sSCM) has, in recent years, been gaining a lot of attention. The concerns for the environment and sustainability become mandatory, as society exerts a lot of pressure for the adoption of environment-friendly business procedures and activities. The field of supply chain management makes no exception from this trend: the activities of planning and management of sourcing, procurement, and logistics management, but also the coordination and collaboration with channel partners, integrating demand and supply management at the level of and among companies (CSCMP, 2015) must also include environmental and social aspects.

Nowadays, sustainability issues are included when analyzing supply chain management aspects, by addressing economic, social and environmental issues as well, starting from Elkington’s concept of the triple bottom line (Elkington, 2004). In this
manner, supply chain management becomes sustainable. Sustainable supply chain management is the strategic thrive and integration of the economic, social and environmental goals of a company, which can be achieved through the improvement of the long-term economic performance of both company and value network (Carter and Rogers, 2008).

According to PwC’s Global Supply Chain Survey 2013 (PwC, 2013), more than two-thirds of 500 supply chain executives state that, in 2015, sustainability will have an important role when managing supply chains, as sustainability is becoming one of the major supply chain management trends. Pursuing sustainability, in the view of operations professionals adds value to the supply chains. The measures attributed to sustainable supply chain initiatives were:

- Cost reduction (43% of operations professionals)
- Improved environmental impact (35%)
- Improved customer satisfaction, as a result of sustainability (25%) (PwC, 2014).

The growing attention gained by sustainable supply chain management compared to traditional supply chain management, in recent years can be seen also in the number of Internet searches provided by Google Trends:

![Google Trends Chart 1](source)

*Figure no. 1 – Interest over time for the concept of Supply Chain Management within the timeframe 2004 – 2015*  

![Google Trends Chart 2](source)

*Figure no. 2 - Interest over time for the concept of Sustainable Supply Chain Management within the timeframe 2004 – 2015*

In a challenging world, with scarce resources, any sort of business innovation (products, processes, management frameworks or businesses) is crucial. More so, in the fashion industry, in order to achieve sustainable production and consumption, the innovation models must take into account the sustainable development prerequisites.

Like in all businesses, indicators of innovation are represented by the estimated economic results, but they must be also sustainable. Nowadays however, inserting environmental concerns into innovation processes is of maximum importance. There is the
concept of environmental innovation to depict this type of innovation, which consists of new or modified products, processes, systems and techniques designed so as to avoid or reduce their negative impact on the environment (Kemp and Arundel, 1998). According to Kemp and Arundel (Kemp and Arundel, 1998), there are six types of environmental innovations: pollution control techniques, clean-up technologies to remedy damages that have already occurred, waste management technologies, recycling technologies, clean technologies related to production processes, clean products or products that have a small environmental impact throughout their life cycle.

Another concept, sustainable innovation, represents the introduction of new or improved products, processes, management or business models, which bring benefits (economic, social and environmental), if compared with the alternatives (Barbieri et al., 2010).

One of the industries which included sustainability of their supply chains into their major concerns is the fashion/apparel industry, fact noticeable also on the Internet searches:

![Source: Google Trends](Image)

**Figure no. 3 – Comparison on the interest over time on the concept of Sustainable Fashion within the timeframe 2004 – 2015**

Their concern towards sustainability has been a consequence of the many issues found throughout their supply chains, considered to foster numerous alarming situations, out of which the most important were human slavery and massive pollution / damages on the environment.

3. **ARE THE FASHION SUPPLY CHAINS SUSTAINABLE?**

Nowadays, the fashion industry is faced with multiple challenges. In a difficult, uncertain economic environment, companies strive to obtain competitive advantage, market share and profitability. Additionally, this industry is facing supply chain sustainability challenges induced by price volatility, resource and factor availability. This industry develops at incredible speed, now that the season cycles are shorter, and new brands, new styles, and new products people want to buy must be created every other week, not for the traditional two main seasons (Deloitte, 2013).

This is the manner in which the concept of “Fast Fashion” appeared. It means that the pattern of production, consumption takes place fast: products are produced, consumed and discarded very fast. All this speed-driven activity assumes highly performance supply chain business models, in which the efficiency in sourcing and production (costs, time to market) is essential, in order to meet customer demands, in terms of style and price.
Business performance must therefore, acknowledge sustainability, especially since resources like cotton and oil, together with other commodities have high prices volatility. Business decisions involving access to resources and the choice of production capacity become of essential importance, impacting hugely on profits (Deloitte, 2013).

The global economic and demographic growth contribute to resource scarcity, already exacerbated by climate change, pollution, leading to higher pressure also on the productivity side. This trend is confirmed by the 2014 global fiber demand which grew to 93.7 million tons, representing a 4.1% higher value than 2013, corresponding to an average per capita consumption of 13.1 kilograms of textile materials (for clothing and other textiles) (The Fiber Year 2015).

If we analyze the supply chains of the fashion retail industry in terms of the three pillars of sustainability (economic, social and environmental) we find the sensitiveness of them all. On the economical side, the delocalization process to the Far East, common to a lot of fashion companies, affected the economic growth of the fashion industry in Europe. On the social side, a lot of the companies which delocalized their activities in the Asia, were accused of modern slavery conditions, the famous sweatshops. On the environment side, the fashion industry is known for its use of chemicals, land and water consumption.

Nowadays, when analyzing supply chains, the economic indicators are not enough, and the demands from end customers and other stakeholders can affect the overall business performance (Mentzer et al., 2001).

According to the Deloitte, 2013 survey on the fashion industry, 7 out of 10 fashion businesses do not focus on natural resources management, therefore, risking their short term profits and medium survival. In the same study, Deloitte found that the management of sustainability in the fashion industry is unbalanced, all them having different commitment levels, but less actual actions and results (Deloitte, 2013).

Sustainability is becoming important also in the fashion industry (Moisander and Personen, 2002), companies realizing that highly profitable, but affordable and trend-sensitive fashion raises also ethical issues (Aspers and Skov, 2006). The concept of fast fashion in itself is a symbol of unsustainability – today’s fashion ends up tomorrow consigned to the trash bin (Joy et al., 2012).

If formerly there were two main seasons, lasting about six months each, companies like Zara and H&M change the trends in a matter of weeks, having increased profit margins. Zara, an Inditex constituent brand once manufactured all their goods in Europe, in order to have better quality control on their goods. Until recently, they kept almost half of their production in Spain and Portugal, being one of the few exception companies, not affected by globalization. Nowadays, however, even they have outsourced now, some of their manufacturing, resulting in lower manufacturing costs, lower labor costs, the possibility of having low prices and higher sales volume (Tokatli, 2008). In order to obtain this volume of sales, retailers source new trends in the field of fashion, introduce new items each week, replenishing their stocks (Tokatli and Kizilgun, 2009).

Guiltinan (Guiltinan, 2009) identified what he calls a triggering factor encouraging the existence of fast fashion (which employs planned obsolescence practices), namely impulsive behavior. Fast fashion, in the view of Abrahamson (Abrahamson, 2011) is built with the primary goal of obsolescence, more than any industry in the world.

European fast fashion chains grew faster than the whole retail fashion industry (Cachon and Swinney, 2011). Sull and Turconi (2008) found that the success of fast fashion chains are more successful than traditional fashion retail chains, as the profit
Margins are higher in the case of fast fashion chains (on average 16%) compared to the traditional fashion retail ones (on average 7%).

In this paper I will consider the case of Zara, an exemplar fast fashion, part of the Inditex Group.

4. INDITEX CASE STUDY – A SUSTAINABLE FAST FASHION GROUP

Industria de Diseño Textil, S.A. (Inditex), a Spanish multinational clothing company, was founded in Arteixo, Galicia - the metropolitan area of A Coruña, in 1963, as a dress maker’s shop, by Amancio Ortega, who owns even today the largest number of shares and is Spain richest man, and the world’s second richest man. He retired in 2010 and the position of Chairman was taken over by Pablo Isla. Nowadays, the Group consists of almost a hundred companies. Their main activities consist of textile design, manufacturing and distribution, respecting ethics and responsibility. Inditex was one of the 38 companies, which in 2013, after the Savar building collapse in Bangladesh, signed the ‘Accord on Factory and Building Safety in Bangladesh’. Although it maintained a lot of the production in Spain and Portugal, some of the manufacturing is outsourced also in Morocco, China and Turkey.

It is the world’s biggest fashion group and owns 8 retail brands like Zara, Pull&Bear, Massimo Dutti, Bershka, Stradivarius, Oysho, Zara Home and Uterque, with a strong customer orientation.

In 2014, Inditex operated on 88 markets, with a number of 6,683 stores, 343 stores more than the previous year. More than 50% of their stores are eco-stores (all the new ones, and some of the old ones which were renovated). Their business model, according to Pablo Isla, the Inditex Chairman, is built with the help of innovative strategies in order to achieve social and environmental sustainability and to satisfy demanding economic objectives (2014 Inditex Annual Report).


The Inditex Group has sustainability and environment-oriented strategies. The life cycle of their products is innovative, starting with the raw materials (obtained by recycling and reuse) and continuing with the industrial processes (manufacture, logics and sales). Also, in order to move towards a first-class supply chain, they implemented, for their wet processes, an environmental sustainability standard. The supply chain includes more than 5,000 manufacturing companies, out of which almost 95% of them obtained the highest ratings in social audits.

The contribution of Inditex to general welfare is proved by investments in social programs and in taxes paid the Group worldwide in total amount of 2.066 billion euros (direct taxes) and 2.298 (collected taxes) (2014 Inditex Annual Report). The idea of investing in social programmes appeared in the 2004 Inditex Sustainability Report, as a plan for the 2005-2006 time frame (2004 Inditex Sustainability Report). Also, as of 2005 they started what they called the “Triple Report”, namely reporting on the social, economic and environmental dimensions.
The concern for sustainability started in the early 2000, more specifically in 2003 when they issued their first sustainability report stating their business model:

![Image of sustainability model](image)

*Source: 2003 Inditex Annual Report*

**Figure No. 4 – Inditex’s Sustainability Model**

Another sustainable activity was initiated in 2003, namely the investments in social programs:

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<tbody>
<tr>
<td>Investments in social programmes</td>
<td>2003</td>
<td>3.11</td>
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<tr>
<td></td>
<td>2004</td>
<td>5.73</td>
<td>6.81</td>
<td></td>
<td>5.95</td>
<td>11.00</td>
<td>8.88</td>
<td>10.4</td>
<td>11.00</td>
<td>14.00</td>
<td>21.00</td>
<td>23.00</td>
<td>26.00</td>
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</tbody>
</table>

*Social programmes + emergency social programmes*

*Source: Inditex Annual Reports*

The sustainability corporations’ behavior are assessed also with the help of financial mechanisms. Since 2001 Inditex became a publicly traded company, being listed on the stock market, with a then estimated value of 9 billion euros. Inditex is a part of the international indexes Ibex 35, FTSE Eurotop and Eurostoxx 600, but also in international sustainability indices FTSE4Good (since 2002), Dow Jones Sustainability (since 2003) and FTSE4Good Ibex. In 2014, Inditex scored 96 out of 100 in the environmental area for the Dow Jones Sustainability Index, positioning itself globally, above of 98% similar companies from the same sector. For its environmental performance, Inditex scored 93 points out of 100, points attributed by the Carbon Disclosure Project, for the climate change area and in the same publication Inditex was appreciated also for their water management (leading company in the Carbon Disclosure Project Water).
Sustainability, for this company is an ongoing strive to improve all the activities, which leave footprints on society and on the environment. Their supply chain makes no exception. Inditex carefully analyzes the activities and the issues of their supply chain on a regular basis, and performed in 2014 a number of 10,274 audits (pre-assessment audits – 2,367, social audits – 3,893, production audits – 2,463 and special audits -1551), both internal (2,212) and external (8,062) to verify the integrity of the supply chain.

One of the company’s main challenges are the traceability and integrity of their entire supply chain, so as to achieve a sustainable supply chain, the sustainability of all their production processes.

In this endeavor to ensure the traceability of their supply chain, Inditex works with traditional, stable suppliers, who can ensure the transparency of their activities and who can provide appropriate working conditions for their employees (for this purpose Inditex has a ‘Code of Conduct for Manufacturers and Suppliers’, and also, a ‘Compliance Programme’). The latter two mentioned documents were designed to ensure the integrity of the supply chain and represented the background for the ‘2014-2018 Strategic Plan for a stable and sustainable supply chain. Besides the analytical methods used for continuous systemization and update, the strategic plan embodies the value of dialogue and contact among the major Inditex stakeholders and the four major compliance objectives: commitment to stakeholders, monitoring, capacity building and continuous improvement. The plan includes the steps of in depth knowing of suppliers/ manufacturers, throughout exhaustive assessment, at the end of which, they have the possibility of being helped to improve and optimize their employees’ social and working conditions. All these actions

Table no. 2 – Inditex DJSI for the 2009-2014 timeframe

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<thead>
<tr>
<th>Dow Jones Sustainability Index</th>
<th>2009 IS (%)</th>
<th>2010 AS (%)</th>
<th>2011 IS (%)</th>
<th>2012 AS (%)</th>
<th>2013 IS (%)</th>
<th>2014 AS (%)</th>
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<td>48</td>
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<tr>
<td>IS</td>
<td>60</td>
<td>53</td>
<td>66</td>
<td>45</td>
<td>60</td>
<td>49</td>
</tr>
<tr>
<td>AS</td>
<td>80</td>
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<td>IS</td>
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<td>80</td>
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<tr>
<td>AS</td>
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<tr>
<td>IS</td>
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<tr>
<td>AS</td>
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SOCIAL DIMENSION

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<th>2010 AS (%)</th>
<th>2011 IS (%)</th>
<th>2012 AS (%)</th>
<th>2013 IS (%)</th>
<th>2014 AS (%)</th>
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</thead>
<tbody>
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<td>Labor practice indicators</td>
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<td>56</td>
<td>74</td>
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<td>57</td>
<td>80</td>
</tr>
<tr>
<td>Development of human capital</td>
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<td>39</td>
<td>55</td>
<td>29</td>
<td>61</td>
<td>35</td>
</tr>
<tr>
<td>Talent attraction and retention</td>
<td>60</td>
<td>56</td>
<td>60</td>
<td>53</td>
<td>59</td>
<td>57</td>
</tr>
<tr>
<td>Philanthropy</td>
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<td>55</td>
<td>86</td>
<td>57</td>
<td>89</td>
<td>53</td>
</tr>
<tr>
<td>Company report</td>
<td>48</td>
<td>37</td>
<td>56</td>
<td>40</td>
<td>96</td>
<td>46</td>
</tr>
<tr>
<td>Standards for suppliers</td>
<td>99</td>
<td>61</td>
<td>99</td>
<td>62</td>
<td>99</td>
<td>66</td>
</tr>
<tr>
<td>Commitment to stakeholders</td>
<td>87</td>
<td>100</td>
<td>100</td>
<td>55</td>
<td>100</td>
<td>59</td>
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<tr>
<td>Social reporting</td>
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ENVIRONMENTAL DIMENSION

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<thead>
<tr>
<th>Criteria</th>
<th>2009 IS (%)</th>
<th>2010 AS (%)</th>
<th>2011 IS (%)</th>
<th>2012 AS (%)</th>
<th>2013 IS (%)</th>
<th>2014 AS (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packaging</td>
<td>-</td>
<td>-</td>
<td>87</td>
<td>48</td>
<td>95</td>
<td>57</td>
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<tr>
<td>Environmental report</td>
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<td>-</td>
<td>57</td>
<td>42</td>
<td>89</td>
<td>47</td>
</tr>
<tr>
<td>Operational Eco-Efficiency</td>
<td>-</td>
<td>100</td>
<td>27</td>
<td>94</td>
<td>100</td>
<td>86</td>
</tr>
<tr>
<td>Environmental Policy / Management System</td>
<td>-</td>
<td>92</td>
<td>49</td>
<td>95</td>
<td>100</td>
<td>53</td>
</tr>
</tbody>
</table>

Where: IS – Inditex score, AS – Average score

Source: Inditex Annual Reports
contribute to the existence of a stable, sustainable supply chain, where long term business relations are encouraged.

The factories, which work with the Inditex suppliers (of all tier) have quality, product health and safety, manufacturing and environment standards. More so, the suppliers have the obligation of disclosing all the factories involved in all manufacturing processes. Purchasing teams and suppliers undergo continuous trainings and good practices exchange, as Inditex considers it mandatory that each of them be responsible for their own supply chain. All Inditex products are designed so as to allow the traceability of orders and that the products were manufactured complying with labor, product health and safety, and environmental legal requirements. The first step in order to achieve a sustainable supply chain, is, according to Inditex, the production traceability.

All these actions contribute to achieving the goal of a sustainable supply chain, in an industry described as mainly an unsustainable one. Inditex is a pleasant exception with their tremendous efforts. Inditex’s sustainability is viewed in terms of social aspects and time. The final goal of supply chain sustainability is in agreement with the UN Ruggie Framework (the ‘Guiding Principles on Business and Human Rights’), the ETI (Ethical Trade Initiative), UN Global Compact principles and the fundamental labor standards of the International Labor Organization. For a better follow up, Inditex divided its suppliers into 10 supplier clusters correspondent to the main geographic area of presence Spain, Portugal, Turkey, Morocco, South East Asia, India, Bangladesh, China, Argentina and Brazil. 91% of the 2014 total production was accounted by the production of various cluster-located suppliers. The Environment Strategic Plan govern the activities from the environmental area, whereas the social management strategic axis is governed according to “Inditex Code of Conduct for external manufacturers and suppliers” and the “Internal Code of Conduct”, “Clear to Wear” and “Safe to Wear” (safety and product health protocols).
All these actions contribute to achieving the goal of a sustainable supply chain, in an industry described as mainly unsustainable. Inditex is a pleasant exception with their tremendous efforts. Inditex’s sustainability is viewed in terms of social aspects and time. The final goal of supply chain sustainability is in agreement with the UN Ruggie Framework (the ‘Guiding Principles on Business and Human Rights’), the ETI (Ethical Trade Initiative), UN Global Compact principles and the fundamental labor standards of the International Labor Organization. For a better follow up, Inditex divided its suppliers into 10 supplier clusters correspondent to the main geographic area of presence Spain, Portugal, Turkey, Morocco, South East Asia, India, Bangladesh, China, Argentina and Brazil. 91% of the 2014 total production was accounted by the production of various cluster-located suppliers. The Environment Strategic Plan govern the activities from the environmental area, whereas the social management strategic axis is governed according to “Inditex Code of Conduct for external manufacturers and suppliers” and the “Internal Code of Conduct”, “Clear to Wear” and “Safe to Wear” (safety and product health protocols).

Sustainable, healthy fashion is a constant desiderate of the Inditex Group, which created in 2014 a new environmental sustainability standard for the wet process factories, meant to ensure “Green to Wear” items (produced with less resource consumption and with a cleaner production).

The Inditex Group is known for its numerous innovations at the level of their supply chains, innovations recognized also by different institutions. For example, the innovative use of information technology meant to reduce the time gap between the design of a merchandise and its in-store arrival, brought, in 2006, to the Inditex Group the Wharton Infosys Business Transformation Award. In 2013, 2014 and 2015 they won three years in a roll the “Gartner Supply Chain Top 25”, place 12, respectively, place 11 (Gartner, 2013, 2014), so as to advance to place number 5, in 2015. This year’s performance, for which Inditex jumped six slots into the Gartner ranking is a reusable item-level RFID system, which can be found on all Zara, sold items. This innovative system allows more efficient inventory management, precision previsions for stock

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**Source:** 2014 Inditex Annual Report

**Figure no. 6 – Strategic plan for a sustainable supply chain**
replenishment, better security control and better customer service. The RFID system is not the only Inditex performance, but also their prioritization of social responsibility at the level of their supply chains, fact acknowledged also by the Dutch Association of Investors for Sustainable Development. Inditex won the highest score given to any retailer for ensuring textile workers’ living wages throughout their supply chains (Gartner, 2015). Therefore, we can conclude that Inditex’s supply chain is sustainable, and that sustainability is a continuous objective.

5. Conclusions

In an unsustainable industry, faced with enormous issues some companies manage to promote sustainability models, improving the sustainability of their business actions, fact acknowledged by the business society and the community: we chose the Inditex Group as a case study, with available best practices for other fast fashion companies.

Innovation is a key value for Inditex, and the investments in innovation increase from one year to the next (1.5 million euro – 2014, 800.000 euro - 2013), ensuring the companies’ success. The innovative supply chains play a key role for the success of companies, especially for those working with a large number of suppliers. The Inditex supply chain innovation was its agility. Maintaining most of the production in Spain, Portugal and nearby European production sites, it allows the company to manufacture within the same season and have a flexible inventory, as opposed to their main competition manufacturing in Asia. Inditex has higher labor costs this way, but these costs are compensated by the flexibility of their supply chains, where production is close to the warehouses and distribution centers (The Economist Intelligence Unit, 2014).

In Spain, the home market of the Inditex Group, other companies could use the Inditex experience and promote innovation on the Spanish market, like Inditex does. Then Spain, as a country, could advance to innovation leaders group, and not only moderate innovators group, given the good logistics performance – fact which could contribute to the overall economic development (Bîzoi C.G., Șipoș G. L., 2015). Moreover, a group like Inditex with high performance supply chain management could act (as an exception, for its expertise – because the authors thought about an independent supervising entity) as the supervising entity, which has the role to check if all national material flows are consistent with the launched orders, in all quantitative, qualitative and time aspects (Bîzoi C.G., Șipoș G. L., 2014), and improve all Spanish supply chains, according to the Inditex model.

With the help of agile and traceable supply chains, the Inditex group was able to increase the speed of all their supply chain activities (design, production and delivery), providing customers with trendy, low prices clothes (Zara, previsions demand based on real time data from its retail shops), representing a model for sustainable supply chain management. If companies were more careful in analyzing their supply chains and ensuring their agility and traceability, the sustainability of many supply chains would increase.

Acknowledgement

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RELATIONSHIPS BETWEEN WAGES AND EMPLOYMENT INDICATORS

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University of Craiova
Faculty of Economics and Business Administration
Craiova, Romania

Abstract: In recent decades, employment decreased while unemployment rose in most world economies. In the same period there was an increase in wages received by workers for their labor. The present paper work examines the influences of wages evolution on employment and unemployment. Based on the data from European Union I studied and the other types of correlations that can be established between variables which characterize HR compensation policy, employment, unemployment and economic growth. The results showed that there is not a significant correlation between the evolution of wages and evolution of employment and unemployment rates.

JEL classification: E24, M52,

Key words: HR compensation, minimum wage, real wage employment, unemployment.

1. INTRODUCTION

Classical and neoclassical economists (Pigou, 1937; Keynes, 1936; Phelps, 1994; Friedman, Milton, 1968; Tobin, 1984) have suggested, over the years, that wage variations should be the mechanism capable of maintaining a normal level of employment. They considered that wage flexibility ensures full employment of labor (except for a small part of the workforce, considered natural unemployment). Therefore, in the classical and neoclassical theories exists voices stating that there is a partial cause-effect relationship between real wages and employment or unemployment (Pigou, 1937; Keynes, 1936; Tobin, 1984).

Based on the comparisons that were made between US and European labor markets, policy makers have concluded, in the early 1990s, that high unemployment in Europe has as a main cause real and relative wages inflexibility. In a study published in 1993, the OECD stated that labor market and wage flexibility is the adequate solution for reducing unemployment (OECD, 1993). Since 1990s it has started a comprehensive process of deregulation of the labor market in Europe. Although many specialists in the labor market area have expressed skepticism (Freeman, 1995; Nickell and Bell, 1996; Howell and Heubler, 2000; Calistri and Galbraith, 2001), this flexibility process continued in Europe without leading to a substantial reduction in unemployment. However, the degree of workers protection in the European labor market was substantially reduced.
Blanchflower and Oswald (1994), David Card (1995) and Blanchard and Katz (1999) have also studied the relationship established between real wages and unemployment rate, having the starting point - the Phillips curve. Their research results have shown that there is not a clear causal relationship on long term. Blanchflower and Oswald (1994, p. 137) pointed out that “their results directly contradict the usual formulation of the accelerationist Phillips” curve. David Card (1995) and Blanchard and Katz (1999) defend the traditional accelerationist Phillips curve, but state that under certain conditions and periods traditional Phillips curve could be denied.

Tyrväinen (1995) believes that, at certain periods, especially during economic crisis, real wages exert some influences on unemployment. Following research he found that real wages resistance “have contributed strongly to the increase in unemployment in the late 1970s and the early 1980s” (Tyrväinen, 1995, p. 45). Reducing unemployment that followed economic growth was influenced also by the evolution of real wages. The unemployment decrease that followed after the economic growth was also influenced by the evolution of real wages.

Apergis and Theodosiou (2008) strongly reject the hypothesis that wage variations could affect employment. Thus, employment can not be increased by cutting real wages. Rather, there can be seen an inverse relationship: “real wages would decrease as a result of increased employment, which leads to an increase in demand for products and thus to an increase in inflation. In this way salaries real will decrease, not by decreasing nominal wages but due to their erosion through inflation” (Apergis and Theodosiou, 2008, p. 48).

Two American authors Daniel Aaronson and Andrew Jordan have concluded that the trends of certain parts of the labor force (long-term unemployed and those employed part-time) “correlates involuntarily with the real wage evolution” (Aaronson and Jordan, 2014, p.1). A decrease in real wages will lead to an increase of long-term unemployment and a decrease of part-time employment. They also believe that real wages variation has some influence on employment. In this respect, they conclude, based of their calculation and estimation, that there is „a strong connection between real wage growth and medium-term unemployment, as well as a connection amid real wage growth and marginally attached workers, mostly those working part time involuntarily for economic reasons” (Aaronson and Jordan, 2014, p.4).

The relationship between minimum wages and employment is also widely studied, being a controversial subject in labor economics and at political level. Many countries have not established a minimum wage, considering that would determine, in this way, a reduction in employment. These views were based on neoclassical theory according to which wage growth leads employers to require a smaller amount of work.

In the recent years, countries have followed quite different strategies regarding the evolution of minimum wages. Even in the context of global economic crisis, there may be alternatives: either a more restrictive policy or an expansive policy regarding minimum wage. On the one hand, many countries had frozen or had recorded little increases of minimum wage, with the argument of limiting labor costs to deal with economic crisis and to protect jobs. Such a view is supported by neo-liberal economic thinking and by international organizations such as International Monetary Fund or Organization for Economic Co-operation and Development (OECD, 2009). The main supporters of restrictive policy in the minimum wage field are the employers’
organizations, which in many countries have even requested a reduction in the nominal minimum wage.

Many economists, however, expressed doubts about the restrictive role of limiting policy of minimum wage, considering that it is a good tool against the economic crisis (Schulten, 2010). The American economist and Nobel laureate Paul Krugman, for example, believes that the claims expressed for reducing minimum wages are “a totally counterproductive idea” that would lead to a worsening of economic situation (Krugman 2009). Minimum wages have an important role in preventing a deflationary wage-price spiral.

However, more recent studies have investigated this issue and found insignificant influence of minimum wage on the levels of employment or unemployment (Dube et al., 2011; Giuliano, 2013; Meer and West, 2013).

This paper aims to examine the types of correlations that can be established between variables which characterize HR compensation policy, employment, unemployment and economic growth at European Union level. After I presented research methodology, I conducted a series of analyzes, observations, and I made interpretations of research results. Based on historical data and estimates for GDP growth taken from the database of the IMF I made a forecast of the evolution of total employment, labor productivity, real unit labor costs.

2. RESEARCH METHODOLOGY

Research design involved comparative studies between variables that are the subject of research. To determine the relationships and influences that are established between the indicators relating to human resources policy on compensation and indicators of employment, I calculated correlations between the 14 variables. To these variables I added, in order to increase the relevance of research, two economic variables (Real GDP and Labor productivity) and one demographic (Population aged 15-64). Data used in research are taken from a study of Directorate-General for Employment from European Commission entitled „Employment and social developments in Europe”. The chronological data series cover the period 2003-2013 for all variables.

The research variables used are:

- V01 - Real GDP (% growth),
- V02 - Total employment (% growth),
- V03 - Labor productivity (% growth),
- V04 - Nominal unit labor costs (% growth),
- V05 - Real unit labor costs (% growth),
- V06 - Population aged 15-64 (thousand),
- V07 - Employment rate (% population aged 15-64),
- V08 - Employment rate (% population aged 15-24),
- V09 - Self-employed (% total employment),
- V10 - Part-time employment (% total employment),
- V11 - Unemployment rate (% labor force),
- V12 - Youth unemployment rate (% labor force 15-24),
- V13 - Long term unemployment rate (% labor force),
• V14 - Minimum wage (euro/month). For the minimum wage variable, I calculated average sum of minimum wages for 20 EU countries that have regulated minimum wage (Eurostat, 2015).

Correlations (the Pearson coefficient) were calculated for the two data sets (table 1 and table 2) corresponding to all member countries of the European Union (UE-28), respectively, to the most developed countries in the European Union (UE-15), to underline the differences between them.

**Table 1. Data set for investigated variables (UE - 28)**

<table>
<thead>
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<td>700.18</td>
<td>724.37</td>
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</tbody>
</table>

*Source: European Commission, 2014; Eurostat, 2015 and own calculations*

**Table 2. Data set for investigated variables (UE - 15)**

<table>
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<th></th>
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<tbody>
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<td>0.8</td>
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<td>40.8</td>
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<td>36.9</td>
<td>36.5</td>
<td>35.4</td>
<td>34.9</td>
</tr>
</tbody>
</table>
After analyzing empirical data I enounce a series of conclusions relating to the relationships and influences that are established between wage levels and indicators of employment. Also, based on GDP growth as the independent variable, I make a prediction on the total employment (% growth), labor productivity (% growth) and real unit labor costs (% growth).

### 3. Data Analysis and Interpretation

After calculating the correlations it can be seen that, in the EU-28, real GDP (% growth) vary directly proportional with total employment and labor productivity (0.820 and 0.911) and inversely proportional (-0.933) with real unit labor costs (Table 3).

#### Table 3. Correlations among investigated variables (UE - 28)

<table>
<thead>
<tr>
<th></th>
<th>V01</th>
<th>V02</th>
<th>V03</th>
<th>V04</th>
<th>V05</th>
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<td>-0.933</td>
<td>-0.430</td>
<td>-0.175</td>
<td>0.371</td>
<td>0.396</td>
<td>-0.353</td>
<td>-0.259</td>
<td>-0.371</td>
<td>0.147</td>
<td>-0.441</td>
</tr>
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<td>-0.585</td>
<td>-0.372</td>
<td>0.133</td>
<td>0.658</td>
<td>0.246</td>
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<td>-0.600</td>
<td>-0.678</td>
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<td>-0.353</td>
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<td>-0.059</td>
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<td>0.468</td>
<td>0.437</td>
<td>-0.074</td>
<td>-0.425</td>
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<td>0.034</td>
<td>-0.188</td>
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<tr>
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<td>1</td>
<td>0.188</td>
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<td>0.188</td>
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<td>0.382</td>
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<td>0.391</td>
<td>0.594</td>
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It can be said that an increase in employment is accompanied by an increase in GDP, since the additional employment produces additional GDP and additional GDP increases the amount of productive investments leading to increasing in employment. Similarly, a higher productivity will result in an increase of GDP. Regarding the correlation between the evolutions of GDP and wages, we can see that the main beneficiaries of increased productivity and profits from sales of products and services are the owners of capital, only a small proportion of additional value returning to employees by increasing wages. This evolution is demonstrated by the inverse correlation between variables labor productivity and real unit labor costs (-0.979). These correlations are similar in the UE-15 (table 4).

Table 4. Correlations among investigated variables (UE - 15)

<table>
<thead>
<tr>
<th></th>
<th>V01</th>
<th>V02</th>
<th>V03</th>
<th>V04</th>
<th>V05</th>
<th>V06</th>
<th>V07</th>
<th>V08</th>
<th>V09</th>
<th>V10</th>
<th>V11</th>
<th>V12</th>
<th>V13</th>
</tr>
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<td>0.524</td>
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<td>-0.076</td>
</tr>
<tr>
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<td>0.874</td>
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<td>-0.649</td>
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<tr>
<td>V04</td>
<td>-0.453</td>
<td>-0.350</td>
<td>-0.464</td>
<td>1</td>
<td>0.525</td>
<td>0.349</td>
<td>0.089</td>
<td>-0.260</td>
<td>-0.166</td>
<td>0.343</td>
<td>0.268</td>
<td>0.321</td>
<td>0.093</td>
</tr>
<tr>
<td>V05</td>
<td>-0.929</td>
<td>-0.649</td>
<td>-0.989</td>
<td>0.525</td>
<td>1</td>
<td>0.356</td>
<td>0.239</td>
<td>-0.113</td>
<td>-0.518</td>
<td>0.199</td>
<td>0.098</td>
<td>0.196</td>
<td>-0.198</td>
</tr>
<tr>
<td>V06</td>
<td>-0.422</td>
<td>-0.479</td>
<td>-0.323</td>
<td>0.349</td>
<td>0.356</td>
<td>1</td>
<td>0.416</td>
<td>-0.629</td>
<td>-0.858</td>
<td>0.905</td>
<td>0.505</td>
<td>0.672</td>
<td>0.336</td>
</tr>
<tr>
<td>V07</td>
<td>0.019</td>
<td>0.310</td>
<td>-0.204</td>
<td>0.089</td>
<td>0.239</td>
<td>0.416</td>
<td>1</td>
<td>0.426</td>
<td>-0.526</td>
<td>0.107</td>
<td>-0.543</td>
<td>-0.374</td>
<td>-0.576</td>
</tr>
<tr>
<td>V08</td>
<td>0.393</td>
<td>0.676</td>
<td>0.126</td>
<td>-0.260</td>
<td>-0.113</td>
<td>-0.629</td>
<td>0.426</td>
<td>1</td>
<td>0.349</td>
<td>-0.842</td>
<td>-0.984</td>
<td>-0.991</td>
<td>-0.893</td>
</tr>
<tr>
<td>V09</td>
<td>0.524</td>
<td>0.490</td>
<td>0.471</td>
<td>-0.166</td>
<td>-0.518</td>
<td>-0.858</td>
<td>-0.526</td>
<td>0.349</td>
<td>1</td>
<td>-0.605</td>
<td>-0.205</td>
<td>-0.397</td>
<td>0.032</td>
</tr>
<tr>
<td>V10</td>
<td>-0.356</td>
<td>-0.499</td>
<td>-0.201</td>
<td>0.343</td>
<td>0.199</td>
<td>0.905</td>
<td>0.107</td>
<td>-0.842</td>
<td>-0.605</td>
<td>1</td>
<td>0.771</td>
<td>0.868</td>
<td>0.684</td>
</tr>
<tr>
<td>V11</td>
<td>-0.391</td>
<td>-0.677</td>
<td>-0.122</td>
<td>0.268</td>
<td>0.098</td>
<td>0.505</td>
<td>-0.543</td>
<td>-0.984</td>
<td>-0.205</td>
<td>0.771</td>
<td>1</td>
<td>0.976</td>
<td>0.925</td>
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<tr>
<td>V12</td>
<td>-0.467</td>
<td>-0.727</td>
<td>-0.206</td>
<td>0.321</td>
<td>0.196</td>
<td>0.672</td>
<td>-0.374</td>
<td>-0.991</td>
<td>-0.397</td>
<td>0.868</td>
<td>0.976</td>
<td>1</td>
<td>0.854</td>
</tr>
<tr>
<td>V13</td>
<td>-0.076</td>
<td>-0.367</td>
<td>0.150</td>
<td>0.093</td>
<td>-0.198</td>
<td>0.336</td>
<td>-0.576</td>
<td>-0.893</td>
<td>0.032</td>
<td>0.684</td>
<td>0.925</td>
<td>0.854</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: European Commission, 2014; Eurostat, 2015 and own calculations

Following analysis the relationship between total employment and nominal unit labor costs resulted that there is no correlation between the two variables. Increase in nominal wages does not lead to a reduction in employment, the two indicators being decorrelated (0.437 for UE-28 and 0.089 for UE-15). The correlation between variables unemployment rate and nominal unit labor costs (calculated both for the EU-28 and EU-15) are an argument that supports this idea (0.076 for UE-28 and 0.268 for UE-15). Summarizing, we can say that at EU level there is no direct or inverse correlation between evolution of nominal and real wages and the evolution of employment and unemployment.

Employment rate (% population aged 15-64) is in direct correlation with the population (0.791 for UE-28), this correlation following to be affected by population
aging. This phenomenon can be observed in the EU-15 countries where life expectancy is increased, which increases the proportion of people aged over 64 years in total population.

A positive development of employment rate (% population aged 15-24) will result in a decrease in the values of variables unemployment rate (% labor force), youth unemployment rate (% labor force 15-24), long term unemployment rate (% labor force). These correlations (Pearson coefficient values are: -0,913, -0,982, -0,713 for UE-28 and -0,842, -0,984, -0,991 for UE-15) has as argument that young people usually occupy an important position in total unemployment, particularly in long-term unemployment.

Regarding the evolution of the variable self-employed individuals (% total employment) I found that it is influenced by the evolution of the minimum wage (-0,864). An increase in the minimum wage will determine self-employed individuals to change their status and offer their labor to an employer. Also, the variable self-employed individuals (% total employment) was correlated inversely with the variable part-time employment (% total employment), which means that the two types of employment are interchangeable (-0,768 for UE-28 and -0,605 for UE-15). Even if they give up at self-employed status, most of these individuals do not want the full-time jobs, having a predilection for part-time employment.

Regarding the unemployment rate, after analyzing the data, we see that it increase due to rising youth unemployment and long-term unemployment (Pearson coefficient values are: 0,969, 0,880 for UE-28 and 0,976, 0,925, for UE-15). These two types of unemployment are the core of unemployment. Therefore, to reduce unemployment, European Union must redirect its active policies in the labor market towards these two categories of disadvantaged unemployed: young people (especially young graduates) and the unemployed for a period longer than one year (in particularly those who are at five years away from retirement age).

Regarding the influence of the minimum wage on employment and unemployment are numerous studies showing that there is no correlation between these indicators. My calculations are in line with previous research. Pearson coefficient calculated for the variables total employment (% growth) and minimum wage (euro / month) does not indicate a significant correlation (-0,485). Also, Pearson coefficient calculated for variables unemployment rate (% labor force) and minimum wage (euro/month) does not indicate a significant correlation (0,391). Although the correlations are insignificant, it can see from empirical data that, to some extent, for certain periods and conditions, an increase in the minimum wage may cause a very small reduction of employment and an increase in unemployment.

4. FORECASTS OF LABOR MARKET INDICATORS

Starting from the correlations significant established between real GDP (% growth) and total employment (% growth), labor productivity (% growth), real unit labor costs (% growth), I made predictions on the evolution of variables involved for the EU-28 (using ARIMA model). Based on the values predicted by the IMF for the growth rate of GDP (IMF, 2015), I made a forecasts of total employment, labor productivity, real unit labor costs. Forecasts for the period 2014-2019 are based on data series from period 2003- 2013 (Table 5).
### Table 5. Forecasts of total employment, labor productivity and real unit labor costs in UE - 28

<table>
<thead>
<tr>
<th></th>
<th>Real GDP (% growth)</th>
<th>Total employment (% growth)</th>
<th>Labor productivity (% growth)</th>
<th>Real unit labor costs (% growth)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>1.5</td>
<td>0.4</td>
<td>1.1</td>
<td>-0.3</td>
</tr>
<tr>
<td>2004</td>
<td>2.6</td>
<td>0.7</td>
<td>1.9</td>
<td>-1.5</td>
</tr>
<tr>
<td>2005</td>
<td>2.2</td>
<td>1</td>
<td>1.1</td>
<td>-0.8</td>
</tr>
<tr>
<td>2006</td>
<td>3.4</td>
<td>1.6</td>
<td>1.7</td>
<td>-1.1</td>
</tr>
<tr>
<td>2007</td>
<td>3.2</td>
<td>1.8</td>
<td>1.4</td>
<td>-0.9</td>
</tr>
<tr>
<td>2008</td>
<td>0.4</td>
<td>1</td>
<td>-0.6</td>
<td>1.1</td>
</tr>
<tr>
<td>2009</td>
<td>-4.5</td>
<td>-1.8</td>
<td>-2.8</td>
<td>3.2</td>
</tr>
<tr>
<td>2010</td>
<td>2</td>
<td>-0.7</td>
<td>2.7</td>
<td>-1.4</td>
</tr>
<tr>
<td>2011</td>
<td>1.6</td>
<td>0.2</td>
<td>1.4</td>
<td>-0.8</td>
</tr>
<tr>
<td>2012</td>
<td>-0.4</td>
<td>-0.2</td>
<td>-0.1</td>
<td>0.8</td>
</tr>
<tr>
<td>2013</td>
<td>0.1</td>
<td>-0.3</td>
<td>0.4</td>
<td>-0.3</td>
</tr>
<tr>
<td>2014</td>
<td>0.8</td>
<td>0.1</td>
<td>0.9</td>
<td>-0.8</td>
</tr>
<tr>
<td>2015</td>
<td>1.3</td>
<td>0.5</td>
<td>1</td>
<td>-0.7</td>
</tr>
<tr>
<td>2016</td>
<td>1.7</td>
<td>0.8</td>
<td>1</td>
<td>-0.7</td>
</tr>
<tr>
<td>2017</td>
<td>1.7</td>
<td>0.9</td>
<td>1.1</td>
<td>-0.8</td>
</tr>
<tr>
<td>2018</td>
<td>1.6</td>
<td>0.9</td>
<td>1</td>
<td>-0.7</td>
</tr>
<tr>
<td>2019</td>
<td>1.6</td>
<td>1</td>
<td>1.1</td>
<td>-0.8</td>
</tr>
</tbody>
</table>

**Source:** European Commission, 2014; IMF, 2015 and own calculations

From estimates it can be concluded that in the absence of major economic disturbances, evolutions of the three variables (total employment, labor productivity, real unit labor costs) will follow a normal trend. However, due to IMF estimates on weaker economic growth than the pre-crisis period, the growth rate of these indicators will not be satisfactory. Employment and labor productivity will slightly increase keeping, to some extent, the former growing tendency. The growth rate of employment (annual increase of about 0.8-1.0 percent) will improve as compared to the rate during recession but will not reach pre-crisis levels from the period of economic boom. Labor productivity will return to pre-crisis levels (annual increase of about 1.0-1.1 percent). Real unit labor costs in the EU-28 will decrease (annual decline of about 0.7-0.8 percent) as a result of nominal wage erosion by inflation and due to fragility of economic recovery. As a result of economic conditions that do not improve significantly, nominal wages will experience stagnation.

**5. Conclusions**
Although during the period 2003-2013, European Union has seen a economic growth of about 12.1% (EU-28), respectively 10.4% (EU-15), real unit labor costs growth was negative (-2% in EU-28, respectively -0.3% in EU-15). Increased productivity (8.2% in EU-28, respectively 6.5% in EU-15) is mostly transferred to equity holders, especially amid austerity policies promoted as a result of the economic crisis triggered in 2008.

In this article I studied for the period 2003-2013 the relationships established between the evolutions of wages (real wages, nominal wages, minimum wage) and the indicators characterizing employment and unemployment. The empirical results show that there are not significant correlations between HR compensation policy and employment indicators. If there are correlations, they establish between the evolutions of wages and some parts of employment (for example, between self-employed individuals and minimum wage). Following estimates made using data collected from the European Commission and the IMF, I found that evolutions of employment and labor productivity will keep earlier upward trends, while real unit labor costs will register a downward trend due to the erosion of nominal wages by inflation.

**References**

10. IMF World Economic Outlook Database, Gross domestic product, constant prices - percent changes, January 2015.


TRAINING ASSESSMENT: A PREMISE FOR TRAINING TRANSFER IN ENTERPRISES

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Faculty of Economics and Business Administration
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Abstract: The technical literature tackled the issues of training transfer and training assessment from two distinct research directions that sometimes happened to intermingle; in the light of recent discoveries, we considered these issues were interrelated via a causal connection. We used an analysis of the approach of these two topics in 30 enterprises that constantly provided their employees with training in the past two full years. The present paper demonstrated the fact that the training transfer rate is: a) strongly influenced by the extent to which training evaluation methods were used; b) moderately influenced by the support employees received when they returned to work in order to implement what they had learned; and c) it is not influenced by the proper training evaluation methods (which may be different depending on the specific of the training and the expertise of the human resources specialist who undertakes the assessment).

JEL classification: C89, L80, M53, M59.

Key words 5: training transfer, training assessment, causal connection, influencing factors, Pearson correlation.

1. INTRODUCTION

In the technical literature, training assessment is treated more in terms of the methodology used (levels of assessment, assessment tools, ways of quantifying the tangible and intangible benefits), while the training transfer issue is tackled through external or internal influencing factors that lead to a higher or lower transfer rate. Very few research papers study the connection between training assessment and the training transfer rate, their conclusion being that the two are positively correlated. Through this paper, we provide empirical evidence in order to support the positive correlation between training transfer and assessment.

2. LITERATURE REVIEW

2.1 TRAINING ASSESSMENT LITERATURE REVIEW

In literature, training assessment has been a topic of debate since the 1960s. The importance of evaluating the training programmes beyond cost payback is highlighted
in most of the speciality papers that approach the training evaluation or most updated the assessment topic (Kirkpatrick, 1959, 1994, 2006; Silberman, 2006; Phillips & Stone, 2002; Fitz-enz, 2009). Probably the most cited and criticized model at the same time was the Kirkpatrick model (1994). This suggests that the training should be evaluated on four progressive levels:

1. The participants’ reaction to the programme (satisfaction level);
2. Learning itself – meaning the knowledge and the skills acquired by the participants;
3. The behaviour at work – after the completion of the programme;
4. The results generated from the change of behaviour and their impact on the organization.

While some authors (Silberman, 2006, Laird, 2003) adopt or explain exactly the Kirkpatrick model, contributing only through a critical analysis or additions in hue, approaching up-to-date examples or case studies, other authors, such as Philips and Stone (2002) built a new complex model, starting from the Kirkpatrick updated model (1994 version). They included in the new model six key indicators, thus in addition to the four indicators within the Kirkpatrick model, the ROI model suggested by Phillips and Stone discloses two new indicators, namely: the return of investment and the intangible benefits that cannot be easily quantified in the return rate. The mentioned authors focus on methods and instruments with a higher degree of accuracy which implies “harder” data, measurable and convertible into monetary value; through their efforts they actually add another evaluation level that substantially modifies the initial model (Olteanu, Dabija, 2014). Their simple formula, namely \( ROI = \frac{Net\ benefits}{Costs} \times 100\% \), became a point of reference for researchers, consultants and human resources specialists.

Still, some of the evaluation models do not explain the low or the high impact of a certain training programme. For example Bates (2004, p. 342) states that the Kirkpatrick model can lead to incorrect decisions about the effectiveness of the training programmes, because the model leaves out important variables (the Kirkpatrick model ignores the characteristics of the work environment, the climate for learning transfer, and the individual’s characteristics - which would influence the training effectiveness before, during, or after the training) (Bates, apud Laird, 2003, pp. p. 255-257). This is one of the reasons why a new debate topic was developed, namely the transfer of learning.

### 2.2 Training Transfer Literature Review

The training transfer has been a matter of concern to the academic community for less time than the training assessment. Training is regarded as one of the most important contributions to human resources development, but in order to make it relevant to the enterprise to the same extent as it has brought benefits for the employee and to bring the company a competitive advantage, the training must be transferred from the course room to the organization (Saks & Burke, 2014, p. 105). The training transfer "refers to the application, generalization and maintenance of learning skills and the behaviour accumulated in the learning environment within the organizational environment" (Baldwin & Ford, 1988, as cited. Saks & Burke, 2014, p. 105). In short, without this transfer, training efforts cannot contribute to the organization's effectiveness (Kozlowski et al, 2000 apud. Saks & Burke, 2014, p. 105).
Some studies showed the fact that very little of what was taught during a training programme was used at work (Broad and Newstrom, 1992 apud. Saks and Burke, 2012, 119), thus most of the expenditure on these programmes is not transferred to the company (Grossman and Salas, 2011 apud. Saks and Burke, 2012, p. 119), and this issue has already concerned the scientific community for decades (Broad, 2005; Grossman & Salas, 2011). This phenomenon has become known in the literature as the transfer problem, being the impetus of research on strategies and interventions to improve the training transfer (Baldwin and Ford, 1988, Burke, 2001 apud. Saks and Burke, 2012, 119).

The transfer is a problem for organizations because a programme is likely to have no effect upon the organization's performance since the transfer is considered the first lever of control through which the programme can influence the performance of the organization (Kozlowski et al, 2000 cited. Saks and Burke, 2014, p. 105). A strategy still not refined is the programmatic assessment of the training process that is also a challenge for organizations (Twitchell et al, 2000). Numerous authors (Fitzenz, 2009; Laird, 2003) reported the lack of any assessment programmes in practice. The difficulty of the assessment process and the high costs remain two of the main reasons why the company that provided its employees with training does not always undertake an assessment of each training programme implemented. But the assessment problem is not the same with the transfer problem; they are just interrelated topics via a causal connection, as we shall further on demonstrate.

The models of training transfer include variables that relate to the subject of learning, to the design of training intervention, working environment or transfer environment (Baldwin and Ford, 1988 Ford and Weissbein, 1997, Salas et al, 1999, APUD Saks and Burke, 2014). Based on these transfer models, researchers studied many strategies meant to facilitate the training transfer. Certain authors demonstrated that climate and culture were directly related to post-training behaviours (Tracey et all, 1995). Using a consistent sample of 505 supermarket managers from 52 stores, the mentioned authors demonstrated through a series of LISREL analyses that In particular, the social support system appeared to play a central role in the transfer of training. Still, another meta-analysis of similar studies shows that the level of the forecast effects was low to moderate (Blaum et al, 2010, p. 1078). Based on another 89 empirical studies, Blume et al (2010) found that both the characteristics of the trainees (cognitive skills, conscientiousness, motivation) and environmental characteristics (transfer environment and the support from superiors) are positively linked to the transfer rate. But this type of analysis that tries to make a prediction of the transfer tackles only the horizontal transfer, i.e. the transfer at linear levels or contexts, located on the same plan. Much fewer authors have studied the vertical transfer, meaning the link between individual results and the results at the organizational level (Kozlowski et al, 2000 apud. Saks & Burke, 2014, p. 106). For example, among the situational variables, the size of a construct effect that refers to the general working environment was 0.23, and the situational variables did not predict the transfer better than the various individual variables.

This finding leads to the initiation of new research studies that seek other factors which improve the training transfer. One of them (Saks and Burke, 2012) studied the link between the training assessment (in terms of both individual and organizational
results) and training transfer. Even if the training assessment is needed in order to determine if the transfer took place, the research on assessment and transfer tend to treat these issues separately, representing two distinct research directions that sometimes happened to intermingle (Saks and Burke, 2012, p. 119). The quoted study, carried out by the Canadian researchers mentioned above, validates three hypotheses, two of which are relevant to our study:

- **H 1:** There is a positive connection between the frequency of training assessment efforts and the rate of training transfer;
- **H 2:** The last two levels of Kirkpatrick's assessment model (behaviour and results in the organization) are more closely related to the transfer than the first two (participant satisfaction and the training in itself);

The study carried out by Canadian researchers Saks and Burke (2012), using Kirkpatrick's four levels (1994), revealed the extent to which the training assessment predicted the training transfer in organizations at three different time periods. Through a survey among specialists in human resources development, they showed that 89% of those surveyed considered that the training assessment efforts improved the efficiency of training programmes (White and Branch, 2001 apud. Saks & Burke, 2012). The connection is easily highlighted and explained, as it results from the very formulated purpose of the assessment, i.e. assessment efforts aim at showing to what extent training was effective or efficient, to make decisions about it (Brown and Gerhardt 2002, Brown and Sitzmann, 2011). Decisions may involve repeating the training, its improvement or elimination from the intervention programme of the organization. The soft and hard data collected during the assessment process allows specialists to make those changes in objectives, content or design, to improve the training's efficiency and to produce a greater training transfer within the organization.

This study has a dynamic character, due to the fact that, even if initially the authors had established two variables of control (the size and maturity of the respondent company), during the data interpretation process, it was found that the variables of control were not correlated with the training transfer for none of the time periods set to analyse (immediately after the training completion / after six months / after one year) so they were not included in the study, in the phase of data analysis. We also consider relevant the discovery that Burke and Hutchins (2008) made in their study, according to which the design strategies of training accounted up to 46% of good practices to influence the training transfer in the organization (Saks & Burke, 2014). Canadian authors' study starts precisely from the hypothesis that the variability of stimuli (through the mix of methods - in-house training, training in the course room and e-learning) leads to a higher transfer rate. Another hypothesis, which is actually at the centre of the scientific concern of the present study, states that "organizations that have a higher rate of transfer will have greater performance (Saks and Burke, 2014, p. 108)." The authors tested this hypothesis on a sample of 150 specialists in human resources and training in big companies and institutions in Canada, which employed between 500 and 1,000 people. The response rate was 11.5% (150 questionnaires received out of the 1,300 transmitted), comparable to the average response rate in the macro / meta literature on training.

In conclusion, the authors found that the training transfer is positively related to the firm performance and mediates the connection between training methods and the
performance of the firm. Thus, the authors' recommendation is to implement effective in-house training, a method they discovered as being linked to the training transfer and the performance of the firm (Saks and Burke, 2014, 114).

The studies that tested the connection between the training transfer and the performance of the firm tackled both the employees' performance (Rothwell, 2005; Khan, 2012) and the enterprise's performance (Harel&Tzafrir, 1999; Zwick, 2006; Sum, 2011; Ebeda-Garcia et al., 2013; Saks & Burke-Smalley, 2014; Yazdanfar et al, 2014), in the same way that the literature on training assessment tackled both the employees' performance and the enterprise's overall performance. However, very few studies dealt with the two topics together, regarding the training transfer as a dependent variable and training assessment as an independent variable, which could explain the evolution of the former.

3. METHODOLOGY

To examine the correlation between the rate of the training transfer and the different facets of training assessment, we formulated the following hypotheses:

Hypothesis 1: There is a strong connection between the rate of training transfer and the extent to which assessment methods are implemented in enterprises.

Hypothesis 2: The training evaluation method used directly influences the rate of training transfer.

Hypothesis 3: There is a moderate connection between the training transfer rate and further support given to employees in order to apply the new knowledge.

The hypotheses were tested and validated using a synthetic questionnaire distributed to some companies that provided their employees with training in the past two full fiscal years. The questionnaire was distributed to 280 enterprises in several counties, most of them SMEs operating in the services sector, between January and April 2015. The questionnaire was sent back fully filled in by 35 enterprises, 31 of which were validated with an answer rate of over 90% and simultaneously meeting the following conditions: they have provided their employees with continuous training in the past two fiscal years and have proven consistency in their answers, validated through applying control keys. The data collected was processed in SPSS Statistics 20 by applying some methods of descriptive and analytical statistics, through which we wanted to establish the coefficients of the correlation between the dependent variable (the transfer rate) and other independent variables (the extent to which training evaluation methods were used - scalar variable, the evaluation methods used - 5 nominal dichotomous variables and the further support given to the trainees within the organization to implement the new knowledge/ skills/ attitude - scalar variable 1-5 on the Likert scale). The profile of the 31 valid respondents was as follows: higher education, more than 7 years of experience in the organization, management staff, including 3 HR directors / managers.

4. ANALYSES AND RESULTS

The first variable studied (i.e. the evaluation), which can be related to the transfer rate, refers to the extent to which training evaluation methods were used/implemented in the analyzed enterprises. In general, if a company does not apply evaluation methods at all, you cannot further analyze what would be the most effective
methods or what would be the best time when to evaluate the training in order to achieve an as high as possible transfer rate. Having defined two scalar variables, with values from 1 to 5 on the Likert scale, we applied the Pearson correlation. The first variable, the transfer rate, included values from 1 to 5 (1 - employees completely failed to implement what they had learned in the enterprise, 5 - employees mostly implemented what they had learned at work), and the second variable, the extent to which training evaluation methods were implemented (1 - there is no evaluation method, 5 - many evaluation methods are applied).

We note the distribution of the 31 valid responses in Table no. 1. As shown in Table no. 2, of the respondents who said that their company did not apply training evaluation methods at all, 7 stated that it applied very few methods, 9 stated that there were some methods applied, 12 stated that it mostly applied evaluation methods and only 1 respondent stated that it applied evaluation methods to a large extent. Of the two that did not apply evaluation methods at all, one declared a transfer rate of learning of 3 on the Likert scale (employees managed to implement to a small extent what they had acquired during the training) and the second a rate of 4. Furthermore, of the 12 who said they largely applied evaluation methods, 6 stated a high transfer rate (4), and the others stated a very high transfer rate (5 on the Likert scale).

Table no. 1. The distribution of the 31 responses to analyze the first variable

<table>
<thead>
<tr>
<th>Transfer rate of learning</th>
<th>Degree of training evaluation implementing</th>
<th>Total</th>
</tr>
</thead>
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<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
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<td>Total</td>
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</tbody>
</table>

Thus, we found a strong positive relationship between the two variables, the Pearson correlation coefficient being +0.575, for p<0.05 (Approx. Sigma .001c), represented in Table no. 2. The Spearman correlation coefficient is within the range .60 and .79, which also means a strong correlation, confirming the Pearson correlation.

Table no. 2. The correlation between the training transfer rate and the extent to which training evaluation was implemented

<table>
<thead>
<tr>
<th>Symmetric Measures</th>
<th>Value</th>
<th>Asymp. Std. Error</th>
<th>Approx. T</th>
<th>Approx. Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range by Range</td>
<td>Pearson's R</td>
<td>.575</td>
<td>.080</td>
<td>3.780</td>
</tr>
</tbody>
</table>
Taking into consideration the fact that of the 31 respondents, two stated they did not apply training evaluation methods at all in their enterprise, we removed them from the analysis of the efficiency of evaluation methods upon the transfer rate, analysis that verifies Hypothesis 2. To the multiple choice question What evaluation methods did you apply after each course in order to measure the effectiveness of training?, respondents had to choose among the following answers:

- The measurement of labour productivity
- The measurement of the progress obtained after a period of time (in the field of the course)
- Written evaluations given to employees after a period of time from the completion of the course (e.g. quizzes checking their knowledge)
- The monitorization of absenteeism/ late arrivals at work
- Other

Each of the five answers - representing distinct methods of assessment - was introduced in SPSS as a different variable that was binary encoded for each respondent, with 1 (if they used that method) and 0, if they did not use it. Two of the 29 remaining respondents in the analysis did not answer this question, so for them, to the 5 variables we associated the value 99 in Missing column in SPSS. Having to deal with a scalar variable (quantitative) - the transfer rate and a nominal dichotomous one (each of the evaluation methods above), we tried to find a point-biserial correlation coefficient, which is a specific case of the Pearson correlation. Thus, it resulted that each of the evaluation methods selected by the respondents is in a negligible relationship with the transfer rate, the correlation coefficient for each of the pairs of variables being under -.19, according to the Table No. 3.
Legend:
EM=Evaluation method
EM1=The measurement of labour productivity
EM2= The measurement of the progress obtained after a period of time (in the field of the course)
EM3=Written evaluations given to employees after a period of time from the completion of the course (e.g. quizzes checking their knowledge)
EM4=The monitorization of absenteeism/ late arrivals at work
EM5=Other
**. Correlation is significant at the 0.01 level (2-tailed).

In other words, corroborating the fact that H 1 proved to be a valid hypothesis and that H 2 is invalidated, it follows that the evaluation method applied is not necessarily relevant for a high transfer rate of learning. What is important is that these training evaluation methods should be mostly applied or applied to a great extent in the respective enterprise.

To test the hypothesis no. 3, respondents were asked to what extent superiors or colleagues supported the trainees to implement what they had learned during the course (new knowledge, skills / attitudes). We scaled the possible answers from 1 to 5 on the Likert scale (1-employees did not receive any support, 5 - trained employees received a lot of support). As shown in Table no. 4, there was no missing response.

<table>
<thead>
<tr>
<th>Learning transfer rate*</th>
<th>Support of staff for the trainees at their return</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cases</td>
<td>Cases</td>
</tr>
<tr>
<td>Valid</td>
<td>Missing</td>
</tr>
<tr>
<td>N</td>
<td>Percent</td>
</tr>
<tr>
<td>N</td>
<td>Percent</td>
</tr>
<tr>
<td>31</td>
<td>100.0%</td>
</tr>
<tr>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>31</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

As we had two scalar variables in the analysis, we applied the Pearson correlation in order to determine the strength of the linear relationship between the pair of data - training transfer rate and the support of the staff for the trainees, when they returned to work.

<table>
<thead>
<tr>
<th>Range by Range</th>
<th>Symmetric Measures</th>
<th>Value</th>
<th>Asymp. Std. Error</th>
<th>Approx. T</th>
<th>Approx. Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson’s R</td>
<td></td>
<td>.400</td>
<td>.113</td>
<td>2.352</td>
<td>.026</td>
</tr>
<tr>
<td>Ordinal by Ordinal Spearman Correlation</td>
<td>.466</td>
<td>.125</td>
<td>2.835</td>
<td>.008c</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>------</td>
<td>------</td>
<td>-------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>No. of Valid Cases</td>
<td>31</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Not assuming the null hypothesis.
b. Using the asymptotic standard error assuming the null hypothesis.
c. Based on normal approximation.

As shown in Table No. 5, the training transfer rate and the support for trainees when they returned to work are positively correlated at .400, p < .05, indicating a high degree of confidence of Pearson correlation. A Pearson correlation coefficient with values within the range +.40 to +.69 naturally indicates a strong positive relationship. The score given by respondents to the employee support rate could be slightly higher than the real one, as it has to do with measurements of perception, which, more often than not, proved to be slightly higher than the objective ones, calculated based on indicators in empirical studies. However, taking into consideration the above mentioned and the fact that the value of our coefficient is at the lower limit of this range, we shall conclude that there is a moderate correlation between the two variables, and not a strong one.

5. CONCLUSIONS

Even if the topic of the transfer of learning from the classroom to the organization was mostly treated in the literature as being different from training assessment, we believe that the empirical evidence obtained in this study may be an argument in the direction of deepening the research of the two topics as being related. This study demonstrates that a high or very high use of training evaluation methods, no matter which they are, predict a high or very high transfer of learning. This means that the investment in training serves a greater purpose if training is followed by an evaluation phase and follow-up (follow-up also meaning staff support for trainees at their return at work), so this should be conceived as an integrated organic activity in the learning process even from the planning stage.

6. ACKNOWLEDGEMENTS

This work was co-financed from the European Social Fund through Sectoral Operational Programme Human Resources Development 2007-2013, project number POSDRU/159/1.5/S/140863, Competitive Researchers in Europe in the Field of Humanities and Socio-Economic Sciences. A Multi-regional Research Network.

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THE LINK BETWEEN SMES SPECIFICS AND HRIS IN SOUTH WEST ROMANIA

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Abstract: The analysis of the dimensions and factors determining the organizational performance reveals not only the decisive role of human resources in this equation, but also the potentiation of all the other factors through their direct involvement.

This research proposes an analysis of the development level of the Human Resources Information System in the Small and Medium-sized Enterprises from the development Region of South West Oltenia in Romania, of the way this system is used as a competitive tool for the growth of the performance and visibility at a national and international level. The results revealed that in the face of the important changes that have appeared on the market, the Small and Medium-sized Enterprises (SMEs) experience the need to develop a HRIS to ensure their permanence and to face competition.

JEL classification: M12, M15

Key words: Human Resources, strategy, SME, HRIS, implementation, performance

1. INTRODUCTION

For the human resources solution editors there are many reasons to determine SMEs to move toward the solution of the human resources information system. The most cited reasons are saving time in issuing documents and obtaining information, the monetary gain as savings which comes from the reduced number of specialists, the easy way to centralize documents in international enterprises, the distribution of information to the own staff etc.

The requirements of the SMEs are more or less similar to the ones of the large groups and these must answer to the legal challenges. But these are not more than simple requirements, and does not apply for a large group. There are increasingly more requests to implement a human resources information system in the SMEs, but the request is less important than in the large enterprises. For a company with less than 50 employees, installing such a system is not profitable because of the very high acquisition and support costs. The solutions proposed by the editors are of two types:

a) Solutions with access to the Web:
   • SaaS: a common platform for all the customers and an access for every company (her own access to the platform). The solution would be the same for everyone.
• ASP: the same principle as for the SaaS, but the service is customized for every customer. It has a common base, but the customer will define its look (the button for a certain colour, a certain functionality...)

b) the license: the product is hosted by the customer, he will have the application on his own servers.

Another question that appears often in the research environment is that the large companies don’t tend to buy licenses, compared to the SMEs, that would mainly resort to a solution of access to the Web. From this point of view, this study concludes that the SMEs are moving toward a solution with access to the Web, while the large companies, toward the license. The choice will depend on the desired safety level and the wish to do this internally. The companies that have their own information department and who are hosting their own data related to all the applications (accountancy, commercial data, marketing applications etc) will choose the license in most of the cases. They are used to manage their own data.

This option means an additional cost because is necessary the existence of an informatics structure to manage all, host servers to host products and data. This is also the reason why SMEs choose in most of the cases the Web forms. SaaS is cheaper in terms of access because doesn’t exist the cost which, for a staff of less than 50 employees is not justifiable.

The creation of a human resources information system in the SMEs has as main reason the increased competition at this level, but also at the level of the providers of such solutions, and this makes the acquisition cost lower and the potential offers higher. On the other hand, the market of the large enterprises is relatively limited, while the SMEs market is increasing continuously. For the solution editors of the human resources information system, on the one hand, the SMEs market is a way to differentiate themselves and, on the other hand, it’s also a way to enter the market and to become a leader. Eventually, the software’s solution providers are based on the expectations of SMEs to create solutions. The experts expectations are according to those of the software seller. We can thus confirm the hypothesis: The software editors offer is according to the enterprises needs.

2. Objectives

This papers’ aim was to focus on the content and development of HRIS in small and medium enterprises, in comparison with the large enterprises.

Qualitative and quantitive methods allowed to obtain answers to interesting questions about the features of HRIS, the specificity of its content depending on the size of the enterprise and of the sector of activity. The results obtained from several hypotheses have been proven effective also for choosing the outsourcing because, as we have seen, this choice will vary depending on the personnel. The smaller the company, the more processes it will outsource.

3. Human Resources Information Systems in time

Kovach and Cathcart (2003), define HRIS as a “procedure for collection, storage, restoration and validation of data concerning human resources, the personnel’s activities and the characteristics of the organizational units needed by an enterprise”. HRIS does not imply the fact that he is more complex or computerized. Therefore, he is
Management – Marketing - Tourism

not limited to the technologies that represent it. Tannenbaum (1990) defines HRIS as "a system that allows to obtain, store, manipulate, analyze, extract and dispatch all the relevant information relating to the human resources of an organization". He believes that is a system that includes people, forms, policies and procedures, data" (Tixier and Deltour, 2004).

HRIS has as objective the provision of services in the form of information, reports to the internal and external customers, users of the system, to support the transactions and to maintain the hierarchical control. (Haines and Petit, 1997; Monod and Petit, 1999). » (Barthe, 2001).

Other authors have a more technological vision of HRIS. Reix (2000), defines HRIS as an "organized overview of material resources, programs, personnel, data, procedures that allow to obtain, process, store, communicate information in the form of data, texts, images, sounds in organizations". (Merck, 2003) a set of programs more or less interconnected that allow to ensure a coherent manner of the various administrative provisions and applied management operations of human resources". HRIS is a program that introduces data in the system, on the one hand, a certain number of different tasks of the functions of human resources, on the other hand, that ensure their circuit of an information system. The logic of implementation of a HRIS suppose that the automated tasks will constitute streams of information with added value "(Silva, 2008).

In terms of HRIS evolution, the views of the experts are much closer. It may be noted that all the authors perceive different periods of evolution of HRIS in the same period of time. As a consequence, we must remember a single presentation, the one of Just (2010), supplemented by the position of Silva (2008), which examines the evolution of HRIS from the perspective of the evolution of TIC and NTIC. Just (2010) considers possible the presentation of the history of HRIS through two evolutions. The first one is the evolution of GRU, the second one is the computerization of the human resources function. To these two evolutions, Silva (2008) adds the evolution of TIC and NTIC.

HRIS cannot be appreciated nor out of the technological context. Indeed, at a first glance, it makes sense that the technological or informational dimension of the Enterprise influences implementation of the HRIS. This hypothesis was confirmed by Bournois, Rojot and Scaringella (2002), through a study in the enterprises listed on the CAC 40, who discovered that often between the HRIS project and the internet revolution exists a concomitance in the company. Some groups of the traditional economy (such as Accor, France Telecom or PPR) took advantage on the opening to the new means of communication and commerce to expand human resource management and obviously HRIS.

With a data base increasingly richer in information, human resources officers have noticed that HRIS allows not only a productivity increase and a reliability of the data, but also a decision-making support by allowing to anticipate certain situations and their consequences. Certainly, this information system brings many good things at the level of the enterprise, but also risks and complications, which are related to the age of its employees.

In the context of the various evolutions which have undergone HRIS, such as the emergence of "Software as a service" (SaaS), one can ask the question if its
development in SMEs can trigger a so-called "silent revolution of the HRIS 2.0" (Satta, 2011).

This research aims to show that HRIS begins to be as important in all enterprises, then also for SMEs, but it is unique because it depends on the their size, structure, and needs.

4. THE OUTSOURCING OF HRIS COMPONENTS

In connection with the choice of programmes has also been analysed the hypothesis 1: The size of the enterprise has an impact on the decision of outsourcing of the human resources information system.

The graphic in the Fig. 1 represents the results of processing of the data related to the outsourcing or internalization of the payroll process depending on the size of the company. It is observed that the more the company is smaller, so she has the tendency to outsource its payroll management, since only 20% of medium-sized enterprises make use of the outsourcing of their process of payroll management, while 66% of small businesses do this.

![Fig. 1 – Outsourcing possibility of the salary process according to the measure of the enterprise](http://duma.ccsd.cnrs.fr/dumas-00765117, 2012)


As a result of an analysis of all the data related to the composition of the human resources information system, we can propose a classification of SMEs, which summarizes its composition depending on the personnel's groups.
4.1 A vision of the specialists concerning the HRIS

In terms of the objectives of the human resources information system, through research has sought to highlight whether there is or not a difference in expectations of the employees from the human resources depending on the sector of activity and size of the company, following the same reasoning from the previous part. To be able to observe the different degrees of importance given by the employees of the HR, we used again the quantitative method using question 8 of the questionnaire (the importance of the objectives of the human resources information system).

From the heterogeneous answers resulted that the reduction of the personnel isn’t the first thing desired in the implementation of a human resources information system. The homogeneous answers refer to all other objectives. They differ depending on the degree of importance (important or seamless). To complement the information on the importance given to these objectives, we'll use the qualitative method and the question n° 6 of the maintenance guide (Which are for you the role as well as the challenges related to human resources information system?)

All the answers given by the respondents surveyed correspond to the data proposed in the questionnaire, which are considered at least important or very important targets, and we can ask the question if these different levels are linked to the activity sector of the company and to its size. In this case should be confirmed or disproved the hypothesis 3.1 (Expectations are the same in the various sectors of activity).

From the analysis conducted with the Hi-Square Test, it was noticed that none of the objectives of the human resources information system appear a significant relationship between the activity sector and the level of importance assigned to it. This can be explained by the fact that the human resources information system is dedicated to the human resources, or human resources management takes place in the same way as in the enterprises regardless of whether or not they are in the same activity sector. Therefore, the hypothesis 3.1 (expectations are the same in different sectors of activity), can then be confirmed.

Another objective was to confirm or refute the hypothesis of 3.2 (Expectations are different depending on the size of the company) with Hi - Square Test. The results were not conclusive, in the sense that there is no significant relationship between the size of the company and the different degrees of importance given to the objectives of the human resources information system.

Hypothesis 3.2: The expectations are different depending on the size of the company, is not confirmed, therefore, there is no significant relationship between the expectations of the experts of the function regarding the objectives of system performance of the human resources information system and the size of the company.

With regard to the involvement of specialists in the implementation or in the improvement of the human resources information system it cannot be drawn a firm conclusion, meaning that the answers are various. So if human resources information system does not exist at the arrival of a person, this one participated in its improvement, others participated in implementation. For other specialists, it doesn’t exist the feeling of being participated to its improvement, or for the fact that there has been no
improvement from their arrival, either because they do not have the opportunity to participate in his improvement.

5. CONCLUSIONS

This papers’ aim was to focus on the content and development of HRIS in small and medium enterprises, in comparison with the large enterprises.

Qualitative and quantitative methods allowed to obtain answers to interesting questions about the features of HRIS, the specificity of its content depending on the size of the enterprise and of the sector of activity. The results obtained from several hypotheses have been proven effective also for choosing the outsourcing because, as we have seen, this choice will vary depending on the personnel. The smaller the company, the more processes it will outsource.

In addition, this paper has demonstrated the fact that SMEs, in comparison with large enterprises, which have a maximum developed HRIS, are able to obtain the same specific functionalities but with less cost, thus, more effective.

6. ACKNOWLEDGEMENT

This work was cofinanced from the European Social Fund through Sectoral Operational Programme Human Resources Development 2007-20013, projecty number POSDRU/159/1.5/S/140863, Competitive Researchers in Europe in the Field of Humanities and Social – Economic Sciences. A Multi – Regional Research Network.

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PUBLIC TRANSPORT APPROACHES FROM A SMART CITY PERSPECTIVE

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Faculty of Economics and Business Administration
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Abstract: Currently, the major cities of the world, including those from Romania, have to face the problem of population mobility. We can observe traffic congestion, environmental and noise pollution especially in major cities. Increasing the mobility of urban population and reducing pollution are some of the objectives of a smart mobility policy, as part of a smart city policy, according to the model developed at EU level for a smart city. The paper aims to present a model for optimizing population movement within a city, model that contributes to better urban traffic flows, and also to the reduction of transport time and pollution.

JEL classification: R41, R42

Key words: smart city; smart mobility; public transport; problem solving; linear programming

1. INTRODUCTION

A city’s infrastructure is very important for the comfort of its inhabitants. Congestion in traffic, for example, may determine the population’s discomfort, especially in terms of time. The inhabitants of cities expect efficiency, sustainability, security, and less congestion from their public transport. In the same time, transport sustainability means less environment pollution, using green vehicles or intelligent transport solutions. Usually, a very good transport infrastructure is associated with long-term development (Popescu et al., 2014a), but, in the same time, determines an increase of greenhouse gas emissions (Popescu et al., 2014b). However, citizens have to be convinced to act “smart”, namely adopting green mobility (travelling by using public transport, bicycles or smart transport solutions or even walking), involving themselves in implementing initiatives meant to reduce air pollution.

2. SMART MOBILITY AND PUBLIC TRANSPORTATION

Smart mobility refers to the ability of the population to travel efficiently and intelligently using adequate transport means or solutions, but also the smart use of IT technologies.

The actual smart mobility approach was preceded by the “conventional mobility concept”. This approach is usually thought at large scale and it refers especially to traffic vehicles, less to people, reason for which it lacks the local vision. Banister (Banister, 2008) considers that in a conventional mobility approach, travel is a cost and travel times should be optimized. Sustainable mobility refers to the social and environmental consequences of transport, and accessibility is seen as the ultimate goal.
of mobility (Litman, 1998). If we are to make a comparison between conventional mobility and sustainable mobility, the latter means taking into consideration transport solutions, modes, goals and impacts of a multimodal system (Litman, 2013).

A different approach from the ones mentioned before was proposed as a consequence of the fact that conventional mobility planning became inadequate when reported to the actual reality of the cities – “city as a place”. This approach supposes that the transport systems and the city’s places should be addressed together. Gehl (Gehl, 2013) considers that the people and the city’s places should be approached holistically.

The third approach in literature regarding city mobility (Figure no. 1) is the so-called “smart mobility”. The objective of this approach is the optimization of the city’s infrastructure by using technology and digital networks. M. Batty (Batty et al., 2012) cited studies that argued the fact that smart city, in general, and smart mobility, in particular, exceed the use of technology and are concentrated on the needs of people and community.

![Smart mobility approach](image)

**Figure no. 1 Evolution of urban mobility concept**

In order to implement a smart mobility concept into the city, the municipality has to pass from taking into consideration only traffic vehicles to a vision bases on optimization of city’s infrastructure according to people (smart mobility approach).

Tatsuo Okuda et al. (Tatsuo Okuda et al., 2012) propose an interesting approach for the mobility concept. They consider that the main issues of the actual urban life are the environmental ones, due to the fact that the people want to maintain their comfort and use their cars in order to travel into and within a city. The consequence of this kind of behavior is traffic congestion. However, if trying to solve that environmental problem, there could appear some excessive restrictions on mobility.

To solve those problems, Hitachi Ltd. proposes to optimize the urban transportation and to evolve to a smart mobility approach, in order to get the best
solutions for all transport services, coordinating all transportations modes, and means from a city.

In order to implement the smart mobility concept, Hitachi proposed a model of transport activities coordination valid to all companies, which offer transportation services. To coordinate the activities of transportation companies, it is necessary to create a network for the collection and analysis of information from those companies, which is also supplying them with the necessary information regarding transport demand. The main objective is the optimization of the whole transportation system (Figure no. 2).

![Mobility architecture for implementing smart mobility concept](image)


3. **Methodology**

In the present study we propose a model meant to help the implementation of smart mobility solutions. The model aims to realize the coordination and optimization of the activity of transport services providers, in order to better satisfy the users’ needs and to reduce pollution and traffic congestion.
4. MODEL OF POPULATION MOVEMENT OPTIMIZATION

We suppose that at the level of the network for information management and control (in Hitachi sense) are received the following information regarding transport needs:

- number of people to be transported from zone X of the city to zone A: 800
- number of people to be transported from zone X of the city to zone B: 350

The information collected from transport providers regarding the availability of auto vehicles from zone X to zone A and zone B are:

- vehicles with 5 places capacity: 30
- vehicles with 8 places capacity: 20

The distance to zone A could be covered with vehicles of 5 places and 8 places capacity every 2 hours, respectively every 2,5 hours, and the revenue is 3 euro / person, respectively 2,8 euro / person. The distance to zone B could be also covered with vehicles of 5 places and 8 places capacity every 3 hours, respectively every 3,4 hours, and the revenue is 2,7 euro / person, respectively 3 euro / person. At the network level, it will be determined the way of establishing the vehicles for each area, in the manner in which the population needs will be satisfied and the revenue of the transport providers will be maximum. The daily schedule for vehicles is 10 hours / day.

We’ll have the following notations:

- $x_1$ – number of vehicles of 5 places capacity travelling to zone A;
- $x_2$ – number of vehicles of 8 places capacity travelling to zone A;
- $x_3$ – number of vehicles of 5 places capacity travelling to zone B;
- $x_4$ – number of vehicles of 8 places capacity travelling to zone B.

- $T_i$ (i = 1,2,3,4) – duration of a transport run;
- $v_i$ (i = 1,2,3,4) – revenues (Euro / person);
- $C_{n_i}$ (i = 1;2) – nominal capacity of vehicles;
- $H$ – daily schedule for vehicles (hours);
- $N_1$ – total number of vehicles of capacity $C_{n_1}$;
- $N_2$ – total number of vehicles of capacity $C_{n_2}$;
- $Q_{1,2}$ – number of persons to be transported to zone A and zone B.

The objective function that has to be optimized in order to obtain maximum revenues is:

$$\max f(x) = \frac{H}{T_1} \times C_{n_1} \times v_1 \times x_1 + \frac{H}{T_2} \times C_{n_2} \times v_2 \times x_2 + \frac{H}{T_3} \times C_{n_3} \times v_3 \times x_3 + \frac{H}{T_4} \times C_{n_4} \times v_4 \times x_4 \text{ (Euro)}$$

The conditions for the optimization of the function are:

1) $x_1 + x_3 \leq N_1$
2) $x_2 + x_4 \leq N_2$
3) $\frac{H}{T_1} \times C_{n_1} \times x_1 + \frac{H}{T_2} \times C_{n_2} \times x_2 = Q_1$
4) $\frac{H}{T_3} \times C_{n_3} \times x_3 + \frac{H}{T_4} \times C_{n_4} \times x_4 = Q_2$

$x_1,x_2,x_3,x_4 \geq 0$
The model is one of classical linear programming. Taking into consideration the data specific to that situation, we have:

$$\max f(x) = \frac{10}{2} \times 5 \times 8 \times x_1 + \frac{10}{2,5} \times 8 \times 2,8 \times x_2 + \frac{10}{3} \times 5 \times 2,7 \times x_3 + \frac{10}{3,4} \times 8 \times 3 \times x_4$$

$$\max f(x) = 75 \times x_1 + 89,6 \times x_2 + 45 \times x_3 + 70,5 \times x_4 \rightarrow \text{The objective function}$$

The conditions of the objective function’s optimization are:

$$x_1 + x_3 \leq 30$$
$$x_2 + x_4 \leq 20$$
$$25x_1 + 32x_2 = 800$$
$$16,3x_3 + 24x_4 = 375$$
$$x_1, x_2, x_3, x_4 \geq 0$$

The problem could be solved using the simplex algorithm. The solution for that linear programming problem is:

$$x_1 = 26,4; x_2 = 4,4; x_3 = 0; x_4 = 15,6; E_1 \text{ – difference value } = 3,6$$

So: \[\text{max} \ f(x) = 3474 \text{ euro – maximum revenues obtained in a day, if:}\]

- to zone A it will be sent: 27 autov. of Cn_1 = 5 persons
- to zone B will be sent: \{16 autov. of Cn_2 = 8 persons

The model could be implement at city level also in Romania. For example, in Timisoara, the network for information management and control could work at Incubox level (a programme financed from EU funds for according web hosting and assistance to IT companies). At the network level information from users of transport services will be received and analyze in order to optimized (using a model of linear programming) both transport services providers and transport users

5. Conclusions

The model represents a solution for the implementation of the smart mobility concept. It assumes not only collecting information from transport services providers and from transport users, but also a better synchronization of the latter mentioned information. In the same time the model could be adapted for a case of a particular transporter: for example, let’s suppose that a number of people from a certain city area go during the morning hours into the city center using their own cars. All information will be collected and analyzed, and then a better solution for placing people within the same vehicle could be provided. In that case, the traffic intensity will be reduced and the pollution will be lower.

Therefore, this model could help also a city’s parking system, by providing information from the central network, which could be utilized for the implementation of smart parking solutions, in order to satisfy drivers from all the parts of the city, in real time.
6. ACKNOWLEDGEMENT

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RESEARCH UPON THE RELATION BETWEEN THE ENTREPRENEURIAL PHENOMENON AND ECONOMIC GROWTH

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Abstract: The purpose of this paper is to study the influence of the entrepreneurial phenomenon upon the economic growth in Romania between 2009 and 2013 and the main objective of the research is to analyze the entrepreneurial phenomenon particularities in Romania, from theoretical and empiric points of view. The method we propose is analysing a single factorial econometric model, in which we approach the intensity of the relation between the entrepreneurial phenomenon expressed in number of companies registered to the Commerce Register and GDP. Two regression models are developed with the aim to test the hypotheses regarding to existing between selected variables that characterized the entrepreneurial phenomenon and economic growth. Analyse suggests the vulnerability of the Romanian economic environment, presenting a behaviour on which is very hard to identify the tendency, because the entrepreneurial sector suffered substantial changes during the last years, being directly influenced by globalization and worldwide crises.

JEL classification: J11, O11, C50, M21.

Key words: Econometric model, GDP, Number of companies registered to the Commerce Register, Number of employees, Entrepreneurial phenomenon

1. INTRODUCTION

The recent unfavourable evolutions on the international stage, inside an environment characterized by profound reverberations of macroeconomic volatility contribute to the amplifying of the quirky character of the entrepreneurial phenomenon. The intercession of quantifying the entrepreneurial phenomenon and of determining its impact upon economy and society is a difficult one and it is marked by the complexity of the domain and the inexistence of a common unanimous accepted methodology. The interest of the national authorities and the international institutions aim to identify the static systems, the concepts and the methodologies that are adequate in measuring the entrepreneurial phenomenon in various countries and at a global level.

Inside this context, the major challenge is to develop quantification, monitoring and development instruments for the entrepreneurial phenomenon, in order to permit data
compatibility in time and space and to contribute in real time to the formulation of public politics for the support of the entrepreneurship.


The interest of academic communities and of business environment in studying the entrepreneurial phenomenon is largely manifested during the last years and is based especially upon the origin and the systemic valences of the entrepreneurial phenomenon, being kept responsible for the economic well-being, the consolidation of an economy based on knowing and solving the social problems. The predilection theme of the economic development policies is the entrepreneurial phenomenon, which has an undeniable role as a catalyst for the business environment.

The main assertion of our present work is that there is a direct correlation between the development level of the entrepreneurial phenomenon and the development level of the economy. The present study presents an investigation upon the relationship between the entrepreneurial phenomenon and the macroeconomic environment, underlining the impact of the entrepreneurial phenomenon upon the economic growth in Romania between 2009 and 2013.

The research theme is the influence of the entrepreneurial phenomenon upon the economic growth in Romania between 2009 and 2013 and the main objective of the research is the study of entrepreneurial phenomenon particularities in Romania, from theoretical and empiric points of view. The specific objectives of the first corridor of research are related to the identification of the entrepreneurial phenomenon significance and its contemporary valences, studied in a synoptic manner, from the perspective of the quantification modalities and of the interpreting possibilities for the interdependency with the economic and social development. Our approach is necessary for the later empiric orientation of the research, in the second part of our study, to a generation of a regression model, where were selected the variables of the entrepreneurial phenomenon: the number of companies registered to the Commerce Register and the number of employees in the economy - variables integrated in a laniary regression, together with the Gross Domestic Product.

Significant dedicated literature upon the theme belongs to Schumpeter, described at the beginning of the 20th century as an innovator and not an inventor, involved in entrepreneurial activities that were distinct from the daily routine of managing a company. The recent research upon entrepreneurship and entrepreneurs are marked by the general context if modern business development, based on new business ideologies, globalization and technologic progress. An important contribution in examining the entrepreneurship dedicated literature belong to Minniti and Levesque, authors that assign, group and analyse the main publications dedicated to entrepreneurship, spreading the new principles of the domain in a context of economic heterodoxy. (Minniti, Levesque, 2008).

The ontological classification of bibliographical resources related to
entrepreneurship highlight multiple studying areas, which shows the complex feature of the phenomenon and its studying perspectives. (Jones et al., 2011). Conceptual, the research of the authors in Romania are related to identifying the main obstacles and difficulties of entrepreneurship development (Zaman et al., 2012), the importance of entrepreneurial education and its perception in the academic field (Nistoreanu and Gheorghe, 2014, Săvoiu et al., 2014), and the importance of life long education for business (Dumitrache and Răileanu-Szeles, 2014).

Measuring the entrepreneurial phenomenon is a difficult research to microeconomic and macroeconomic levels as well (Audretsch, 2007), and recent approaches are based on new concepts and The National Systems of Entrepreneurship (Acs et al., 2014). Inside the economic crises, the measurement of sustainability and organizational change is given by the resistance to shocks. As a result of the economic and social interdependence degree, some companies may generate a series of negative externalities upon the other companies. (Ilie, 2012).

Segregation of dedicated literature pro and against the entrepreneurship as economic growth factor is relatively recent (Naudé, 2011) and the majority of the studies demonstrate the positive influence of entrepreneurship upon the economic growth through the benefits the entrepreneurial activity brings to economy – technologic progress, innovation and competition (Acs and Storey, 2004, Li et al., 2012). The studies upon the entrepreneurial impact upon the economic growth probe the contribution of entrepreneurial phenomenon to economic growth, but there is a need to not forget in interpretation the demographic and cultural particularities of the countries and the results of the researches should not be considered as absolute.

Thus, the discrepancies in the development of entrepreneurship are obvious at national and regional levels and this requires, especially for Europe, inside Europe 2000 Strategy, an establishment of the entrepreneurial development as imperative agenda for the improvement and the growth of competitiveness of the present and future EU member states. The idea that the entrepreneurial spirit and the entrepreneurs are important motors of the economic growth, of employment rate, of innovation and increased productivity must be adopted as by economic analysts and theoreticians as a sine qua non condition of the contemporary economic development. The major social and economic objectives linked to entrepreneurship are related to technologic progress, employment rate, economic growth and reducing poverty (reducing social inequities) and environment problems. We advocate the capacity of entrepreneurship of generating prosperity inside a society and its determinant role for economic growth and working places in a country. Approaching public politics for entrepreneurship is different from one state to another, depending on: the economic dynamics, the particularities of the business environment or the regional development objectives.

2. Objectives

Our paper is structured to serve its major objectives: positioning the research in the general research area, highlighting the specific domain of interest and the research direction, developing the regression model for analysing the interdependency between the entrepreneurial phenomenon and the economic growth, results and discussion and general conclusions in the final part. From a theoretical perspective, the paper is based on a deductive approach based on the definition and evolution of indicators: the number of
companies registered to the Commerce Register, GDP and the number of employees in economy. To a practical level, the paper aims to study the value created by entrepreneurship. Due to the fact that this value may manifest in a multitude of ways, we opted for a macroeconomic variable, represented by GDP growth. We studied if there is any correlation between the number of companies registered to the Commerce Register and the GDP evolution. We also studied the influence of the number of employees in economy upon the GDP evolution. The method we propose for this study, in order to answer to the research problem, is analysing a single factorial econometric model.

3. Methodology

The present study adopts Schumpeter’s theory upon the existing correlation between the economic growth and entrepreneurial growth (Schumpeter, 1912(1934), Galindo and Mendez, 2014, Sobel, 2008) and is part of the pragmatic and constructivist direction of research, combining the descriptive conceptual component with the empiric component of the research. Also, our research aims to develop a deductive perspective upon the interdependencies manifested between the entrepreneurial phenomenon and the business environment to a macroeconomic level.

Similar research is concentrating on the study of the relation between the entrance into the entrepreneurial sector and the economic growth (Audretsch and Thurik, 2000; Scarpetta et al., 2002; OCDE 2003; Brandt 2004).

For Romania, econometric models developed for the study of interdependency between the entrepreneurial phenomenon and economic growth underline the contribution of newly appeared companies during economic growth between 1995 and 2009 (Drăgan and Isaic-Maniu, 2012) or propose theoretical models for the relation between the economic growth and entrepreneurship (Toma et al., 2014).

The present paper approaches the investigation of the entrepreneurial phenomenon and the business environment to a macroeconomic level. The main objective if the research is identifying the intensity of the relation between the entrepreneurial phenomenon expressed in number of companies registered to the Commerce Register and GDP; also identifying the intensity of the relation between the number of employees and GDP. Thus, the aspects will be approached through quantitative indicators.

The paper is centred on the relation between entrepreneursh, the number of employees in economy and GDP and aims to draw attention upon the actual state of the three factors in Romania and upon the necessity of strategic approach of the factors in correlation with “Europe 2020” EU strategy for economic growth.

From a theoretical perspective, the paper is based on a deductive approach based on the definition and evolution of indicators: the number of companies registered to the Commerce Register, GDP and the number of employees in economy. To a practical level, the paper aims to study the value created by entrepreneurship. Due to the fact that this value may manifest in a multitude of ways, we opted for a macroeconomic variable, represented by GDP growth. We studied if there is any correlation between the number of companies registered to the Commerce Register and the GDP evolution. We also studied the influence of the number of employees in economy upon the GDP evolution. The method we propose for this study, in order to answer to the research problem, is analysing a single factorial econometric model.

To reach our objectives, we formulated and tested two research hypothesis related
to the influence of entrepreneurship upon the economic growth:

Hypothesis H.1: between the number of companies registered to the Commerce Register and GDP is a causality relation.

Hypothesis H.2: between the numbers of employees in economy and GDP evolution is a causality relation.

To reach our objectives, we will develop two regression models with the aim of determining if the two variables: the number of employees in economy (NUMBER EMPLOYEES) and the number of companies registered to the Commerce Register (COMPANIES REGISTRATION NO) influence GDP expressed in million lei at current prices (GDP).

The results after testing and validating the hypothesis represent a synthesis of ideas, easily to be found in the dedicated literature and the analyse itself, testing and validating hypothesis, is a quantitative analyse.

Inside this study, to reach the objectives, we used several procedures and techniques specific to socio-human disciplines, as: observation, document analyse, the study of documents and comparative analyse.

As a conclusion, the paper presents the influences of two factors strongly connected to entrepreneurship and the most representative indicator to a macroeconomic level. Due to the inherent limits of any scientific research, our research does not present the totality of connotations, hypostasis, circumstances and contributions of the entrepreneurship upon GDP.

The data series were taken from the National Statistics Institute site and from the monthly bulletins of the National Bank of Romania. The series of data refers to values registered for the three indicators in Romania between 2009 and 2013.

4. ANALYSES

Objectives and Definition of Variables: This econometric study aims to:
- Determine the relations between the dependent variable “GDP in million lei current prices” and the variables “number of companies registered to Commerce Register” and “number of employees in economy”, as independent or explicative variables.
- Constitute an econometric linear model to analyse the degree the two independent variables influence the GDP evolution.
- Validate results from specific tests.
- Explain the effect of the independent variables upon the dependent variable.

The aim of the present study is to determine if and in which proportion the number of companies registered to the Commerce Register and the number of employees in economy may be considered explicative factors for GDP in Romania.

Notations from the model correspond to:
GDP = “GDP in million lei current prices”;
NUMBER EMPLOYEES = „number of employees in economy”;
COMPANIES REGISTRATION NO = “number of companies registered to Commerce Register”

This project aims to find the correlation between Global Domestic Product (GDP) and the number of companies registered to Commerce Register and the number of employees in economy. The dependent variable considered is GDP and the explicative variables are NUMBER EMPLOYEES and COMPANIES REGISTRATION NO. The
The analysis method is the econometric modelling using Eviews7 software package.

The definition of the variables follows below.

1. The number of companies registered to the Commerce Register. According to the Romanian legislation, registering a company refers to the registration of a company, solicited by its legal representative, to the Commerce Register. The following graphic (Graphic no. 1.) presents the number of registrations in Romania at the end of each year for the period 2009 – 2013.

   The annual evolution for the number of new companies registered to Commerce Register in 2009 – 2011 reflects a continuous growth, even in a period characterized to a global level by economic crises. The biggest value is registered in 2011: 132,069 new companies. Between 2011 and 2013, a decrease of entrepreneurial initiative is observed, the number of new companies registered being smaller.

   ![Companies registration (No.)](image.png)

   *Source: the Monthly Statistics Bulletin of the National Statistics Institute.*

   **Graphic no. 1. The number of companies registered to the Commerce Register in 2009 – 2013.**

2. The number of employees in economy. An employee is a person doing a work according to a specialisation, qualification or function in exchange of remuneration in currency or nature, commission etc., based on a working contract with a company or local unit (branch, representative), no matter the form of property, the type of work, the number of working hours (full-time or part-time) and the contract duration (determined or undetermined period of time).

   The graphic below (Graphic no. 2) represents the number of employees in the Romanian economy in December, at the end of each year.

   The evolution for the number of employees is almost opposed to the annual evolution for the number of new companies registered to Commerce Register. In the context of the economic crises in Romania, the number of employees in economy decreases in a significant degree. The lowest value of the indicator is registered in December 2010: 4,101,600 employees. From 2010 until 2013, a growth of the value was registered for this indicator.
3. GDP in million lei current prices. The Global Domestic Product is a macroeconomic indicator that reflects the sum of market value for all merchandise and services destined to the final consume, produced in all the economic domains of a country during one year.

Discussions:
The influence of the two factors was studied separately: the influence of the companies registered to the Commerce Register upon GDP, than the influence of the
number of employees upon the same GDP. After these, the obtained models were tested with the help of the programme Eviews7. The analyse of the impact of the new registered companies to the Commerce Register and of the number of employees in economy upon GDP during 2009-2013 follows the effects of the two independent factors on GDP. A dingle factorial regression model was formulated:

\[ y = \alpha + \beta X + \varepsilon \]  

(1)

Where: \( y \) = dependent variable (GDP), \( \alpha \) = coefficient of the free term, \( \beta \) = coefficient of dependent variable, \( X \) = independent variable (NUMBER EMPLOYEES or COMPANIES REGISTRATION NO.) \( \varepsilon \) = aleatory variable (error)

The equations for the estimated regression are:

\[ GDP = a + b \times \text{COMPANIES REGISTRATION NO} \]  

(2)

\[ GDP = a_1 + b_1 \times \text{NUMBER EMPLOYEES} \]  

(3)

The characteristics of the distribution for the data series from the point of view of the general tendency, the diversification of values and form is presented in Table no.1.

The analyse obtained after the 60 observations, related to medium, median, minimum and maximum makes the difference between the influence factors and GDP. The minimum and maximum values confirm the idea that GDP differs due to the two influencing factors (NUMBER EMPLOYEES, COMPANIES REGISTRATION NO).

The table below shows that, for all three data series, the medium and the median are close as values. The distribution is leptokurtic for all three indicators, because Kurtosis>3. This means that the probability of extreme events apparition is the highest. The asymmetry coefficient (Skewness) measures the symmetry of distribution around its medium. Skewness>0 means a distribution curve that presents a more voluminous tail to the right. The model is representative for the data because the probability is not equal to zero.

<table>
<thead>
<tr>
<th></th>
<th>GDP</th>
<th>COMPANIES REGISTRATION NO</th>
<th>NUMBER EMPLOYEES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>49342.16</td>
<td>10222.80</td>
<td>4330213.</td>
</tr>
<tr>
<td>Median</td>
<td>49868.46</td>
<td>9798.50</td>
<td>4315100.</td>
</tr>
<tr>
<td>Maximum</td>
<td>77906.07</td>
<td>21373.00</td>
<td>4807500.</td>
</tr>
<tr>
<td>Minimum</td>
<td>32205.57</td>
<td>2472.00</td>
<td>4095200.</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>11172.95</td>
<td>3319.46</td>
<td>166014.2</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.548181</td>
<td>0.919019</td>
<td>1.093238</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>3.221112</td>
<td>5.064790</td>
<td>3.917919</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>3.127248</td>
<td>19.10436</td>
<td>14.05814</td>
</tr>
<tr>
<td>Probability</td>
<td>0.209376</td>
<td>0.000071</td>
<td>0.000886</td>
</tr>
<tr>
<td>Sum</td>
<td>2960529.</td>
<td>613368.0</td>
<td>2.60E+08</td>
</tr>
<tr>
<td>Sum Sq. Dev.</td>
<td>7.37E+09</td>
<td>6.50E+08</td>
<td>1.63E+12</td>
</tr>
<tr>
<td>Observations</td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
</tbody>
</table>

Source: Data collected by the authors and operated inside Eviews7 software package.

4.1 Critical

4.1.1. Analyse for the Impact of Companies Registered to Commerce Register upon GDP
The method of the smallest squares assumes a minimizing of errors through the minimizing of the sum for the residues squares. We aim to quantify the connection between COMPANIES REGISTRATION NO and GDP. Modelling the impact of the two variables upon GDP is based on a regressive model presented as follows:

\[ \text{GDP} = a + b \times \text{COMPANIES REGISTRATION NO} \]

Table no. 2 shows that for the independent variable COMPANIES REGISTRATION NO: \( a = 53713.65 \) and \( b = -0.427622 \); this leads to the equation:

\[ \text{GDP} = 53713.65 - 0.427622 \times \text{COMPANIES REGISTRATION NO} \]

The way the independent variable explains the evolution of the dependent variable. The F test measures the way the independent variable explains the evolution of the dependent variable. The R\(^2\) indicator shows if the regression model is well specified and the percentage from the total variant of the dependent variable is arrear of the independent variable. It may have values between 0 and 1, the closer to 1 the value, the best specified the regression. R\(^2\) is 0.016, which means that 1.6% from GDP variations is explained by COMPANIES REGISTRATION NO. R\(^2\) being low, it means that there are other influencing variables on GDP, not only COMPANIES REGISTRATION NO.

Table no. 2: Characteristics of the regression model

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPANIES REGISTRATION NO</td>
<td>-0.427622</td>
<td>0.438382</td>
<td>-0.975456</td>
<td>0.3334</td>
</tr>
<tr>
<td>C</td>
<td>53713.65</td>
<td>4708.081</td>
<td>11.40882</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

R\(^2\) 0.0161 Mean dependent var 49342.16
Adjusted R\(^2\) -0.000822 S.D. dependent var 11172.95
S.E. of regression 11177.55 Akaike info criterion 21.51397
Sum squared resid 7.25E+09 Schwarz criterion 21.58378
Log likelihood -643.4190 Hannan-Quinn criter. 21.54127
F-statistic 0.951514 Durbin-Watson stat 0.534179
Prob(F-statistic) 0.333385

Source: Data collected by the authors and operated inside Eviews7 software package.

Analysing data from Table no. 2, it results that the value of standard error of the coefficient for the regression function is inferior in mode of the coefficient value and this underlines the validity of the estimation. The value for the estimated parameter is -0.427622, meaning that a growth of 1% for COMPANIES REGISTRATION NO. determines a decrease of GDP with 0.427622. The standard error of regression is pretty big and shows the fact that the model explains the GDP variable dependence. The Durbin – Watson test registered a value of approximately 0.534 (0.534>0.50) and this shows that there is correlation between GDP and COMPANIES REGISTRATION NO.

4.1.2. Analyse Upon the Impact of Employees Number in Economy on GDP

Next, we will follow the quantification of the relation between NUMBER
EMPLOYEES and GDP:

\[ GDP = a_1 + b_1 \times NUMBER\ EMPLOYEES \]  
(6)

Table 3 shows that, in the case of independent variable NUMBER EMPLOYEES:

\[ a_1 = 189680.5 \quad \text{and} \quad b_1 = -0.032409; \]

This leads to the equation:

\[ GDP = 189680.5 - 0.032409 \times NUMBER\ EMPLOYEES \]  
(7)

Table no. 3 shows that \( R^2 \) is 0.2318, which means that 23.18% from the variations of din GDP variable are explained by NUMBER EMPLOYEES. The influence is significant. The value of standard error of the coefficient for the regression function is inferior to the modality in the mode for the value of the coefficient, expressing its credibility. The value of the estimated parameter is -0.032409, which means that a growth of 1% for NUMBER EMPLOYEES determines a decrease of GDP with 0.032409.

The standard error of the regression is pretty big and that indicates the fact that the model explains the discussed GDP dependence. Durbin-Watson test registered a value of approximatively 0.605 (0.605>0.50) and this shows that we have a correlation between GDP and NUMBER EMPLOYEES.

The associated t-Statistic probability is < 0.05 in case of NUMBER EMPLOYEES. F-statistic validates the model and the probability is inferior to 0.05 (0.000098<0.05). The fact that Adjusted \( R^2 \) registers values close to \( R^2 \) suggests the model validity.

**Table no. 3: Characteristics of regression model**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUMBER EMPLOYEES</td>
<td>-0.032409</td>
<td>0.007745</td>
<td>-4.184539</td>
<td>0.0001</td>
</tr>
<tr>
<td>C</td>
<td>189680.5</td>
<td>33561.57</td>
<td>5.651716</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

R-squared: 0.231894
Adjusted R-squared: 0.218650
S.E. of regression: 9876.218
S.E. of regression: 5.66E+09
Log likelihood: -635.9924
F-statistic: 17.51036
Prob(F-statistic): 0.000098

*Source: Data collected by the authors and operated inside Eviews7 software package.*

5. **Conclusions**

This paper analyses the relationship between the entrepreneurial phenomenon and the business environment to a macroeconomic level and is based on a quantitative analyse study upon the link between the following indicators: the number of companies registered to the Commerce Register, the number of employees in economy and GDP.

Two regression models are developed with the aim to determine if the two
variables: the number of employees in the economy (NUMBER EMPLOYEES) and the number of companies registered to the Commerce Register (COMPANIES REGISTRATION NO) influence GDP expressed in million lei current prices (GDP). The two models definitely highlight that there is a relationships between the explicative variables and the dependent variable. Both hypothesis of the research were validated.

Most common in practice, the financial and economic series do not follow a normal distribution. They are rather leptokurtic, as resulted from Table 1. For a perfect symmetrical or normal distribution, the asymmetrical value in always equal to zero. Generally, the data series are moderate asymmetrical. The eccentricity is defined as normal using a Kurtosis=3. Inside the data series we analysed, a curbing degree is depicted and the graphic distribution is leptokurtic.

The data analyse shows that the factor NUMBER EMPLOYEES has a bigger influence upon GDP than COMPANIES REGISTRATION NO. This idea is also sustained by the Prob (F-statistic) results (tables 2 and 3) that are closer to zero than in the case of NUMBER EMPLOYEES. Values registered by R-squared also express the same idea, a bigger influence of NUMBER EMPLOYEES (23.18%) upon the GDP variable in a comparison with COMPANIES REGISTRATION NO (1.6%).

Analyse suggests the vulnerability of the Romanian economic environment, presenting a behaviour on which it is very hard to identify the tendency, because the entrepreneurial sector suffered substantial changes during the last years, being directly influenced by globalization and worldwide crises.

The limits of our research are modelling a reduced number of variables. In practice, GDP variation also depends on other significant factors (the industrial production, the inflation rate, the intermediary consume, the added value, the unemployment rate, investments, material resources, the structure of the production activities, the structure of the economic system, exports etc.) that are not included in our model and may open new directions of research of the domain, with the aim of multifactorial modelling.

Future directions of research are related to the development of the model, extending the database (introducing other factors influencing GDP) and identifying qualitative factors.

As a conclusion, we appreciate that, regardless the approach of theories upon the correlation between the entrepreneurial environment and GDP, we may affirm that the entrepreneurial environment and GDP present interdependencies that may be studied only correctly identifying the determinant variables and the adequate analyse models.

REFERENCES


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SEARCH ENGINE ADVERTISING: TO CLICK OR NOT TO CLICK ON SPONSORED ADS

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Abstract: The search on the web is an important area of research which, among other aspects, approaches the improvement of pages with results on a search engine (search engine result pages - SERPs), improving both the user's interface and the results' relevance. In order to design the search engine algorithm, it is important to understand how people interact with SERP. To obtain such knowledge, the researchers used techniques such as direct observation, analyses and surveys applied on the users in order to make an analysis of how the user decides to click or not to click on a link.

JEL classification: M31, M37

Key words: search engine marketing, attitude, scepticism, advertising

1. INTRODUCTION

Online advertising gains more and more ground and attracts more and more budgets for TV, OOH, radio or print. Online advertising is the only environment for which a development is expected in 2014 and especially a very big one, of up to 25%. Since Facebook and Google buy up more and more of the online advertising market, it remains to see how much will manage to attract the publishers and the autochthonous online overheads.

Advertising involves economic and social effects, covering two main functions - the supply of information and persuasion. The companies see more and more Internet as an important environment wherewith advertising messages may be oriented to consumers (Aziz and Ariffin, 2010). According to Gauzente and Roy (2012) and Jansen (2010), for 70% of the Web surfers, the use of a search engine is a daily routine.

2. SEARCH ENGINE ADVERTISING

Nowadays, there are different forms of Internet advertising, some of them more subtle, other more obvious (Becker-Olsen, 2003). Many types of websites, such as news
sites, blogs, socialisation sites, have sponsored content (Tutaj and Van Reijmersdal, 2012).

The search on the web is an important area of research which, among other aspects, approaches the improvement of pages with results on a search engine (search engine result pages - SERPs), improving both the user's interface and the results' relevance. In order to design the search engine algorithm, it is important to understand how people interact with SERP. To obtain such knowledge, the researchers used techniques such as direct observation, analyses and surveys applied on the users in order to make an analysis of how the user decides to click or not to click on a link (Gonzales-Caro and Marcos, 2011).

While the previous researches proved the existence of a correlation between the user's intention to search and his searching behaviour (Gonzales-Caro and Marcos, 2011), the majority of these works concentrated only on keywords. The advantage of keywords is that they are easy to collect and access by means of search engines. The disadvantage is that in order to fully understand the user's intention and his satisfaction, more data is necessary than the one which is available in the interrogation journals. Such data may be possible to be obtained from other sources, such as the devices for monitoring the area where the regard stops on the computer's screen. (Gonzales-Caro and Marcos, 2011).

Modern web search engines usually present at least two categories of lists in the result page of the search engine. A set contains non-sponsored links (e.g. organic), links that the search engine determines using its own algorithm. Another set contains the sponsored links which appear because a company, an organisation or an individual made an offer on the keyword which was used by the surfer (Jansen and Resnick, 2005).

The search engines separate the two categories of results, the sponsored links appear the first ones on the list with the search results (generally the first 3-4) and another list with the sponsored results appear in the right side, with a little bit shorter description (Agarwal et al. 2012).

In case of the two big search engines, Yahoo! and Google, the companies may place a sponsored link by means of Yahoo! Search Marketing and Google Adwords services.

Sponsored search is the predominant business model for search engines and for more Web online commerce sites. The majority of main search engines adopted the sponsored search almost universally and some specific sites began to use the sponsored search model. Google and Yahoo!, each one with its own independent process, which serve these sponsored links to the Web surfers. The three main search engines, Google, Yahoo and AOL reported that the sponsored ads represented 99%, 84% and 12% of the annual incomes. (Jansen and Resnick, 2005)

Search engines such as Yahoo! and Google significantly modified online commerce. The unique characteristics of Web for online commerce and online retail are fundamentally transformed according to how the consumers and suppliers interact (Jansen et al. 2007).

Sponsored search is a valid model of long term business, which eventually depends on if Web surfers perceive the sponsored links as relevant. If the users of Web search engines consider the sponsored content as being relevant for their need, they may click on the sponsored links (e.g. generating incomes for the search engine or
specific sites). If these links are not perceived as relevant, the surfers will ignore them. There are milliards of dollars at stake in the industry of sponsored search and which depends on the relevance of sponsored ads. In the foreseeable future, the sponsored search may certainly be the main source of revenues for Web search engines. (Jansen and Resnick, 2005). Surely, for the foreseeable future, paid search seems to be the predominant source of income for Web search engines, even if some critics called in question the sponsored links as a long term business model (Rooney, 2004).

3. ATTITUDE TOWARDS INTERNET ADVERTISING

Attitude is an important concept in marketing research and information systems. Fishbein defines attitude as "a learned predisposition of human beings". Based on this predisposition, "an individual responds to an object (or idea) or a number of things (or opinions)". Kotler said that "attitude is a favourable or unfavourable assessment of a person, and action tendencies toward an object or idea" (Tsang et al, 2004).

Most studies on attitude towards Internet advertising discussed about advertising largely and generally, with no distinction between the different Internet advertising formats (Schlosser et al, 1999). The findings of researchers until now were merged, but it seems that there is a tendency of the Internet users' attitude towards Internet advertising, in general, which is more and more negative (Yuan, 2012, Schlosser et al 1999).

Given the fact that researchers studied this subject for a very long time, there are in specialised literature several articles approaching the consumers' attitude towards advertising in general and towards Internet advertising (Tsang et al. 2004).

Attitude is also an important construct for information systems' research. For example, the Technology Acceptance Model (Davis, 1989) predicting the use of information systems is formed of five major constructs: perceived utility, perceived ease of use, attitude, intention and usage. The relationships between attitude, intention and behaviour were studied and confirmed in numerous studies. The attitudes of consumers towards advertising, in general, were a long while found as being negative (Tsang et al. 2004).

The debut of Internet as a new communication and promotion environment motivated a lot of researchers to concentrate on the Internet. Because of the interactive nature of Internet, some studies report that respondents see Internet advertising as being more informative and reliable than a similar demographic sample found in general advertising (Tsang et al. 2004).

Several factors may influence the consumer's decision from the initial exposure to a behavioural response, of clicking or not clicking a certain link (Yun Yoo, 2012).

Perceived information level. Bauer and Greyser (1968) defined the information level attribute as being useful somehow because of the information provided (Yuan, 2012).

Ducoffe (1995, 1996) elaborated that the information level will generate value for consumers, because advertising intends to provide them information about products and procurements. The perceived information level indicates us the exhaustive character of information about the product, involving its actuality, relevance and trustworthiness. The consumers approve advertising when its information about the
product meet their needs and want such for procurement to be able to generate a big satisfaction (Lin and Hung, 2009).

Perceived Entertainment. Bauer and Greyser (1968) defined the entertainment attribute as being funny, attractive, pleasant for watching or listening to or for whatever reason (Yuan, 2012).

Ducoffe (1996) summarised the entertainment as having the following properties:

1. The entertainment meets the audience's needs of escapism, diversion, esthetical bliss or emotional freedom.
2. Media advertising entertains the consumers so that experience improves the advertising exchanges for consumers.

The entertainment effect of sponsored links may be generated from two aspects, the superficial text or/and the site indicated by the advertising. If the text of the sponsored links may touch the main idea of products or services with limited words, there is a larger opportunity to gain the attention of Internet surfers. An interested surfer clicking on the URL address will be then directed to the site of the trader which contains information or effects, which are meant to impress possible customers and to trigger their purchasing intention.

Perceived Irritation level. Bauer and Greyser (1968) defined the annoyance attribute as being unpleasant or irritating from different reasons.

Sponsored links similarly to any announces may cause irritations. They may cause negative effects to the perceived value of sponsored links due to the following reasons:

1. The aspect of the ads perceived as being irritating: There are critics who assert that advertising draws away consumers' attention (Ducoffe, 1995, 1996). Since Internet surfers intend to find information, sponsored links may irritate the searchers.
2. Appeal of advertising. Sometimes, the tactics adopted by advertising agencies may generate only negative effects to advertising. The consumers may perceive the advertisements as irritating when advertising agents use bothering, offending, insulting or exaggeratedly manipulating techniques. Even if sponsored links simply appear on the screen with limited words, in order to draw searchers' attention, advertising agents may write affective sentences or terms which may cause negative emotions. For example, advertising agents may exploit their creativity and use different tactics to draw attention, such as controversial arguments, irony or even frightening words (Lin and Hung, 2009).
3. The feeling towards sponsored links: there are preconceptions of users towards sponsored links. Some users click only on organic links and do not try sponsored links. In an experiment, Jansen and Resnick (2006) noticed that the main reason for which the users do not click on the sponsored links is a matter of reliability. The researchers discovered that users do not understand the discipline of sponsored search traffic or do not trust the search results.

Perceived Credibility. The credibility attribute was defined as being credible or honest (Yuan, 2012).

Credibility was an important issue for the researchers. Considering the absence of knowledge, structural credibility is the perception of the components of websites, such as the name of the domain, the site map, online privacy policies, approval third parties' seals or advertising with banners or links (Hong 2006).
Credibility was defined as "how much the consumer perceives the assertions made about a brand in the ad as being sincere and credible" (Li and Hung, 2009). It may be transferred to the credibility of the sponsored links to replace the "mark" with the "URL" or to the site attached at the end of the sponsored link. The main credibility is the confidence offered to the advertiser and the credibility towards the advertising. The consumers worry about, regarding the credibility and the convictions towards advertising. Credibility will generate values for consumers, because they may trust the descriptions presented on the sponsored links and they click on the URL in order to connect with the advertising site.

4. RELATIONSHIP BETWEEN ATTITUDE AND THE INTENTION TO CLICK

The relationship attitude - behaviour where behavioural intention may be predicted by attitudes was identified in different contexts and in different conditions, including in the area of technology (Davis, 1986; Kim, Chun and Song, 2009), the advertising on mobile phones (Chiou, 1998; Xu, 2007), online purchasing behaviour (Shim et al., 2001) and in traditional advertising (Brown and Stayman, 1992).

This attitude and behavioural intention was initially supported by Fishbein and Ajzen (1975). Several recent advertising studies validated this theory concerning the fact that consumers' attitude towards an object (in this case towards sponsored search ads - SSA) will influence their intention to use the object (the intention to click on SSA) (MacKenzie et al., 1986). More precisely, this relationship was found in certain Internet advertising studies, which reported a significant effect of the attitude towards Internet advertising, regarding the intention to click on an Internet advertising (Burns and Lutz, 2006; Cho, 1999; Jin and Jun, 2007).

Nonetheless, some studies examined such a relationship in the SSA context. Considering the discussion above, it seems plausible the fact that consumers' attitude towards SSA is connected to their behavioural intentions to click on an ad in sponsored search.

5. SCEPTICISM TOWARDS ADVERTISING

The researches regarding the traditional mass-media advertising showed that many times, the consumers will avoid the advertisements when they get the possibility to. Speck and Elliott (1997) summarised that the strategies to avoid an advertising may be cognitive (for example, ignoring the advertising), mechanical (for example, changing the channel) and behavioural (for example, leaving the room during the commercial break). The current consumers are surrounded by commercial messages by means of several channels. This plurality of options empowered the consumer to be selective in his responses and has the capacity to avoid irrelevant messages (Yuan, 2004).

The new technologies facilitate also the behaviour of avoiding the advertisements. The TV's remote control allows to people to change the channels during the commercial breaks. Video Recorders allow to people to erase the commercials during the record or to jump them during replay. The debut of Internet brings to consumers more control on what they want to see, when, where and how they want. Empowered by the new technologies, they may easily select the commercial they want to see (Ducoffe, 1996).
A free market is characterised by an easy access to information about goods and services, but access is not sufficient if the consumers believe that the advertisements are not adequate and useful. It is probably a paradox that the nature of a free market encourages the exaggerations in advertising which, in turn, may cause the consumer's scepticism and the advertising regulation requirements. The market tolerates and is based on a certain level of scepticism of consumers. At the same time, its value of information is diminished as long as the consumers are sceptical regarding the sincerity of the ad and the market is less efficient (Obermiller and Spangenberg, 1998).

We define scepticism towards ads in general as the tendency to treat commercials as unreliable. We consider scepticism towards ads in general (we also refer to scepticism towards the commercial) as a stable, generalised belief of the market, one of the fundamental proposals which compose the default theory of a consumer, of how the market operates (Moore-Shay & Lutz, 1988). Generally speaking, we refer to advertising as non-personal paid commercial communication. We expect for scepticism of ads to generalise influences between natural entities, even if we recognise that the environment may exercise a situational influence on scepticism towards a certain commercial. Thus, extremely sceptical consumers may be more or less sceptical towards printed commercials than towards radio commercials, but they should be more sceptical regarding both environments than their less sceptical homologues (Obermiller and Spangenberg, 1998).

The term of scepticism has more meanings, and Ford, Smith and Swasy (1990) asked for research the dimensionality of commercial's scepticism. Some of them may be sceptical not only at the literal truth of the commercial's demand, but also because of advertisers, the value of information for oneself or for the society; or the advertising adaptation for a specific audience, such as the children, or for specific products, such as cigarettes or alcohol. Moreover, the term of scepticism may suggest other advertising criticisms, such as the image of low or intrusive culture. Our definition limits us to consider only the first one of these meanings, the tendency to consider the advertising demands more or less credible. The use of the word scepticism and of its forms in this debate is limited to the unreliability feeling.

The previous knowledge and experiences were identified as an influence on the consumer's reaction towards the commercials (Khasawbeh, 2009; Berger and Smith, 1998).

The results obtained by Jansen et al. (2007) indicate the fact that the users have preconceptions against the sponsored links, even when the content is controlled. Nonetheless, when viewing the content of web pages with sponsored links, web surfers assess sponsored results as relevant as organic results.

6. Conclusions

As the budgets invested in online advertising increase there is the need to understand users’ behaviour regarding sponsored ads on search engines. Since Google is, nowadays, the most used search engine, advertisers allocate more money into this type of promotion. However, who clicks on sponsored ads is definitely an interesting subject to study, more specifically the reasons that make the consumers to click or not to click. If they do not click then how else can we reach them? What other means of advertising can help?
References


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ANALYSIS OF HUMAN RESOURCES IN THE ENERGETIC FIELD IN ROMANIA

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Abstract: The paper states that the current development of energetic sector is necessary in the ongoing renewal of production structures and, above all, in educated human resources. In the new context of innovations, organizations need a specific sense of the future, they require a dynamic capacity to anticipate and foreshadow the productive capacity based on new knowledge, in order to react quickly to changes. The issues presented in this chapter for providing labor in each structure certainly bears mark the transition period faced by the Romanian economy and especially the consequences of the extensive restructuring of the energy sector. Effects of ensuring adequate human resources in terms of quantity and quality directly or indirectly spread mainly on labor productivity, turnover and profit achieved in the energy sector.

JEL classification: M21, L26

Key words: human resources, education, training, investment, energy

1. INTRODUCTION

Without diminishing the role of other production factors which determine the economic-social progress of any nation, without underestimating the importance of material investment, we feel obligated to highlight the human factor in the strategy of economic growth.

Each person is assumed to maximize the utility of total consumption per total of active life years. Thusly, the evolution of salary’s level during the activity cycle depends on the evolution of the gross investment and the appreciation of human capital together with aging. The gross investment tends to decrease with age on one hand, because its cost in time increases and on the other hand, the number of overdue years to achieve increased income and to spend are naturally decreased, compared to age.

2. OBJECTIVES

The main cases which generate vulnerabilities in the Romanian energetic system through the human resource is reduced to the following findings:

- The inconsistent education of professional training for executors and managers from the Romanian Energetic System’s structure
- Treatment and diminishing of professional vulnerabilities may be performed by
parallel educations (communication, change, management of free time, avoidance of conflicts and stress, learning, management of new knowledge, career building, shaping of dynamic characteristics for the management team who issues and applies quantic and super-quantic decisions etc)

- Non-application in practice of mentality re-engineering compared to labor results
- New approach based on the removal of intellectual pollution and decrease of errors at the level of activities of implementation and development of design concept
- Not being aware of the approach methods for the holistic risk, the elementary and complex catastrophes, including removing the chaos generating causes.
- Shaping of activities which are not found in the real processes as shown by the operational research based on the mathematical theory of real facts (Nicolau I.M.).

The aspects disclosed on the provision of labor force at the level of each structure certainly bears the print of the transition period crossed by the Romanian economy but especially the consequences of the ample process of restructuration within the energetic sector. The effects of providing the human resources quantitatively and qualitatively matching are directly or indirectly spread on the labor productivity, turnover and namely the profit (Marian Borugă C.S., 2007).

3. METHODOLOGY

The technique of reconfiguring the technologies and human resources is based on the correlations of natural intelligence with artificial intelligence incorporated in technological systems (Holt Gh., Holt A., 2010). The issue of training and forming of qualified labor consists not only in its forming „in general”, but also in providing the knowledge and skills requested by the technical progress and its evolution in perspective (Carabulea A. Popper G.).

Currently, the world of ideas becomes a priority compared to the world of tangible objects and the intellectual capital becomes a priority compared to the other physical forms of capital. As highlighted by Marin Dinu, „the idea, as information, is not only primary, but it is also a priority, while it is manifesting equally as ineffable and substantial, essential and real, functional and random”.

Another important aspect of the energetic sector is its contribution to the total level of occupation and productivity. As suggested by the economic theory, there is a strong connection between production and salaries. In a competitive economy, the salary represents the marginal productivity of labor. Nevertheless, if the markets are distorted by the governmental intervention, for instance, the connection between salaries and productivity would be broken. This is mostly the case of energetic sectors in Romania, as most energetic companies are state owned and price control activities continue to be in force.

In 2014, the labor productivity at the level of production activity and the supply of electricity and thermal energy, gas, hot water and air conditioning increased by approx. 26% compared to 2010, while the labor productivity in the industry grew by 18,9% in 2014 compared to year 2010. This indicates that the activity of production and supply of electricity and thermal energy, hot water and air conditioning was a sector with efficiency placed over the national industry average. The result recorded by the industry is due partly to the efficiency of production and partly to the decrease of the number of persons occupied from the industry.
4. ANALYSES

The increase of labor productivity during the last years, despite the increase of unemployment, shows that the economy’s restructuring was performed where it was more difficult – human resources, but it was not also efficient. The remaining of Romanian economy on a negative trend is also the consequence of a defensive strategic approach.

Table no. 1.

<table>
<thead>
<tr>
<th>Economic activity</th>
<th>2010 = 100</th>
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<tr>
<td>Industry – total</td>
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<td>2012</td>
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<td>2014</td>
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<td>Extractive industry</td>
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<td></td>
<td>104,9</td>
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<td></td>
<td>114,0</td>
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<td></td>
<td>118,9</td>
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<tr>
<td>Processing industry</td>
<td>105,0</td>
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<td>103,7</td>
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<td>113,4</td>
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<td>118,8</td>
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<tr>
<td>Production and supply of electricity, thermal energy,</td>
<td></td>
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<tr>
<td>gas, hot water and air conditioning</td>
<td>108,7</td>
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<td>113,9</td>
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<td>125,2</td>
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Source: National Statistics Institute, Industry statistics report no. 1/2015, p. 35

When analyzing the productivity, we need to remember the reduced level of education among the population, with only 14% graduates of university studies, 41% secondary education (high-school or equivalent) and 45% basic education (primary). In Romania there is an over-addiction to activities with small added value – almost 70% of total work places in industry being created in sectors which generate low added value.

Table no. 2.

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<td>2199</td>
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<td>2409</td>
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<td>Extractive industry</td>
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<td>4129</td>
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<td>4654</td>
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<td>Processing industry</td>
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<td>1898</td>
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<td>2001</td>
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<td>2217</td>
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<tr>
<td>Production and supply of electricity, thermal energy,</td>
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<td>gas, hot water and air conditioning</td>
<td>3876</td>
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<td>4034</td>
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Source: National Statistics Institute, Statistical Yearbook of Romania, 2013-2014

*related to January 2015, the final data for year 2014 are not published

„Over 50% of available working places are generated by trading activities, similar structure with the economies of member states, however in the national economy, they have a limited contribution to the forming of GDP, determined by a significantly lower labor productivity compared to the economies of other European Union’s member states” (Medrega C.,2014).

The monthly gross average salary gain per total economy achieved in the month of January of year 2015 (2409 lei) was by 19% (+392 lei) higher than the one in 2011. The highest gross salaries, above the national economy average, were achieved in January 2015 in: extractive industry, 4654 lei and in the production and supply of electricity and thermal energy, gas, hot water and air conditioning, 4096 lei.

During the period 2000-2005, the salary increase was modest enough both in the coal and brown coal mining industry as well as in the crude oil and gas industry, the salaries being increased with an annual rate of 2.7% and namely 1.2%, a lot less than the
average economy rate, of 5.2%. The explanation consists in the fact that the IMF and World Bank programs, in force between 2000 and 2005, dictated the rationalization of expenses within the inefficient state owned companies for the gas and mining extraction industries. During the next five years, however, the situation encountered some changes, determined especially by the privatization of Petrom, which practically included all the oil internal extraction and almost half of the internal production of gas and thusly, it had an immediate impact of the level of salary increase within this sector. The salaries were increased by an annual rate of 7.6%, higher than the increase rates for the industry and economy, as the efficiency drastically improved, by reducing the number of employees and keeping the most qualified, while new management procedures applied.

Currently, as may be observed in table no. 2, the gains from the energetic sector are higher than the economy average. Thusly, the salaries related to the oil and natural gas extraction activities were higher than the double of economy average salary, while the salaries in the coal and brown coal mining and electricity were on average 86%, namely 80% higher (GEA Strategy&Consulting). This situation may be explained, partly, through the fact that most jobs within the industry require certain qualification or working conditions; however, probably the most important determinant is the fact that many support services with lower salaries were removed, pursuing the requests from IMF and World Bank to restructure the secondary activities in companies with losses from mining and energy. The qualifications require time to be accumulated and are not easily replaceable if sudden changes in the labor force occur, due to the changing trends from the energetic sub-sectors, the labor conditions are not capable of drawing labor forces in the sector (such as, Termoelectrica, CNH, SNLO have clear restructuring programs with FMI, and SNLO, once a profitable company, now registered loss, because the personnel expenses represent 60% of its total costs). In conclusion, even if in certain sectors the decrease of personnel was necessary, this measure is not sufficient in itself.

The practice indicates that the countries which managed to increase the level of labor competence, the economy as a whole was more efficient, compared to the countries where the investment in the development of human resources were more modest. The countries that „saved” with respect to human resources, could not benefit from the economic development opportunities and fell for a poor level of labor qualification and low productivity.

Unfortunately, given the economic situation where we stand, many organizations deem that the best way to exit this crisis is constituted by the decrease of expenses on the development of human resources. These organizations see the professional training as an expense, not as an investment. In reality, the decrease of investment in development of human resources shall lead to a negative economic growth, a decrease of labor productivity, a decrease of labor product quality and implicitly to the decrease in competitiveness for those organizations on the market.

Having in regard the determining role of the human factor within the performance process of the energetic system, the entire activity on the human resources should focus mainly on promoting and maintaining the organizational cultures which promote values necessary to the new structures, such as respect for employees, initiative collaboration and professionalism.

The necessary reform in the energetic sector must include the approach of new ideas in the field of human resources for the establishing of proper strategies with respect to personnel, targeted to achieving the final objectives of streamlining the energetic
system, as follows: the issuing of some flexible organizational structures; establishing the number of personnel required in compliance with the production program, etc; assigning a proper budget for the professional training; de-centralizing a part of the professional training at subsidiary level; development of a training system at the working place (couching) or as distance learning (with tutor); development of a professionalizing and managerial training program for possible management personnel.

Building of an efficient strategy in the field of human resources implies the taking into account of the following elements:
- integration of human resources management in the European management of managing the change management
- providing an employment and valuing climate of each employee’s potential;
- acknowledgement and motivation of the personnel who achieves performance results.

In other words, the strategic objective is the building of a human resources politics which achieve a new society culture that must become aware and create the promises of crossing over from the mainly technical orientation towards the commercial one; from wide responsibilities towards private property and real responsibilities (autonomy); from the non-undertaking of risks towards the management of risks and change (and not fighting the change);

With respect to the activity fields, the human resources policy pursues the following:
- In the organizing field: adapting of organizational structures to the changes of institutional framework and/or the activity object; the achievement of some flexible organizational structures and the reduction of the number of organizational steps; defining a new organizational culture by passing from the organizational culture based on perfecting the production means and processes to a culture that is pragmatically client and market oriented.
- In the field of human resource planning: establishing the number of personnel depending on the evolution of organizational structure, in compliance with the restructuring program;
- analysis and re-dimensioning of existing personnel depending on the evolution of production capacities, in compliance with the restructuration program, production programs, repairing, cassation and preservation of some energetic aggregates.
- In the field of waging and labor motivation: performing a salary system which is capable of withholding and motivating the personnel within all levels of the organization by motivating the personnel for labor and for the climbing up the value stair of the organization and by promoting some personnel promotion criteria, within the same position, by introducing a position based value system.
- In the field of complementary social insurance and professional reconversion: design of social support system which allows an additional financial protection for the employees and their families; provision of some professional reconversion actions.
- In the field of managing, training and development of human resources: issuing and implementing a recruitment plan starting from the analysis of the personnel demand differentiated per costs and jobs or positions; identifying and keeping some permanent collaboration relation with the human resources sources (learning units or other economic agents) in order to attract qualified personnel; following the achievement of the rejuvenation process and qualitative improvement of personnel by attracting and
employing the best graduates of pre-university and university studies; granting of scholarships for deserving students and namely the creation of condition for performing the practice within the structures of the energetic system or priory employment of valedictorians.

- In the field of labor security and health: development of a labor security system with labor complementary medicine activity; making the Security and Health Committees responsible, at branches level, decentralizing the decision to approve their own security programs, in the context of introducing the cost centers; issuing the programs for rehabilitation of labor system security status, based on the risk level assessment.

- In the field of improving the information system: issuing and implementing a modern information system (documents, information, circuits, responsibilities), related to human resources; purchase of some software kits meant to facilitate the application of the submitted personnel politics.

5. Conclusions

The human capital qualification represents one of the important challenges for the EU member states. In the competition context nowadays, the fact that an importance rate of the active labor force is represented by the skilled engineers and workers, certainly represents an important factor, however not sufficient, in order to achieve the 20-20-20 objectives. Unless the workers continue the improvement of their qualification and they refrain from specializing, the level of basic training risks to not being determinant enough to ensure success. Consequently, the professional training for the entire active life represents one adequate solution for reaching the undertaken tasks, in compliance with the obligations provided in European directives. The field analyses, studies and researches highlight that the expansion and economic prosperity may not be achieved with large reserves of unqualified and poorly remunerated labor force. In the era of competition and technological progress, the key to prosperity lays with the creative, qualified labor force, capable of producing ideas, goods and services with strong knowledge, who act in private enterprises able to innovate, to enact the state of the art technologies and to sell perfected goods and services worldwide.

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The need for evolving practice of governance in public enterprises

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Abstract: The globalization of markets, technological change and deregulation of monopolies generated the need for readjustment and restructuring of the state sector and to develop efficient governance in public enterprises. The efficiency of an economic system depends, first of all of good management, and proper implementation for good functioning of society's governing mechanics.

JEL classification: H10, H12

Key words: governance, principles of governance, public enterprise, new economic governance

1. Introduction

The term "governance" is synonymous with the management,, "or the leadership,, involving all activities of the entity, which falls under management. In this regard, if the term , governance 'means management,, that term ,,corporate governance 'idea of leadership induce overall management of the entire organizations since the time of corporate ,,comes word ,,body, suggesting the general idea, the whole unit.

Governance is a very extensive concept that includes a very comprehensive and effective supervision of how something is done, driven, controlled or managed in the best interests of the components of an area, organization or institution. The term was used in national institutions, such as banks, and also in colonies and territories administrations.

In recent years the concept of "Corporate Governance" can be found in organizations working in the public sector to the same extent as in the commercial sector.

2. The particularities of the governance in public enterprises

State same as other organizations can benefit from instruments applicable to the private sector, including the OECD principles on corporate governance for a more efficient work, make a bigger profit and achieve its objectives, including public policy, if necessary.

Corporate governance has dominated policy agenda in developed economies for more than three decades and is now at the top of the political agenda in other jurisdictions.

Previous Studies about corporate governance focused largely on developed countries, but this time the main focus is on countries with emerging economies such as Romania.

In addition, corporate governance in public enterprises (state) are much less
researched. This happens despite the fact that most of these countries have significant state ownership higher than developed economies.

Corporate governance practices in the public sector in Romania deserve further consideration in order to line up with the developed economies.

"Improving public enterprises corporate governance (state) is an objective assumed by the Romanian Government Letter of Intent to the International Monetary Fund, approved by the Government, through a Memorandum, on 7 of June 2011 (paragraph 20 in its original form, paragraph 22, as revised by the Memorandum approved by the Government on 14 September 2011).

The current economic climate requires quick action to create legal and administrative premises to lead to increased efficiency of economic operators. It should be taken under consideration the need for a rapid increase in real contribution to public companies, to assist in upgrading Romanian economy and contribute effectively in the state budget.

To increase a state company’s performances new mechanism of corporate governance should be applied, relative to those covered by general legislation adapted to the particularities of private and public company.

The important role of these economic ‘players’ and the ’ strategic character of the sectors they are present in, their inefficiency can create macroeconomic imbalances.

The set of rules that ensure balance in legitimate organization and operation of state enterprises should pursue:

- Public interest (in most cases strategic interest), namely: energy, air, rail, and mining.

- Government development in industrial areas, essential to the national economy.

- Shareholders’ interests: dividend payment, increasing the value of the securities portfolio held involvement in decision making.

State companies should be subject to external financial audit on the same terms and standards as private companies.

State legislators should promote clear regulations, predictable and efficient functioning of public enterprises, must ensure equal treatment between the public and private sector to avoid market distortion.

Public enterprises used as an industrial policy tool - generating confusion and possible conflicts of interest, especially when the two functions belong to the same ministry; to prevent conflicts of interest should:

Separate of public entities ownership that could be customers or suppliers.

Rules for public acquisitions should apply to the same extent as in the case of other companies and, as result, any barrier in procedures way for the award of such contracts should be eliminated.

Simplified operational practices and legal form clearly regulated by law (this should allow creditors to initiate insolvency proceedings).

Public enterprises should not be exempted from the general national rules (competition law, insolvency law).

Interested parties must have access to effective remedies when their rights are violated and any special obligation and responsibility of the public company (social or public policy purpose. For example, the regulation of prices for goods or services) which exceed common regulatory framework should be regulated clearly and explicitly justified.

General public and the businesses must be informed of the nature and extent of the
domain of applicability of these obligations and responsibilities, and their impact on resources and economic performance of the company;

The costs must be clearly identified, made public and compensated in a budget in a transparent manner, without distorting competition - services / management contracts

The regulatory framework should be sufficiently flexible in terms of adjusting the capital structure when necessary to achieve business objectives. Therefore, it is important setting clear limits for such mechanisms and appropriate supervision.

Competitive conditions in terms of access to finance (their relationship with banks and financial institutions owned by the state or other public enterprises must rely strictly on purely commercial reasons)

These objectives are intended to avoid distortions of competition, pursuit of profit generation by setting targets. It should avoid frequent amendments objectives to provide predictability and a clear understanding of the goals and long-term commitments. Ownership policy and setting targets should be subject to public debate. Fold should not be involved at all in the public company activities, ensuring their executive autonomy, in order to achieve objectives.

The involvement should be minimal to stick strictly to strategic issues and public policy. Limits should be imposed on the possibility of state intervention in the daily management of the company and made public.

It should be ensured full independence of public enterprises in exercising leadership.

A good choice of members of the governing bodies could discharge their functions in a more professional manner. Independence, activity and decision-making process should not be influenced by any political factor.

State legislators should promote clear regulations, predictable and efficient functioning of public enterprises, must ensure equal treatment between the public and private sector to avoid market distortion. Therefore, is it important to make clear separation of functions of state property to other functions which might influence the activity of public enterprises (especially regulators).

Public enterprises used as a tool of industrial policy - generating confusion and possible conflicts of interest, especially when the two functions belong to the same ministry; to prevent conflicts of interest should:

- Separation of ownership of public entities that could be customers or suppliers.
- The norms procurement should apply to the same extent as in the case of other companies; any barrier to the correct procedure for the award of such contracts should be eliminated.

- Simplified operational practices and legal form clearly regulated by law (this should allow creditors to initiate insolvency proceedings)
- Public enterprises should not be exempted from the general rules of national (competition law, insolvency law).

Interested parties must have access to effective remedies when their rights are violated.

Regulation should start to trade the society right and should avoid setting specific forms, when not absolutely necessary to achieve business objectives.

The general public and businesses must be informed of the nature and extent of the scope of these obligations and responsibilities, and their impact on resources and economic performance of the company.
The costs must be identified clearly, public and compensated in a budget in a transparent manner, without distorting competition - contracts for services / management.

The main objectives that modern regulation of public companies should follow:

1. State legislators should promote clear regulations, predictable operation of public enterprises as following:
   - clear separation of qualification as a shareholder the state of other functions (particularly the regulator);
   - providing competitive market conditions (when we are not dealing with a natural monopoly).
   - effective protection of creditors providing remedies similar to those applicable to the relationship between "private," including the possibility of opening insolvency proceedings public company (including simplified bankruptcy procedures).
   - ensuring the prerequisites for openness to modern methods of restructuring;
   - the globalization of state enterprises and increasing their investment interest;
   - creating the conditions for the principles of competition and competitiveness in accessing finance.

2. The related shareholder must act as informed and active ownership based on a policy of consistent, coherent and coordinated ownership policy:
   - the ownership function to be centralized ownership (MFP, as administrator of state revenues to fulfil this function. Thus, MFP have a real insight into the financial and operational performance of public enterprises);
   - ownership authority must have a very good expertise in legal, financial and economic and exercising fiduciary responsibilities;
   - separation regulator function and authority establishing economic policies on a particular area of the state as shareholder;
   - creating internal audit and reporting mechanisms that allow effective control of the shareholder;
   - state as shareholder should abstain from interfering in the activities of the companies, should respect the independence of its decision-making process, and should allow them to work in terms of professionalism and independence;
   - choosing an excessive number of members of the Board of directors from among Ministry officials and, especially, the appointment of people with no background necessary to the exercise of that function are forms of diminishing or even degeneration of the Administration Council (AC) role (in some countries it is even prohibited the appointment of a representative of the ownership authority or other State officials on the AC);
   - ownership policy should be channeled towards the establishment of the strategic framework, of the objectives of the enterprise, and not through the imposition of specific decisions in AC.

3. The minority shareholders of a company owned by the state or where the state holds a controlling stake should receive fair treatment. Therefore, the State-shareholder public company must:
   - ensure a high degree of transparency for all shareholders;
   - develop a communication policy and active consultation with minority shareholders;
facilitate the involvement of minority shareholders in decision making (voting in absentia, electronic voting, voting by mail).

4. The management of the public enterprises should have the authority, competence and objectivity required for the performance of their duties. Thus, the structure of the AC must be designed to enable his duties independently, professionally and objectively. The managers must have a clear mandate and their responsibilities must be related to performance. Therefore, the managers must to treat all shareholders equally and to be responsible for carrying out their mandate with respect to all shareholders. As a result, the managers should be professionalized by creating, inside it, specialized committees on audit, risk management, human resources management and remuneration.

5. Transparency and Reporting

Public enterprises should be subject to higher transparency requirements as following:

- individual obligation of every State company to draw up an annual report accessible to the public, informing on its activity, primarily from the financial perspective;
- the obligation of drawing up and promote a consolidated annual report, creating a clear and accurate image of the portfolio of state shares, of its value, of the results of its ownership policy, of the evolution of economic performance of public enterprises;
- the public enterprises must develop internal audit structures showing its reports directly to the shareholders and AC. Quality, independence and transparency of the internal audit are preconditions for accurate information of shareholders and for the adoption of objective decisions of collegial leadership.

These objectives are intended to avoid the distortion of the competition, the pursuit of profit generation by setting precise objectives. It should be avoided the frequent modification of the objectives in order to provide predictability, and a clear understanding of the goals and commitments in the long term. Ownership policy and goal setting should be subject to public debate.

Simplified operational practices and legal form clearly and legally regulated (this should allow creditors to initiate insolvency proceedings);

Public companies should not be exempt from the application of general, national rules (competition law, insolvency legislation);

Interested parties must have access to effective remedies when their rights are violated.

The regulation should begin from the rights of trading companies and should avoid the imposition of specific forms, when it isn't absolutely necessary to achieve the objectives of the enterprise.

Any special obligation and responsibility of public company (social purpose or public policy, for example, regulation of prices for products or services) which go beyond common regulatory framework should be clearly regulated and explicitly justified.

The general public and the business environment should be informed of the nature and the scale of the application domain of those obligations and responsibilities, as well as their impact on the resources and economic performance of the company;

The costs involved must be clearly identified, made public and compensated in a budget in a transparent manner, without distorting competition-services / management contracts.
3. CONCLUSIONS

The State should not be involved at all in the activities of the public companies, ensuring their executive autonomy, in order to achieve the objectives set.

Involvement should be minimal, restricting only to strategic aspects and public policy. Limits should be imposed on the possibility of State intervention in the daily management of the company and made public.

A total independence of the management of public enterprises should be provided in performing their duties.

A good choice of members in the governing structures could ensure the exercise of their duties in a more professional manner. Independence, activity and decision-making process should not be influenced at all by any political factor.

Public enterprises used as an instrument of industrial policy-generating confusion and possible conflicts of interest, especially when the two functions belong to the same relevant Ministry; to prevent conflicts of interest should: - separate the ownership functions of public entities that could be customers or suppliers.

Public procurement rules should apply to the same extent as in the case of other companies; any barrier to the correct procedures for the award of such contracts should be eliminated.

ACKNOWLEDGEMENTS

This work was co-financed from the European Social Fund through Sectorial Operational Programme for Human Resources Development 2007-2013, project number POSDRU/159/1.5/S/140863, Competitive Researchers in Europe in the Field of Humanities and Socio-Economic Sciences. A Multi-regional Research Network.

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**ROMANIA ON THE WAY TO EUROZONE: THE ACCESSION DEADLINE**

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Faculty of Economics and Business Administration  
Craiova, Romania

Abstract: The fact that Romania has met in June 2014 for the first time all nominal criteria laid down in the Maastricht Treaty for the adoption of the euro, including inflation and is presenting quite well at the real convergence criteria does not mean that there are no long term risks that can damage this situation. Setting by the authorities of a date, January the 1st, 2019, for euro adoption is an ambitious objective and therefore structural problems and competitiveness must be the top priority of any government. From these brief considerations this article proposes, based on analyses and calculations to evaluate Romania’s chances to meet the target and at the same time, to suggest some directions in order to avoid the mistakes done by other countries that have entered less prepared in the euro area. The article tries to set a proper timing for euro adoption in Romania, with minimum risk and maximum benefit given the need for sustainable nominal convergence criteria besides ensuring increased competitiveness in support of a real sustainable economic growth.

**JEL classification: E61, E52**

**Key words: convergence indicators, Maastricht criteria, growth rates**

1. **INTRODUCTION**

When joining the EU, Romania has committed, even if it is not a fixed term, to adopt the single currency – the euro, when the country will be prepared, and thus enter in EMU. Initially Romania has set 2014 as the target for euro adoption, but developments in the economic, social and geopolitical field led to its failure. Therefore Romania aims to adopt the euro in 2019 and Romanian authorities have expressed verbally their intention for Romania to become a member of the Banking Union.

2. **REAL CONVERGENCE INDICATORS AND THEIR DEGREE OF FULFILLMENT**

Analyzing the road from Romania’s entering the EU on 01.01.2007 and till now we find that despite tangible progress, our country is in many respects far from EU standards especially in terms of real convergence criteria. They relate, in particular, to the degree of the openness of the economy (which is expressed as a ratio of country's total trade, the sum of exports plus imports, to the country's GDP), the share of bilateral trade with EU countries in total foreign trade, the branch structure of the national economy

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1. This work was cofinanced from the European Social Fund through Sectoral Operational Programme Human Resources Development 2007-2013, project number POSDRU/159/1.5/S/140863, Competitive Researchers in Europe in the Field of Humanities and Socio-Economic Sciences. A Multi-regional Research Network;
(expressed as the contribution of big sectors such as industry, agriculture, services have in creating GDP) and, especially, the GDP/capita (expressed either at the nominal exchange rate or at the purchasing power parity standard), which is most synthetic criteria.

If we analyze the evolution of real GDP in volume (Table no.1) we find that between 2007-2013 it increased with 12.22% in Romania (annual growth rate of 1.94%) compared to the EU-28 average which increased only with 2.23% (annual growth rate of 0.37%).

### Table no. 1

**Annual growth rate of the real GDP**

<table>
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<tr>
<th></th>
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<td>110.78</td>
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<td>-0.9</td>
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<td>6.0</td>
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<td>3.3</td>
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<td>8</td>
<td>Hungary</td>
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<td>1.6</td>
<td>-1.7</td>
<td>1.1</td>
<td>95.1</td>
<td>-0.8</td>
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<td>3.9</td>
<td>4.5</td>
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<td>1.6</td>
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<td>-6.6</td>
<td>-1.1</td>
<td>2.3</td>
<td>0.6</td>
<td>3.5</td>
<td>112.22</td>
<td>1.94</td>
</tr>
<tr>
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<td>0.6</td>
<td>-5.0</td>
<td>6.6</td>
<td>2.9</td>
<td>0.9</td>
<td>1.6</td>
<td>109.69</td>
<td>1.55</td>
</tr>
</tbody>
</table>

*Source: Eurostat and * own calculation*

EU-18 countries (countries that have adopted the euro) recorded in the same period, an increase of only 1.12% (annual growth rate of 0.19%).

At the same time, we find that from the EU countries that have not yet adopted the euro Poland recorded the highest real GDP growth - 28.32%. (annual growth rate of 4.24%) followed by Romania, Lithuania (11.05% - annual growth rate of 1.76%), Bulgaria (10.78% - annual growth rate of 1.72%), Sweden (9.69% - annual growth rate of 1.55%) and Czech Republic (6.55% - annual growth rate of 1.06%). The other two countries that aim to adopt the euro - Croatia and Hungary have registered a drop of -0.59% and -4.9% during the mentioned period.

If we consider the most significant indicator - GDP per capita at Purchasing Power Parity Standard (table no. 2) we will see that in Romania it stood in 2013 at 54% of the European average with an increase from 43 % meaning 25.6% (annual growth rate of 3.87%) between 2007-2013.

### Table no. 2

**GDP per capita at Purchasing Power Parity Standard**

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
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<td>UE-28</td>
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<td>100</td>
<td>100</td>
<td>100</td>
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<td>100</td>
<td>100</td>
<td>xxx</td>
<td>xxx</td>
</tr>
<tr>
<td>2</td>
<td>UE-18</td>
<td>109</td>
<td>108</td>
<td>108</td>
<td>108</td>
<td>108</td>
<td>108</td>
<td>108</td>
<td>99.1</td>
<td>-0.15</td>
</tr>
<tr>
<td>3</td>
<td>UE-17</td>
<td>109</td>
<td>109</td>
<td>109</td>
<td>109</td>
<td>108</td>
<td>108</td>
<td>108</td>
<td>99.1</td>
<td>-0.15</td>
</tr>
<tr>
<td>4</td>
<td>Bulgaria</td>
<td>40</td>
<td>43</td>
<td>44</td>
<td>44</td>
<td>46</td>
<td>47</td>
<td>47</td>
<td>117.5</td>
<td>2.72</td>
</tr>
<tr>
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<td>Czech Rep.</td>
<td>83</td>
<td>81</td>
<td>82</td>
<td>81</td>
<td>81</td>
<td>81</td>
<td>80</td>
<td>96.4</td>
<td>-0.61</td>
</tr>
</tbody>
</table>
The poorest countries received in the Euro area were Estonia (in 2011) with a GDP/capita at PPS of 66% of the EU average and Latvia (2014), with a GDP/capita adjusted at PPS of 60% of the EU average. In these circumstances it is unlikely that the in Euro zone it would be accepted a candidate country with a GDP/capita lower than those levels as this would create major problems both to the Euro area and respective country. Therefore, to reach at least 60% of the EU average GDP/capita at PPS, Romania’s economy should grow at least four five years, with 2 percent faster than the EU average. As long as the EU increases with zero percent per year, and Romania with 2 percent per year, this goal is met. But when the EU will return to a normal growth rate of 1.5-2 percent per year, Romania will have to increase by 3.5-4 percent per year (which is especially difficult in the current geopolitical context) to keep the differential of 2% in order to meet the target (modest) of 60% of the EU average GDP/capita at PPS.

Among the other countries that are going to adopt the euro, the best in 2013 amounted Sweden which have a GDP per capita at PPS 27% higher than the EU average, followed by the Czech Republic (80% of the EU average), Lithuania (74 % of the EU average) and Poland (68% of the EU average). The high performance of the Lithuanian economy determined the fulfilling of all the nominal and real convergence criteria and the adoption of the single currency at the 1st of January 2015. If we compare with the year 2007 we find that between 2007 and 2013, Poland has recovered 14 percent of this indicator, Lithuania 12 percent, Romania 11 percent, Bulgaria 7 percent, Hungary 6 percent, while Czech Republic and Croatia lost 3 and 1 percentage.

The retrospective analysis shows that Romania has made significant progress in terms of real convergence, assessed by the gaps between the European average GDP per capita expressed at the purchasing power standard (PPS). Romania has made significant progress especially in the last two years, situating itself at about 54% of the EU-28 average in 2013 compared to 52.9% in 2012, 51.2% in 2011 and 43% in 2007, the year of the effective entry in the EU2.

In 2013, in Romania, real GDP increased by 3.5% compared to 2012 (second rate in the EU after Latvia with 4.1%) being the third consecutive year of growth (+ 2.3% in 2011 and + 0.6% in 2012), which means a slight recovery from the economic and financial crisis that affected Romania in 2009 and 2010. The 2013 growth was based, in particular, on the positive contribution of net exports. At the same time domestic demand has diminished due to lower gross fixed capital formation.

Net exports (with a positive contribution of + 4.4 percent) were increased due to an increase in the external demand. As a result, we have witnessed an increase by 13.5% in real terms of the exports of goods and services, while the imports of goods and services

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2 Romanian Government, Convergence Programme 2014-2017, Bucharest, April 2014, pp. 5 and The Eurostat;
increased by only 2.4%.

Final consumption was increased by 0.7% by increasing private consumption by 1.3% and reducing public consumption by 1.8%. Household consumption increased, especially in the second half of 2013 due to a low inflation and the increasing of the agricultural production, fact which boosted the peasant market and self-consumption market which is an important component of household consumption in Romania.

The good results in agriculture, the increasing of the industrial production, the reimbursements of almost 3 billion euros from European funds, the record exports of almost 50 billion euro, the increased consumption by the end of year and the boost of foreign investments were only some of the indicators which supported economic growth above the expectations in 2013. In 2013, Romania reported a 3.5% growth compared to 2012.

Industrial production, one of the most important indicators of economy recovered in 2013, as at the main industrial groups, increases were recorded for almost all categories of goods. Thus, durable goods industry increased by 10.4%, capital goods industry increased by 11.5%, intermediate goods industry increased by 8.7% and current use goods industry increased by 5.9%. On the other hand, the energy industry decreased by 1.4%. In 2013 the industry had an increase of 1.4% (with a share of 31.4% of GDP), its volume increasing by 4.6%. In recent years there have been qualitative and quantitative changes in the manufacturing industry, which led to the fact that over 80% of exported goods belonged to industry.

Investment activity was weak, well below estimations, gross fixed capital formation recording a decrease by 3.3%, while in 2011 and 2012 registered a recovery trend. This was driven by increased uncertainty among investors, especially foreign investors, as well as a lower contribution of the government investment.

As a result, there are favorable conditions for the continuation of the economic growth of our country and for the significant reduction of the gaps with the EU average. Thus, according to forecasts, GDP per capita at purchasing power standard -PPS will be in Romania, approximately 64.2% of the EU average in 2018 and about 69.5% in 2020.

Unfortunately the good evolution of the Romanian economy in 2013 was not continued in 2014. According to Eurostat, Romania (-1.0%), Cyprus (-0.3%), Denmark as well as Germany and Italy (-0.2% each) recorded a decrease in GDP in the second quarter compared to first quarter of 2014.

In the same period Malta (+ 1.3%), Latvia and Slovenia (+ 1% each), Lithuania, Hungary and the United Kingdom (+ 0.8% each) recorded the highest growth rates in GDP compared with the previous quarter.

This involvation of the Romanian economy was recorded in first quarter of 2014 compared with fourth quarter of 2013 (-0.2%) which means that virtually Romanian economy has entered a technical recession.

If we consider the level of potential GDP, currently estimated, based on the factors that contribute to its creation (capital, labor productivity), at about 2 percent per year (actual GDP differs from the potential GDP with ± 1 percent per year, according to the agricultural year, better or worse) we consider that there are high chances of recovery and at the end of 2014 the Romanian economy to grow 1.5-2% compared to 2013.

It should however be mentioned the fact that the growth potential of Romania's GDP decreased from 4.5-5% in 2004-2008 to about 2-2.5% in present. The causes are
mainly due to lower volume of foreign investments, which declined from about 7 to 7.2 billion yearly average before the crisis to about euro 2.3 billion annual average between 2009-2013. Meanwhile, during the mentioned period, the workforce has been significantly reduced. We have witnessed the reduction of the working age population by about 110 000 young people per year as a result of demographic decline recorded since 1990, and the increasing migration especially to western countries.

Another cause contributed to the reduction of Romania potential GDP in the post-crisis period, belongs to the branch structure of the national economy and hence to the possibilities of increasing labor productivity. However the labor productivity was the only one of factors of production which has improved in some sectors in the post-crisis period. Nevertheless, the agriculture, with a substantial share of GDP, based mainly on subsistence or semi –subsistence farms, with extremely low productivity, negatively affected the GDP growth potential.

Given the above, we can understand why, objectively, the growth potential of the Romanian GDP declined from about 5 percent per year during the pre-crisis period to about 2-2.5 percent in the post –crisis period.

If we consider the nominal convergence criteria, we will find that the last Convergence Report3 show the fulfillment by Romania of four of the five criteria (Table no. 3).

<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>Price stability</th>
<th>Public finances</th>
<th>Gross public debt4</th>
<th>Exchange rate</th>
<th>Long-term interest rate6</th>
</tr>
</thead>
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<td></td>
<td></td>
<td>HICP inflation rate1</td>
<td>Country with excessive deficit2</td>
<td>Budgetary excedent (+)/ deficit (-)</td>
<td>Currency that participates in ERM II</td>
<td>Exchange rate to the euro5</td>
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3 European Central Bank, the Eurosystem, Convergence Report, June 2014;
As can be seen from the data in the table, nominal convergence criteria are fully met by Lithuania (country which adopted euro on January the 1st 2015) while other non-euro states are close enough although "the ongoing process of catching-up may exercise, in the long term, new pressures in the sense of price increasing and/or on the nominal exchange rate, even if the exact extent of this effect is difficult to appreciate. The risk of the appearance of inflationary pressures will be particularly high in the event that the next stage of economic recovery will again be accompanied by excessive credit expansion and asset price increases fueled by low levels of real interest rates"5.

As expected, starting with July 2014, Romania has met, for the first time, all the nominal convergence criteria. It was thus concluded a difficult road since the entire process was conducted in a difficult international economic environment dominated by the financial crisis and its consequences. It must however be noted that sustainability is a key factor, since convergence must be achieved in a sustainable manner, and not just at one point in time. It is gratifying that the fulfillment of the nominal criteria was achieved without pressure, Romania haven’t set especially this objective. This is a further proof of the inconsistency of Romanian authorities in charge of formulating structural policies that have not acquired yet, the skills needed to propose and follow, consistently, important objectives in the medium and long term as evidenced by the elements of Table no. 4.

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</tr>
<tr>
<td></td>
<td>4.4</td>
<td>3.6</td>
<td>2.9</td>
<td>42%</td>
<td>3.0%</td>
<td>3.0%</td>
</tr>
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<tr>
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<tr>
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<td>3.3</td>
<td>42%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td><strong>Reference value</strong></td>
<td>1.7%</td>
<td>-3.0%</td>
<td>60.0%</td>
<td>6.2%</td>
<td></td>
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</tbody>
</table>

*As expected, starting with July 2014, Romania has met, for the first time, all the nominal convergence criteria. It was thus concluded a difficult road since the entire process was conducted in a difficult international economic environment dominated by the financial crisis and its consequences. It must however be noted that sustainability is a key factor, since convergence must be achieved in a sustainable manner, and not just at one point in time. It is gratifying that the fulfillment of the nominal criteria was achieved without pressure, Romania haven’t set especially this objective. This is a further proof of the inconsistency of Romanian authorities in charge of formulating structural policies that have not acquired yet, the skills needed to propose and follow, consistently, important objectives in the medium and long term as evidenced by the elements of Table no. 4.*

**Table no.4**

5 European Central Bank, The Eurosystem, Convergence Report, June, 2014, the Romanian version, pp. 58;
Maastricht criteria and the date of their fulfillment by Romania

<table>
<thead>
<tr>
<th>Nominal convergence indicators</th>
<th>Maastricht criteria</th>
<th>Values for Romania</th>
<th>Date of meeting the criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inflation rate (HICP) - percents - annual average</strong></td>
<td>Less than 1,5pp over 0,1%* (average of the three best performing EU members)</td>
<td>1,4 (july 2014)</td>
<td>As of June 2014</td>
</tr>
<tr>
<td><strong>Long-term interest rates - percents - annual average</strong></td>
<td>Less than 2pp over 3,8%* (average of the three best performing EU members from the perspective of price stability)</td>
<td>5,0 (July 2014)</td>
<td>As of November 2013</td>
</tr>
<tr>
<td><strong>Exchange rate leu-euro</strong></td>
<td>+/- 15 percent</td>
<td>+5,6/-2,1</td>
<td>As of Octobre 2010</td>
</tr>
<tr>
<td><strong>appreciation (+)/ depreciation (-) in percents</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>The consolidated budget deficit (percent of GDP)</strong></td>
<td>Under 3 percent</td>
<td>2,3</td>
<td>As of 2012</td>
</tr>
<tr>
<td><strong>Public debt</strong>(percent of GDP)</td>
<td>Under 60 percent</td>
<td>38,4</td>
<td>As of 2007</td>
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</table>

* reference level July 2014 (Ireland, Latvia, Portugal)
** calculated as maximum deviation of the leu-euro exchange rate in the period August 2012 - July 2014 compared to the average registered in July 2012, based on daily data. A deviation +/- signifies appreciation/depreciation of the leu to July 2012.
*** 2013-ESA95 methodology

Source: National Institute of Statistics, National Bank of Romania, European Commission

From a point of view, this lack of consistency can affect sustainability as the latest forecasts provided by major international institutions anticipate gradual increase of average annual inflation rate, from historical low levels up to levels between 2.2% and 2.5% in 2014 and between 3.0 and 3.3% in 2015.

In this context, on medium and long term, it is possible that the process of catching-up to influence either inflation or nominal exchange rate, or both, if we consider that GDP per capita and price level remain still lower in Romania than in the Euro area. This hypothesis seems to be confirmed by the annual price inflation index projections done by the NBR presented in Table no. 5 and Graph no. 1.

**Table no. 5**

Projections of CPI annual inflation prices

<table>
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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Target</strong></td>
<td>2,5</td>
<td>2,5</td>
<td>2,5</td>
<td>2,5</td>
<td>2,5</td>
<td>2,5</td>
<td>2,5</td>
<td>2,5</td>
<td>2,5</td>
<td>2,5</td>
<td>2,5</td>
</tr>
<tr>
<td><strong>Actual/Forecast (%)</strong></td>
<td>1,6</td>
<td>1</td>
<td>0,7</td>
<td>2*</td>
<td>2,2*</td>
<td>1,8*</td>
<td>2,6*</td>
<td>2,8*</td>
<td>3*</td>
<td>3,1*</td>
<td>3,1*</td>
</tr>
<tr>
<td><strong>Uncertainty range (%)</strong></td>
<td>+/- 0,6</td>
<td>+/- 1</td>
<td>+/- 1,4</td>
<td>+/- 1,8</td>
<td>+/- 1,9</td>
<td>+/- 2</td>
<td>+/- 2</td>
<td></td>
<td></td>
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<td></td>
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</tbody>
</table>

* End of period

Source: NBR projections

It follows from the facts presented above that Romania, although it obtained a number of positive outcomes in terms of fulfilling the nominal criteria for euro, should press on the accelerator so the potential competitive advantages of the Romanian economy...
to become effective and contribute in a substantial extent to mitigate the negative effects of the economic crisis and to a healthy and sustainable growth aimed at reducing the gaps from the developed EU countries.

![Graph no. 1: The forecasted evolution of inflation in Romania](image)

**3. CONCLUSIONS**

The adoption of the single currency does not automatically eliminate all problems and entering the field of welfare. The monetary stability, no matter how attractive may appear, is just one of the conditions - although perhaps the most important - for boosting economic activity.

There are many other goals to be met before initiating this process, otherwise too early adoption may hinder or even derail the convergence process. The entry into EMU should not be a purpose in itself but rather a last resort which follows after thorough preparation for the realities of post-accession economy. If this timeline is not met, the short and medium term risks are major and in the long-term the possibility of maintaining or even deepening economic imbalances is almost a certainty.

**REFERENCES**

6. Ciobanu, A.M. Will Romania Ready for Euro Adoption by January, the 1st 2019?, 15th EBES Conference, 8-10.01.2015, Lisbon, Portugal;
THE EVOLUTION OF INSOLVENCIES IN CENTRAL AND EAST EUROPE

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Abstract: Vera Jurova during the „Insolvency Law in Europe – Giving people and businesses a second chance” Conference held in Jurmala – Letonia (23rd of April 2015), declared that following the financial crisis, the number of bankruptcy / insolvency broke out in all State Members. Although, at the moment, the trend is to stabilize, their number is much higher than before the crisis. This states, than within the European Union, half of the new created companies do not survive the first 5 years of activity and daily, 600 companies go bankrupt, which indicates that the number of annual bankruptcies rises to 200.000 companies. These figures must not be seen regionally at the European Union’s level as, because of the interconnections of the single market, the companies operate across borders (a quarter of them as stated by Vera Jurova) and the difficulties of one are chained transmitted towards the commercial partner companies.

JEL classification: M16, M41, M42

Key words: duration of insolvency; development of insolvency; companies in difficulty; the impact of insolvency legislation, bankruptcy; insolvency.

1. INTRODUCTION

The financial crisis and the difficulty situations, regardless if they are at a macroeconomic or microeconomic level, can take by surprise a company’s management due to the mix of factors that determine them. As mentioned in the previous chapter, the difficulty/insolvency/bankruptcy situations represented a research subject that has been approached from different dimensions. If for researchers, it represents an area of interest, for the involved parts, regardless if in quality of debtor or creditor, it represents a reality that many times leaves trauma. However, many times the debtor wins more after an insolvency or bankruptcy procedure. In this regard, Grandet used to say: “The bankruptcy is a theft that the law, unfortunately, takes under its protection”.

The causes that lead to an insolvency or bankruptcy situation for a company can be resumed to:
2. OBJECTIVES

Time is needed for a company to affirm itself in the market, to respect its commitments to the end, so that the partners gain trust in the management’s abilities and reliability. Together with these earned attributes, in difficulties situations for the company, its partners are indulgent and do not require the entering in insolvency/bankruptcy at the first signs, waiting for its activity to recover. Therefore the delimitations of the notions of insolvency – bankruptcy – company in difficulty in time and space gain a significant importance both toward the company in question and its partners, so that a clearer image of the company’s situation will limit future losses.

3. METHODOLOGY

During the „Insolvency Law in Europe – Giving people and businesses a second chance” Conference held at Jurmala – Letonia (23ril of Apr 2015) the direction was drawn, to be followed by the legislation regarding insolvency and bankruptcy so that it will not be pursued the liquidation and debt satisfaction of a company, but the restructuring of the activity so that a new chance can be given, based on the more dynamic model applied in the USA. Another aspect of the new regulations regarding the bankruptcy and insolvency must aim the reduction of time in which a company stays in insolvency and harmonizing the national legislations to meet the needs of the economic realities from the perspective of cross-border companies.

4. ANALYSES

According to the data provided by the World Bank, the average duration of the insolvency process is according to the following table:
### Table no. 1: The average duration of the insolvency process

According to these data, it can be seen that developed economies register a smaller duration of the insolvency process than the developing economies. Another aspect that arises from this information is represented by the Nordic countries that represent a model for the assured standard of living, registering insolvency duration of 0.9 years in Norway and Finland, 1.1 years for Denmark and 2 years for Sweden. These countries are ran by political regimes of socialist doctrine that put the citizen above anything else thus elaborate methodologies and procedures to meet the business environment to perform the activity in an easier way.

The difficult macroeconomic conditions together with managing the sovereign crisis of some states affected the entire European economy. In this regard, it can be seen an interest expressed by some states in order to manage the regulations regarding

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*Source: World Bank*
the insolvency so that this process takes place faster in order to unblock both the company in difficulty and its creditors. The average duration of the insolvency process registered in 2009 and 2014 can be observed in the following graphic:

![Graphic: The average duration of the insolvency process in 2009 and 2014]

Source: World Bank

**Graphic no. 2: The average duration of the insolvency process in 2009 and 2014**

According to the previous graphic, the “champion” of the improvement of the insolvency process can be seen, The Czech Republic, that has reduced the average duration from 6.5 years to 2.1 years through a program that targeted changing the country’s development paradigm. The development directions targeted both the increase of exports in order to create jobs and the increase of the internal consumption and the simplification of bureaucracy and commercial relations in order to solve the demographic problem. The Latvian economy registered advances of 10% in 2006 and 2007, but was severely affected by the economic and financial crisis from 2008, thus in 2009 the unemployment rate increased from 8% to 18.2 % and the GDP per capita decreased from 14.858 EUR to 11.479 EUR. Following these results, Latvia reoriented its economy, from its commercial relations with the Russian Federation to those with the European Union and it simplified the business environment procedures necessary for this repositioning. The average duration of the insolvency process decreased in 2014 to 50% compared to the value registered in 2009 (3 years in 2009, respectively 1.5 years in 2014).

In the case of Greece and Lithuania, increases of the duration of the insolvency process have been registered, with 75% respectively 50% due mainly to the sovereign debts crisis, of difficulties in rearranging the national economies through legislative measures that have as aim the business environment. Another important factor in these
countries case is represented by dependency of the national economies toward the Russian Federation.

The difficult situations generated by the economic crisis, the collapse of the internal consumption and the decrease of all economic indicators that represent the production (investment) opposed to the growth of non-performing loans and unemployment rate lead to the orientation of the developing countries’ governments toward attracting as many foreign investments as possible. In the following graphic it is presented the evolution of the average duration of the insolvency process in the period 2009-2014 for the main countries of origin of investors (Germany, France, The Netherlands) in the economies of three developing countries (The Czech Republic, Romania, Hungary).

![Graph](image)

*Source: World Bank*

**Graphic no. 2: The evolution of the average duration of the insolvency process in 2009-2014**

Given that the duration of the insolvency process can represent the faithful reflection of the business environment, meaning that a small duration of this process characterizes a growing and dynamic economy and a longer duration of this process characterizes a weakened static economy, characterized by bureaucracy. According to the previous table and graphics, it can be observed that the origin countries of the investments are characterized by small values (The Netherlands 1.1 years, Germany 1.2 years, France 1.9 years), while Hungary and Romania register constant values of 2 years respectively 3.3 years. The Czech Republic has improved its business climate during this period and the duration of the insolvency process decreased from 6.5 years (in 2009) to 2.1 years (in 2013, respectively 2014). Regarding the foreign investments (cumulated), Romania has reached the third phase of the Brada-Tomsik model, with a direct foreign investment stock (DFI) per capita in value of 3000 EUR, while Hungary...
or the Czech Republic have a stock of over 8000 EUR DFI per capita, that drove them to have average incomes of 700-800 EUR compared to 400 EUR in Romania\(^1\).

The companies in the Central and East region of Europe, especially the ones from the ex-communist bloc have confronted in the last years with different disturbing factors in the economic development. At the first stage of the development they faced the economic and financial crisis, that lead to stopping the economic growth and collapse of the financial situations, and starting with the year 2014, the Russian Federation embargo, another important commercial partner, 25 years after the collapse of communism. Given that crediting hasn’t been relaunched yet and the investments are more and more reduced, the commercial companies are increasingly affected by the situation and necessitate recovery / reorganization measures.

Grzegorz Sielewicz in „Panorama insolvencies in central and eastern Europe” (May 2015), presents for the Central and Eastern European countries the following situation regarding the registered insolvencies:

<table>
<thead>
<tr>
<th>Insolvencies</th>
<th>Dynamics</th>
<th>Bankruptcies</th>
<th>Active companies</th>
<th>Insolvency rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulgaria</td>
<td>644</td>
<td>834</td>
<td>-22.8%</td>
<td>n.a.</td>
</tr>
<tr>
<td>Croatia</td>
<td>2764</td>
<td>3227</td>
<td>-14.3%</td>
<td>719</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>12772</td>
<td>11070</td>
<td>15.4%</td>
<td>9,05</td>
</tr>
<tr>
<td>Estonia</td>
<td>523</td>
<td>514</td>
<td>1.8%</td>
<td>n.a.</td>
</tr>
<tr>
<td>Hungary</td>
<td>17461</td>
<td>13489</td>
<td>29.4%</td>
<td>17,377</td>
</tr>
<tr>
<td>Latvia</td>
<td>853</td>
<td>818</td>
<td>4.3%</td>
<td>n.a.</td>
</tr>
<tr>
<td>Lithuania</td>
<td>1636</td>
<td>1,552</td>
<td>5.4%</td>
<td>n.a.</td>
</tr>
<tr>
<td>Poland</td>
<td>823</td>
<td>883</td>
<td>-6.8%</td>
<td>701</td>
</tr>
<tr>
<td>Romania</td>
<td>20120</td>
<td>27924</td>
<td>-27.9%</td>
<td>n.a.</td>
</tr>
<tr>
<td>Serbia</td>
<td>4773</td>
<td>8498</td>
<td>-43.8%</td>
<td>1,831</td>
</tr>
<tr>
<td>Slovakia</td>
<td>522</td>
<td>507</td>
<td>3.0%</td>
<td>407</td>
</tr>
<tr>
<td>Slovenia</td>
<td>1446</td>
<td>999</td>
<td>44.7%</td>
<td>1,302</td>
</tr>
<tr>
<td>Ukraine</td>
<td>1081</td>
<td>1029</td>
<td>5.1%</td>
<td>1,063</td>
</tr>
</tbody>
</table>

Source: „Panorama insolvencies in central and eastern Europe” - Grzegorz Sielewicz

Table no 3. : The dynamic of insolvencies/bankruptcies 2013-2014

The trend of the presented countries is to decrease, the value registered in 2014 being with 6.27% smaller than the one in 2013. The best results were obtained by Serbia (-43.8%), Romania (-27.9%) and Bulgaria (-22.8%). The decrease of the insolvencies number in Serbia is in contrast with the evolution of the national economy that has contracted in 2014. The increase of the insolvencies was registered in the

Czech Republic (15.4%), Hungary (29.4%) and Slovenia (44.7%). A worrying situation is encountered in Romania and Serbia because 4.54% respectively 4.13% of the active companies became insolvent in 2014. The percentage of the companies that became insolvent in 2014 from the total of active companies (for the sample presented in the table) is of 0.85%.

The Ukrainian economy was in 2014 under the sign of a civil war and internal turmoil and registered a descendent trend of 6% and for 2015 the prognosis are not encouraging. The Ukrainian exports were close related to commercial relations with the Russian Federation, and the tensions that led to breaking the relations offered an important shock to the economy. The main industrial area of the country, Donbas, entered under the separatists’ control which led to the collapse of the economic activity and repercussions that will take place also in the following years by the increase of the number of companies in difficulty.

The Slovenian economy returned to an increasing trend after 2 years of decrease. The increase can be due to the fact the State prepares the privatization of the most important State companies with the purpose to reduce the sovereign public debt. The nonrefundable grants had an important role in the economic growth that took place later due to the lack of bank financing between 2008 and 2012. The motor industry sector began to develop, momentarily being in an early period.

The national economy of the Czech Republic is strongly connected to the powerful economies of Europe, respectively Germany, Austria and France. This can be observed from the direct foreign investments. The government of the Czech Republic made legislative progresses with the purpose to improve the business climate, fact that can be observed also in the average duration of the insolvency process according to the Graphic. The increase of the insolvency number is due to the cease of commercial relations with the Russian Federation and the reorganization possibility due to an improved legislation of this process which focuses on the “second chance” principle. The number of active companies registered in the Czech Republic is of 1.470.929 and represents 140 companies to 1000 inhabitants, the highest average of the analyzed sample.

The number of insolvencies remained relatively constant in Poland’s case that enjoys a very large number of commercial companies. The year 2014 in Poland’s case was marked by tensioned commercial relations with Germany that did not register the desired economic growth and the loss of the commodity market of the Russian Federation due to the embargo. These reasons cumulated with an agricultural production above expectation led to the appearance of deflation and difficulty situations in the economy. However, the minimum variation of companies that became insolvent in 2014 demonstrates the management’s ability to adapt to the economic realities.

The Slovakian economy is directly dependent of the motor industry sector. In 2014, in Slovakia almost 1 million auto units were produced, which represents a production record so far. The production is destined to the export, being known the fact that Slovakia is a country that doesn’t have yet a purchasing power comparable to the one in the developed countries.

The Bulgarian economy, from the entering in insolvency point of view, registered a favorable evolution by decreasing the number of companies that became insolvent from 834 in 2013 to 644 in 2014. This is due to the depreciation of the leva
that led to the increase in export products to be more competitive and the increase of internal consumption. The main problems of the Bulgarian economy are represented by the unemployment rate that is situated over the value of 10% and the minimum wage level, factors that can become growth vectors by improving the internal consumption. As infrastructure investments drop and launching projects financed in the new period 2014-2020 is delayed, a number of companies from the construction domain were in difficulty generated by the lack of orders. The impairment of companies from the construction sector is important not necessarily through the number, but the volume of debts that were registered in the list of creditors, that can lead to horizontal difficulty situations.

The Hungarian economy in 2014 has been characterized by election measures due to the elections that were organized. These measures had as effect an increase in the economy of 3,6% due to both climate improvement measures and internal consumption. For the increase of the internal consumption, that was registered in 2014 and will continue to manifest in 2015 also, the Hungarian government converted the loans from Swiss francs so that the population will not feel the devaluation of the forint. Hungary enjoys an absorption rate of European funds of almost 80% at the end of 2014 that should represent a favorable business climate. However, compared to 2013, the number of companies that became insolvent grew with 29.4% and represents almost 3% of all registered companies and can be based on simplified procedures of judiciary reorganization so that they can be prepared for the new investment programs that are foreseen and for reorienting the activity based on the tensioned relation between the European Union and the Russian Federation.

The Croat economy registers secession from 2008 with premises for growth in 2015. The main problem is represented by the unemployment rate that rises to values between 15% and 20%, a value twice as big as the European average. The national legislation has been modified so that there is the possibility of making some deals for paying the debts without the society to become technically insolvent or to enter in bankruptcy without a prior insolvency procedure. The decrease of the insolvency number is due to a higher value in 2013.

The year 2014 was market by the civil war in Ukraine and the relations between the European Union and the Russian Federation. In this regard, the national economies strongly connected to the one in the Russian Federation severely sensed the imposed embargo and from the desire to commercialize the products (especially the food), the prices decreased. These price cuts and reductions in commercial margin led to a low inflation rate and in some economies even deflation. The commercial difficulties cumulated with the hard access to financing and the lack of development perspectives led to the appearance of new difficulty situations which materialized in insolencies in 2014 or 2015. The governments from the presented sample applied improvement policies of the internal consumption in order to stabilize the national economy even if there was a lack of necessary funds to make strategic investments with the purpose to relaunch the economy. Another factor of the difficulties in the economy is represented by the delay in approving the operational programs by the European Committee, so that the National Governments have at disposal financial allocations for implementing projects from non-refundable grants.
From the point of view of the 10 most powerful commercial companies that became insolvent in the first 6 months of the year 2015 compared to the similar period in 2014, the situation is as follows:

<table>
<thead>
<tr>
<th>Company</th>
<th>CA</th>
<th>Company</th>
<th>CA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Planoil</td>
<td>138</td>
<td>Succes Nic Com</td>
<td>334</td>
</tr>
<tr>
<td>2 Vegetal Trading</td>
<td>114</td>
<td>Bio Fuel Energy</td>
<td>252</td>
</tr>
<tr>
<td>3 Marex</td>
<td>107</td>
<td>Global Aqua Invest</td>
<td>184</td>
</tr>
<tr>
<td>4 Pro Meat Fresh</td>
<td>56</td>
<td>Abatorul Avicola Crevedia</td>
<td>134</td>
</tr>
<tr>
<td>5 Avicola Crevedia</td>
<td>53</td>
<td>Trenkwalder</td>
<td>116</td>
</tr>
<tr>
<td>6 Synergy Invest</td>
<td>45</td>
<td>Simpe</td>
<td>90</td>
</tr>
<tr>
<td>7 Electrocentrale Galați</td>
<td>42</td>
<td>Integra</td>
<td>90</td>
</tr>
<tr>
<td>8 Carpat Air</td>
<td>33</td>
<td>Comstar Haulica</td>
<td>83</td>
</tr>
<tr>
<td>9 Selina Bihor</td>
<td>32</td>
<td>Distrigrup</td>
<td>80</td>
</tr>
<tr>
<td>10 Agroli Group</td>
<td>30</td>
<td>Scorseze Security</td>
<td>78</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>650</strong></td>
<td><strong>Total</strong></td>
<td><strong>1441</strong></td>
</tr>
</tbody>
</table>

Source: Trade Register, Ministry of Finance, National Agency for Fiscal Administration (the turnover is calculated for the last fiscal data submitted)

**Table no. 4: The top companies that began insolvency in the first 6 months from 2014/2015.**

5. **Conclusions**

In the following period, the evolution of companies that request and begin insolvency in Romania, as well as the average duration of the insolvency process will suffer important modifications due to the following juridical aspects:

- Law no. 85/2014 that repeals the Law 85/2006 brings the following important modifications:
  - The minimum amount of the claim decreased from 45.000 lei to 40.000 de lei and for employees to 6 average gross wages per economy / employee; By decreasing the minimum By lowering the minimum claim threshold through which the insolvency can be requested, theoretically it can led to the increase of the number of companies that become insolvent, but in practice, such modification will not directly influence the evolution of insolvencies;
  - In order for the insolvency procedure to be open, the claim must be certain, liquid and demandable for over 60 days, compared to 90 days as foreseen previously; By modifying the non-payment duration of the debt, the evolution of insolvencies will not be directly and considerably influenced, but will only contribute to modernize and normalize the commercial relations between partners;
  - Increasing with 2 months the observation period referring to the list that includes the payments and patrimonial transfers performed by the debtor, will lead
to the delay of entering insolvency because a characteristic of 90% of the companies that became insolvent is the fact they are looted, the administrators putting the patrimony on other companies’ names or close persons;

- The possibility that commercial companies that are insolvent be able to participate to public acquisitions procedures will lead to declaration of insolvency by entities that hardly managed to avoid such situations due to their activities dependency of contracts with the State and thus increasing the number of companies is insolvency;

- The possibility that an insolvent company benefit by financing represents a facility that will influence the number of companies that will become insolvent by its increase;

Most probably the most important modification is represented by the Romanian Constitutional Court’s Decision no. 363/2015, published in the Official Gazette no. 495/2015 through which the art. 6 from the Law no.241/2005 was declared unconstitutional because it does not meet the clarity, predictability and accessibility conditions. The form of this article was as follows: “It is considered an offense and it is punishable by imprisonment from one year to three years or with a fine the retention and non-submitting intentionally, in maximum 30 days from the due date, of sums representing taxes or contribution with withholding at source”. The insolvency institution was used by some administrators in order to escape the penal liability for non-payment of debts toward the State budget afferent to withhold at source. Given that this article was declared unconstitutional, the administrators’ interests will not be to follow an insolvency procedure that will extend on a period of time as long as possible, followed by a bankruptcy procedure so that this offense becomes prescribed. Under these circumstances, the number of companies that will directly become bankrupt will increase, the duration of the insolvency process will increase and the economic environment will be more dynamic and open.

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9. * * * National Office of Trade Register database, Ministry of Finance, NAFA, World Bank
Proactive and reactive foreign market oriented international ventures: A comparative analysis on performance

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Abstract: Developing and managing strategic orientations within the international business framework is a provocative task with the potential to considerably affect business success. The research aims to assess in the case of Romanian SMEs, how the magnitude of environmental dynamism moderates the optimal type and degree of foreign market orientation and its influence on firm level international performance. Findings sustain the necessary differentiation of allocated resources for reactive foreign market orientation generally and in stable business environments, respectively for proactive foreign market orientation in changing dynamic national contexts, from international outcomes perspective.

JEL classification: M16, M31

Key words: proactive foreign market orientation; reactive/ responsive foreign market orientation; international performance; environmental dynamism; comparative analysis; international SME.

1. Introduction

As strategic orientation and business philosophy, the general market orientation and its particular form of foreign market orientation, presents priority interest, being perceived as the mostly investigated field, due to its potential influences on firm level performance (Cano et al., 2004; Cadogan, 2012).

Langerak (2003), Tuominen et al. (2004), Shoham et al (2005), Cadogan et al (2009), Kumar et al. (2011) proved discrepancies in the perceived universalistic positive explanatory power of the general or export market orientation. Consequently, Murray et al. (2007) called for including further variables in research models regarding the market orientation-performance relation within the international business context.

As a combination of the Narver et al. (2004) and Cadogan et al. (2009) research models and aims, the goal of the present research consists in studying the utility of firm level resources on international performance contingent on external environments, specifying as antecedents the dual facet of reactive and proactive foreign market orientation, along with firm size and international experience. As objectives associated to the study includes: (i) the empirical examination of the relationship between reactive/proactive foreign market orientation and international performance in the case of Romanian SMEs; (ii) appraisal of the incidence and suitability of reactive and proactive foreign market orientation in different categories of environmental dynamism.
The research paper is organised as follows: (i) the introduction section argue the research theme and objectives; (ii) the theoretical background of general and foreign market orientation creates the foundation for the conceptual model and hypotheses development; (iii) the methodological component comprise construct measurement, data collection and analysis preferences; (iv) the forth part refers to data analysis and discussion; (v) the final section of the paper identifies conclusions, managerial implications, limits and further research directions.

2. THEORETICAL BACKGROUND

Market orientation is an umbrella term for firm level resource allocation and coordination activities and patterns (Cadogan, 2012) about market and marketing specific behaviors. Market orientation and its specific form, foreign market orientation, are considered as a VRIN intangible resource (Cadogan et al., 2009) enhancing the competitive position of businesses.

Concerning potential market specific behaviors, firms can learn, understand, respond and react, or even influence and change preferences and behaviors of different type of market players. Narver et al. (2004) identified a dichotomy of market-oriented firm behavior facets: (i) reactive or responsive market orientation, specific to firms that seek to discover, know, understand and meet the expressed needs of customers; comparatively to (ii) proactive market orientation, being specific to firms addressing the latent needs of customers and markets. In a similar ideology, Jaworski et al. (2000) proposed the necessity to divide between market-driven and market-driving posture, considering reacting or influencing the structure of the market or the behavior of any type of stakeholder or agents, not just customers.

Regarding the dualist strategy, Narver et al. (2004) criticize low levels, adaptive or reactive market orientation allowing market-driven passive attitudes and solutions on expressed needs. Creating intelligence and sharing information with proper personnel in a timely manner about conscious and aware customer needs. In order to maintain competitive position, firms must look beyond the expressed needs of customers by paying attention proactively to their latent needs too, in order to shape the structure and composition of the market, the role and behavior of market players, in a constructionist, deconstructionist or functional modification manner (Jaworski et al., 2000). The discovery of latent solutions may be possible by analyzing the problems of existing products and guarantees provided, customer complaints, by working with experienced users, in a such way firms can acquire and obtain information on possible future opportunities, guiding customer behavior and consumption patterns.

For entering foreign markets more effectively, firms have at disposal different strategies: entering sequentially, geographically or psychologically appropriate few markets are easily monitored (Johanson and Vahlne, 1977) with regard of customers’ expressed needs and preferences (Cadogan et al., 2009); while entering in parallel numerous distant new markets make learning more complex, customer inclinations and choices less understood (McDougall and Oviatt, 1996), adaptation strategies insufficient an inadequate, proactive solutions being desirable.

Although several studies confirm the firm level benefits of the general (Pelham and Wilson, 1996; Narver et al., 2004) and international strategic orientations (Cadogan et al., 2001), some studies presented inconsistencies (Langerak et al., 2003; Murray et
al., 2007; Cadogan et al., 2009; Kumar et al., 2011) about the sign, significance and magnitude of market orientation’s impact on shaping the performance within the local or international marketplace.

Considering the above presented logic, the proposed conceptual model includes as critical components: the firm size and international experience (Foltean and Feder, 2014) due to differentiated resource endowments; the differentiated levels and types of reactive and proactive market orientation (Narver et al., 2004) reconsidered for foreign markets (Cadogan, 2012); environmental dynamism (Cadogan et al., 2009) as indispensable contextual factors and necessary conditions of target foreign markets.

### Figure no. 1 Conceptual model and research hypotheses

Numerous studies examined the linear relationship between market orientation and performance within the national (Narver et al., 2004; Shoham et al., 2005; Kumar et al., 2011) and export (Murray et al., 2007; Cadogan et al., 1999; 2009) and combined (Tuominen et al., 2004) frameworks. As a general conclusion of empirical and meta-analysis studies too (Cano et al., 2004; Gonzales-Benzito and Gonzales-Benito, 2005; Shoham et al., 2005), market orientation degree explains the firm’s propensity to value and wealth creation, as manifestations of firm level performance. Furthermore, as stated by Narver et al. (2004), firms generally consider the reactive facet of the market orientation construct, therefore the manifestation of general and international performance are dependent on the degree of adopted market orientation, as stated in the first hypothesis:

H1: Reactive foreign market orientation directly, positively and significantly influences international firm performance.

Narver et al. (2004) empirically proved the explanatory power superiority of proactive market orientation comparative to reactive market orientation for new-product success. Therefore, in order to fully explore the resource-performance paradigm, the research must differentiate between the effects of the two facets of market orientation.

While reactive market orientation indicates the acceptance of extant solutions, behaviors and performance, proactive market orientation alters the present way of doing business (Tuominen et al., 2004) in the hope of higher performance. Within the international context, proactiveness is a highly important dimension of business
attitudes and determinant of increased linear and non-linear performance (Feder, 2014).

Consequently, it can be hypothesized that:

H2: Proactive foreign market orientation directly, positively and significantly influences international firm performance.

Embracing the contingency theory, the research acknowledges the importance of the context in which firms conduct their international transactions and operations. For this reason, foreign market orientation can be differently needed in order to optimize its pay-off within different type of business environments (Cadogan, 2012).

General or foreign market orientation is not a universal solution; its utility is contingent on the envisaged external environment (Cadogan et al., 2009): (i) in stable benign environments minor adjustments of offers are required for expressed, conscious and predictable foreign customer needs; while (ii) in dynamic environments greater changes might not be enough, becoming critical the completion of foreign market orientation with entrepreneurial orientation (Boso et al., 2012), or at least with the proactive dimension (Feder, 2014) creating the proactive foreign market orientation facet. Therefore, the conjuncture of the main foreign markets should take in consideration, at least in the form of perceived level of environment dynamism:

H3: Environmental dynamism moderates the positive and significant influence of reactive foreign market orientation on international firm performance. Thus, the direct and linear relationships are more pronounced under environmental stability.

H4: Environmental dynamism moderates the positive and significant influence of proactive foreign market orientation on international firm performance. Thus, the direct and linear relationships are more pronounced under environmental dynamism.

3. Research Method

Considering the above hypotheses, the methodological aspects of the study specify and argue operationalization, data collection and statistical processing options.

3.1 Measurement Model Operationalization

The measurement model was operationalized and the research tool was built based on acknowledged continuous latent higher-order constructs from the international literature, all included in the logic of the research model.

As independent variables, foreign market orientation (FMO) was based on Cadogan et al. (2001), proactiveness (PRO) as dimension of international entrepreneurial orientation (IEO) re-evaluated by Covin and Miller (2014) from Covin and Slevin (1989). In order to create the Narver et al. (2004) reactive and proactive market oriented behaviors but within the international business framework, the sample was distributed in 2 groups based on their proactiveness level and market orientation level. After distribution, 83 firms were found as being more reactive to business environment changes, while 57 firms were characterized by adopting proactive actions.

In the case of business environment dynamics (ENV_DYN) the moderating variable was measured as presented by Miller and Friesen (1982), slightly modified in order to represent the change characteristics of the business environment specific to main foreign markets. Therefore, from the combination of reactive and proactive foreign market orientation implemented in stable and dynamic business environments, 4 groups of firm were created: cluster 1 is made up of 33 cases from firm having reactive
foreign market orientation in stable business environment, cluster 2 consists of 50 cases from firms adopt a reactive foreign market orientation in dynamic business environment; cluster 3 includes 26 cases of firms opting for proactive foreign market orientation in stable business environment; cluster 4 comprises 31 cases of firms implementing proactive foreign market orientation in dynamic business environment.

Similar to Foltean and Feder (2014), firm size (SIZE) and international experience (EXP) as additional control influencing variables were included, considering them proxies for resource endowment, availability and commitment for international operations and expansion.

An aggregated outcome variable measure of the international subjective performance (INTL_PERF) was computed, including respondents perception on financial (foreign sales, international profit) and marketing (foreign market share and international image of the firm) components. Shoham et al. (2005) proved the strongest influence of market orientation on subjective performance measures.

Each and every construct included in the research model has been placed in the international business framework, internationalized variables and measures were considered as indicated by Cadogan (2012). Besides firm size and international experience, all of them were measured and further transformed as average scores of multiple items measured on 5 point Likert scales (from 1=strongly disagree to 5=strongly agree).

3.2 Data Collection and Analysis Procedure

For the quantitative empirical study, data has been collected from Romanian SMEs involved in foreign commercial transactions. Primary data has been gathered through online self-administrated questionnaires sent out to firms included in a database consisting of records from multiple databases: Romanian Centre for Trade and Investment, Kompass and Amadeus business directory. Purposeful and biased sampling was eliminated via probabilistic random sampling technique and multiple industry coverage of the selected firms.

From the 1700 on-line questionnaires, 140 were returned with useful full completion, determining effective response rate of 8.235%, considered comparable to similar studies (Cadogan et al., 2009; Foltean and Feder, 2014) and adequate in the Romanian business context lacking academic-private research collaboration practices.

Data analysis, conducted in SPSS 21 statistical software, involved three sequential stages: (i) primary analysis, including distribution assessment with descriptive statistics (mean, standard deviation, variance, skewness and kurtosis), scale reliability based on α Cronbach, composite reliability (CR) and average variance extracted (AVE); (ii) confirmatory factor analysis, including convergent validity analysis with factorial loadings with Kaiser criteria, Eigenvalue>1, principal component analysis and varimax rotation; respectively discriminant validity analysis via Pearson correlations; (iii) multiple linear regressions to determine regression coefficients (β) and significance (p), completed by multiple moderated regressions to determine cluster specificities via one-way ANOVA technique, Welch and Brown-Forsythe robustness tests and Turkey HSD post-hoc assessment.

4. DATA ANALYSES RESULTS
Collected primary data handling includes sample characteristics delimitation, followed by scale reliability and validity assessment, finalized with linear and moderated research hypotheses testing of the next relationships:

\[ \text{INTL\_PERF} = f\{\text{reFMO, proFMO, SIZE, EXP, ENV\_DYN}\} \]

### 4.1 Sample Features

Sample heterogeneity is guaranteed on double plains, both from firm size, turnover and industry representation perspective. Considering the number of employees, as main determinant of firm size, the 140 respondents from the sample are structured as 23.57% micro-enterprises (0-9 employees), 37.68% small firms (10-49 employees) and 38.56% medium-sized businesses (50-250 employees).

Almost half of the firms included in the sample (49.29%) had turnover less than €500,000. Firms with a turnover in the range of €500,001 to €2 million represent 27.86%, while between €2 million and €10 million are included 17.86% of the firms. Firms with turnover exceeding €10 million represent 5% of the total sample.

The analyzed final sample includes firms from a great variety of sectors: agriculture (6.43%); mineral, metal and glassware (9.29%); apparel and footwear (15.71%); wood and paper (16.43%); chemicals and plastics (10.71%); optical instruments (4.29%); vehicles, machinery and electronics (25%); IT and telecom (4.29%) and professional services (7.86%). Therefore, the primary sector represents 10.71%, manufacturing firms symbolize 77.15% and the service sector stand for 12.14% of the sample.

### 4.2 Measure Scale Analysis

Applying the 3-stage data analysis algorithm, imposed first and foremost the assessment of normality distribution, followed by psychometric assessment of the measurement model, finalized with the assessment of hypothesized structural relations.

![Table no. 1 Descriptive statistics](image)

In conformity with Table 1, independent (FMO, PRO), moderator (ENV\_DYN) and dependent (INTL\_PERF) variables are above the average value of 3.00, PRO and ENV\_DYN having the lowest values (3.0357 and 3.1386), indicating heterogeneous sample regarding the importance shown to reactive and proactive market information processing practices, activities and behaviors. Furthermore, international performance variables have the largest standard deviation (0.9906) assuring sample heterogeneity in respect of firm success on foreign markets. The two control variables indicate a diverse sample as size and experience with foreign transactions, the class of small and medium sized being slightly overrepresented (76.4%), as well as are firms with less than 12 years of international experience (57.9%).

Regarding distribution assessment of constructs included in the conceptual model, skewness analysis was slightly positive for FMO and PRO constructs, while negative for the rest (ENV\_DYN, INTL\_PERF), although limited to the -0.57 and
+0.33 interval, responses being symmetrically distributed around the mean. Complementary, kurtosis analysis results show values between -0.45 and +0.74, positive for the majority of variables, exception for control variables, creating mesokurtic distributions.

For measurement scale assessment, reliability, confirmatory factorial analysis and validity analysis were performed (Hair et al., 2010). All three indices indicate high internal consistency: α Cronbach, ranging from 0.628 to 0.884 above the threshold value of 0.6 (Nunnally and Bernstein, 1994), composite reliability (CR) ranging from 0.894 to 0.967, average variance extracted (AVE) ranging from 0.743 to 0.862, above the cutting value of 0.5 (Hair et al., 2010).

**Table no. 2 Scale reliability, factor and validity analysis**

<table>
<thead>
<tr>
<th>Analysis type</th>
<th>FMO</th>
<th>PRO</th>
<th>INTL_PERF</th>
<th>ENV_DYN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scale reliability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>α-Cronbach</td>
<td>0.785</td>
<td>0.682</td>
<td>0.884</td>
<td>0.628</td>
</tr>
<tr>
<td>CR</td>
<td>0.967</td>
<td>0.894</td>
<td>0.956</td>
<td>0.915</td>
</tr>
<tr>
<td>AVE</td>
<td>0.753</td>
<td>0.782</td>
<td>0.862</td>
<td>0.743</td>
</tr>
<tr>
<td>Scale validity – factor analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FL-item 1</td>
<td>0.744</td>
<td>0.804</td>
<td>0.872</td>
<td>0.762</td>
</tr>
<tr>
<td>FL-item 2</td>
<td>0.771</td>
<td>0.747</td>
<td>0.854</td>
<td>0.781</td>
</tr>
<tr>
<td>FL-item 3</td>
<td>x</td>
<td>0.795</td>
<td>0.866</td>
<td>0.825</td>
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<tr>
<td>FL-item 4</td>
<td>0.681</td>
<td>-</td>
<td>0.855</td>
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</tr>
<tr>
<td>FL-item 5</td>
<td>0.871</td>
<td>-</td>
<td>-</td>
<td>0.583</td>
</tr>
<tr>
<td>FL-item 6</td>
<td>0.752</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>FL-item 7</td>
<td>x</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>FL-item 8</td>
<td>0.707</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>FL-item 9</td>
<td>0.598</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>FL-item 10</td>
<td>0.769</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>FL-item 11</td>
<td>0.900</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>FL-item 12</td>
<td>0.759</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>FL-item 13</td>
<td>0.715</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>FL-item 14</td>
<td>0.753</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>FL-item 15</td>
<td>0.764</td>
<td>-</td>
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</tr>
<tr>
<td>Scale validity – item-construct Pearson correlations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PC-item 1</td>
<td>0.631**</td>
<td>0.809**</td>
<td>0.931**</td>
<td>0.626**</td>
</tr>
<tr>
<td>PC-item 2</td>
<td>0.498**</td>
<td>0.759**</td>
<td>0.924**</td>
<td>0.716**</td>
</tr>
<tr>
<td>PC-item 3</td>
<td>x</td>
<td>0.778**</td>
<td>0.931**</td>
<td>0.488**</td>
</tr>
<tr>
<td>PC-item 4</td>
<td>0.702**</td>
<td>-</td>
<td>0.920**</td>
<td>0.559**</td>
</tr>
<tr>
<td>PC-item 5</td>
<td>0.663**</td>
<td>-</td>
<td>-</td>
<td>0.730**</td>
</tr>
<tr>
<td>PC-item 6</td>
<td>0.258**</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>PC-item 7</td>
<td>x</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Confirmatory factor analysis for foreign market orientation construct highlighted for item 3 (We regularly analyze the possible effects of business environment changes in foreign markets) and item 7 (A significant quantity of important information about competitors do not reach decision makers) factor loadings slightly lower than 0.5 (FLFMO3= 0.453; FLFMO7=0.489), imposing their elimination from the construct. For the rest of constructs, all items obtained factor loadings over the threshold value of 0.5 (FL>0.58) therefore no items were removed from constructs proactivity, international firm performance, environmental dynamism.

Two-tailed bivariate Pearson correlations (PC) between items and their construct show significant levels of correlation for all the studied variables, mainly at 0.01 level and for a few cases at 0.05 level, no further item dismiss was necessary for assuring discriminant validity.

<table>
<thead>
<tr>
<th></th>
<th>PC-item 8</th>
<th>PC-item 9</th>
<th>PC-item 10</th>
<th>PC-item 11</th>
<th>PC-item 12</th>
<th>PC-item 13</th>
<th>PC-item 14</th>
<th>PC-item 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC-item 8</td>
<td>0.695**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>PC-item 9</td>
<td>0.407**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>PC-item 10</td>
<td>0.695**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>PC-item 11</td>
<td>0.640**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>PC-item 12</td>
<td>0.539**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>PC-item 13</td>
<td>0.167</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>PC-item 14</td>
<td>0.441**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>PC-item 15</td>
<td>0.452**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Note: Pearson correlations significant at: ** 0.01 or * 0.05 level (2-tailed).

The correlation matrix for main constructs emphasizes statistically significant positive signed but weak correlations between: (i) foreign market orientation and proactiveness (correlation C=0.297, p=0.01); (ii) firm size and international performance (C=0.342, p=0.01); (iii) international experience and firm performance (C=0.245, p=0.01); (iv) between the selected control variables (C=0.283, p=0.01). Regarding the correlation between the general foreign market strategic orientation and international outcomes, an insignificant correlation was established (C=0.104, p=0.170), imposing the differentiated approach of the foreign market orientation.
### 4.3 Research Hypotheses Validation

For hypothesis validation purpose, multiple linear regressions were applied in a comparative manner, followed by one-way ANOVA test to check differences and similarities between the clusters of sampled firms.

**Table no. 4 Regression analysis regarding proactive and reactive market behaviors influence on international performance**

<table>
<thead>
<tr>
<th>Environment type</th>
<th>Hypothesis</th>
<th>Independent variables</th>
<th>Regression coefficient (β)</th>
<th>Significance level (p)</th>
<th>R square (R²)</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universal</td>
<td>H₁</td>
<td>SIZE</td>
<td>0.329</td>
<td>0.031**</td>
<td>0.187</td>
<td>Supported</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EXP</td>
<td>0.030</td>
<td>0.025**</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reactive FMO</td>
<td>0.408</td>
<td>0.030**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Universal</td>
<td>H₂</td>
<td>SIZE</td>
<td>0.380</td>
<td>0.024**</td>
<td>0.144</td>
<td>Not valid</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EXP</td>
<td>0.009</td>
<td>0.672</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Proactive FMO</td>
<td>0.109</td>
<td>0.569</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stabile environment</td>
<td>H₃ₐ (cluster 1)</td>
<td>SIZE</td>
<td>0.089</td>
<td>0.697</td>
<td>0.240</td>
<td>Supported</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EXP</td>
<td>0.047</td>
<td>0.154</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reactive FMO</td>
<td>0.777</td>
<td>0.012**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dynamic environment</td>
<td>H₃₉ (cluster 2)</td>
<td>SIZE</td>
<td>0.532</td>
<td>0.019**</td>
<td>0.202</td>
<td>Not valid</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EXP</td>
<td>0.024</td>
<td>0.118</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reactive FMO</td>
<td>-0.174</td>
<td>0.478</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stabile environment</td>
<td>H₄ₐ (cluster 3)</td>
<td>SIZE</td>
<td>0.344</td>
<td>0.204</td>
<td>0.107</td>
<td>Not valid</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EXP</td>
<td>0.001</td>
<td>0.991</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Proactive FMO</td>
<td>-0.176</td>
<td>0.472</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dynamic environment</td>
<td>H₄₆ (cluster 4)</td>
<td>SIZE</td>
<td>0.368</td>
<td>0.099*</td>
<td>0.335</td>
<td>Supported</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EXP</td>
<td>0.021</td>
<td>0.426</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Proactive FMO</td>
<td>0.809</td>
<td>0.041**</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: significance levels of *** p < 0.01, ** p < 0.05, *p < 0.1*
Data analysis performed via multiple regressions (Table no. 4) indicates some noteworthy relations within the framework of the universalistic approach:

(i) the existence of significant positive relationships between firm size, international experience, reactive foreign market orientation behavior (IVs) and international performance (DV), because $p_{\text{SIZE}}=0.031$, $p_{\text{EXP}}=0.025$, $p_{\text{reFMO}}=0.030$ ($p<0.05$) and $\beta$ has acceptable values ($\beta_{\text{SIZE}}=0.329$, $\beta_{\text{EXP}}=0.030$, $\beta_{\text{reFMO}}=0.408$), thus showing support for hypothesis $H_1$;

(ii) the existence of a significant positive relationship between firm size (IV) and international performance (DV), because $p_{\text{SIZE}}=0.024$ ($p<0.05$) and $\beta$ has a tolerable value ($\beta_{\text{SIZE}}=0.308$), respectively statistically insignificant relations between international experience, proactive foreign market orientation behavior (IVs) and international performance (DV), because $p_{\text{EXP}}=0.672$, $p_{\text{proFMO}}=0.569$ ($p>0.05$), although $\beta$ has acceptable values ($\beta_{\text{EXP}}=0.009$, $\beta_{\text{proFMO}}=0.109$), thus invalidating hypothesis $H_2$.

Implementing the contingency theory within the model, the above relations were reanalyzed within stable and dynamic business environments specific to the key foreign markets of the respondents, proving the following empirical results:

(i) in the case of stable foreign market business environments, insignificant relationships between firm size, international experience (IVs) and international performance (DV) were found, because $p_{\text{SIZE}}=0.697$, $p_{\text{EXP}}=0.154$ ($p>0.05$) even if $\beta$ has acceptable values ($\beta_{\text{SIZE}}=0.089$, $\beta_{\text{EXP}}=0.047$); however acknowledge the existence of a significant positive relationship between reactive foreign market orientation behavior (IV) and international performance (DV), due to $p_{\text{reFMO}}=0.012$ ($p<0.05$) and positive high value of $\beta$ ($\beta_{\text{reFMO}}=0.777$), supporting hypothesis $H_{3a}$;

(ii) in the case of dynamic foreign market business environments, significant positive relationship between firm size (IV) and international performance (DV) were found, because $p_{\text{SIZE}}=0.019$ ($p<0.05$), $\beta$ has an acceptable value ($\beta_{\text{SIZE}}=0.532$); nevertheless recognize the insignificant relationships between international experience, reactive foreign market orientation behavior (IVs) and international performance (DV), due to $p_{\text{EXP}}=0.118$, $p_{\text{reFMO}}=0.478$ ($p>0.05$) and tolerable $\beta$ values ($\beta_{\text{EXP}}=0.024$, $\beta_{\text{reFMO}}=-0.174$), therefore not supporting hypothesis $H_{3b}$;

(iii) in the case of stable foreign market business environments, insignificant relationships between firm size, international experience, proactive foreign market orientation (IVs) and international performance (DV) were found, because $p_{\text{SIZE}}=0.204$, $p_{\text{EXP}}=0.991$, $p_{\text{proFMO}}=0.472$ ($p>0.05$) even if $\beta$ has acceptable values ($\beta_{\text{SIZE}}=0.344$, $\beta_{\text{EXP}}=0.001$, $\beta_{\text{reFMO}}=-0.176$), hence not supporting hypothesis $H_{4a}$;

(iv) in the case of dynamic foreign market business environments, a single insignificant relationship was proved for international experience (IV) and firm performance (DV) because $p_{\text{EXP}}=0.426$ ($p>0.05$) and $\beta$ has a small value ($\beta_{\text{SIZE}}=0.021$); respectively significant positive relationships between firm size, proactive foreign market orientation behavior (IVs) and international performance (DV) were established, because $p_{\text{SIZE}}=0.099$ ($p<0.1$), $p_{\text{proFMO}}=0.041$ ($p<0.05$), $\beta$ has an acceptable value ($\beta_{\text{SIZE}}=0.368$, $\beta_{\text{proFMO}}=0.809$), thus supporting hypothesis $H_{4b}$.

Consequently, significant and high association degree was detected between IVs and DV for $H_1$, $H_{3a}$, $H_{4b}$ valid hypotheses. Thus, within the universalistic approach 18.7% of the international performance variation is owed to the cumulated influence of the firm size, international experience and reactive foreign market orientation behavior ($R^2=0.187$), respectively within stable business environments 24% of the international
performance can be explained as the sole influence reactive foreign market orientation behavior (cluster 1), while in dynamic business environments 33.5% of the international performance is due to the common influence of firm size and proactive foreign market orientation behaviors (cluster 4).

**Table no. 5 ANOVA between group statistics, robustness and post-hoc tests**

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Sum of squares</th>
<th>F test</th>
<th>F sig. level</th>
<th>Welch test</th>
<th>Brown-Forsythe test</th>
<th>Turkey HSD test significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTL_PERF</td>
<td>2.041</td>
<td>1.4885</td>
<td>0.027*</td>
<td>1.223</td>
<td>1.352</td>
<td>1/4: 0.087* 1/2: 0.661 1/3: 0.995</td>
</tr>
</tbody>
</table>

For hypothesis H₃ and H₄ confirmation, regarding the influence of proactivity level in foreign market orientation and dynamism level of business environment (delimited 4 clusters) on the international performance, ANOVA was performed. The test was significant with F=1.4885 and p=0.027, demonstrating the existence of the moderator factor based differences in international firm performance, sustained also by the significant Welch and Brown-Forsythe robustness tests. Partial eta² shows that 2.8193% of the variability in international performance is accounted by respondents’ cluster membership. Turkey HSD post-hoc comparisons to evaluate pair-wise differences were conducted, revealing significant (p=0.008<0.05) differences between reactive market behavior in stable environments (cluster 1) and proactive market behavior in dynamic environments (cluster 4). The mean of international performance for proactive market oriented behavior in stable business environments (cluster 2) and reactive market oriented behavior in dynamic business environments (cluster 3) did not significantly differ from the means of cluster 1 and 4, validating hypothesis H₃a and H₄b.

5. **Conclusions**

Findings of the conducted research suggest differential linear and moderated effects between reactive and proactive foreign market orientation on international performance. Within the universalistic approach, evidently with its inherent limitations, reactive foreign market orientation, firm size and international experience together influence international performance (18.7%), both its financial and marketing components. It is not the case of proactive foreign market orientation; therefore an opposite kind of theory, like the contingency approach, was preferred, findings discovering significant shades of the studied economic reality. On one hand, reactive foreign market orientation manifests significant positive influence on international performance (24%) within stable and benign business environments on foreign markets. On the other hand, proactive market orientation, along with firm size, manifests significant positive influence on international performance (33.5%) within stable and benign business environments on foreign markets. Confirming McDougall and Oviatt (1996), international expansion determines firms to learn adapting to or changing own activities, behaviors and strategies “to be congruent with new environments” (p. 27).
conclusion, different types and forms of foreign market orientation should be leveraged and matched with different levels of market turbulence (Kumar et al., 2011), and in particular foreign market dynamism (Cadogan et al., 2009). The above research results are consistent with the studies of Tuominen et al. (2004), Narver et al. (2004), Cadogan et al. (2009) and Kumar et al. (2011). The present study complementary extends previous findings by: (i) assessing the presence of linearity and moderation in the strategic orientation – firm performance relationship within the international business framework; (ii) applying the contingent approach, via the main characteristics of the business environment specific to foreign markets, environmental dynamism; (iii) empirically testing all the above mentioned relationships in the context of SMEs within the Romanian catching up economy.

For internationalized SMEs or managers intending to imply in foreign transactions, there are some notable implications of the findings. When decision makers do not analyze and differentiate the environmental characteristics of the target or entered foreign markets, reactive foreign market orientation is recommended. Similarly in the case of stable, benign and welcoming foreign business environments, the study suggests developing reactive market orientation specific behaviors servicing current manifested needs with existing products. Conversely, in order to attain performance in dynamic, turbulent and rough foreign business environments, firms must develop proactive market orientation practices by developing new products, services or solution packages addressing to the latent needs of the current and potential clients.

The conducted research has several potential limitations. First, the main limit is represented by the sampling process, especially by the limited sample size (140 internationalized firms), future studies conducted in Romania either should focus on a specific activity domain, either on methods to increase response rates. Second, the study investigated the effect of proactive and reactive foreign market orientation on 4 items of international performance. Future research should investigate the effects on other measures of international efficiency and effectiveness (return-on-investment, return-on-assets, market share, competitiveness). Third, the model included a single strategic orientation, on both reactive and proactive components, thus including the interaction with other strategic orientations (learning, technological and brand orientation) respectively with their dimensions (like innovativeness and risk-taking) could open up novel research directions. Fourth, although the study focus on the contingency approach, it would be appealing to analyze simultaneously multiple environmental features (Cadogan, 2012) as moderators (environmental hostility, munificence and complexity). Lastly, the study examined only linear effects, without considering possible non-linear, convex or concave relations. Due to above limitations, research findings cannot be extrapolated to the entire Romanian foreign market interested and oriented SME population.

6. ACKNOWLEDGEMENT

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CROWDFUNDING: AN INNOVATIVE FINANCIAL SOURCE OF SMALL AND MEDIUM SIZED ENTERPRISES

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Abstract: Although small and medium sized - enterprises have many possibilities how to finance their needs, their access to sources of finance is difficult. This situation is even more pronounced aftermath the financial crisis from 2009. One of the possibilities how to secure sources of seed capital, respectively capital to fund various innovative projects, is crowdfunding, which is considered to be an alternative to traditional venture capital investment. The aim of the paper is to introduce this innovative funding mechanism for small and medium – sized enterprises, as well as to point out its specifics and benefits.

JEL classification: G01, G24

Key words: SMEs, crowdfunding, loans, financial sources

1. INTRODUCTION

It is generally acknowledged, that small and medium – sized enterprises (SMEs) represent the core of all economies, as well as a main source of economic growth, dynamism and flexibility. Their importance lies especially in bringing innovations or new techniques to the market.

Regarding Slovakia, SMEs (including the LPs – small trade licensees) represent 99.9 % of the total number of businesses. Moreover, the achieved share of SMEs in employment in the business economy of Slovakia was 71.8 %, that is 4.3 p.p. higher than in the countries of the EU – 27 in 2012 (SBA, 2012).

Despite their significance, they usually suffer from financing difficulties. Solution of their financial constraint is a problem that is spread all around the world.

As shown in the paper, SME financing relies mainly on bank sources and they have a great disadvantage when they want to obtain them comparing to large companies.

It is especially according to the fact, that their growth and earnings models are

1 The categorization of enterprises used in Slovakia, as well as in the other EU Member States, is according to the Recommendation of the European Commission no. 2003/361/EC valid from 1.1. 2005. Enterprises qualify as SMEs if they fulfil the criteria laid down in the Recommendation. In addition to the staff headcount ceiling, an enterprise qualifies as a SME if it meets either the turnover ceiling or the balance sheet ceiling, but not necessarily both.
volatile when we compare them with larger companies. We can add also their low survival rate.

Thus, banks and other traditional sources of credit may decide that SMEs represent a greater risk than larger companies, and respond by charging higher interest rates. This makes it more difficult for SMEs to borrow than for bigger companies, and may make it effectively impossible for many SMEs to borrow money at all because the price of credit is too high.

Moreover, financial, as well as debt crisis in the Euro area naturally influenced obtaining loans. Bank loans had been quite common and accessible source of financing even in Slovakia before 2009, which is true also for the risky segment of SMEs (depending on the core and genesis of their business). Commercial banks thanks to high levels of their deposits had started to create more flexible and affordable credit schemes.

The supply side replied to the financial crisis almost immediately, especially by the tightening of the bank lending conditions. The lending was almost completely frozen at the time of the deepest crisis (NBS, 2009). Risks associated with required guarantees had the highest impact on tightening of the standards, which were tightened especially for the category of SMEs.

Under these circumstances, the importance of alternative sources of finance is increasing.

The aim of this paper is to introduce crowdfunding as an innovative funding mechanism for small and medium sized - enterprises, as well as to point out its specifics and benefits.

2. LITERATURE REVIEW

Corporate access to finance has been the subject of interest among professional circles and corporate sector itself for a long time. There are many literature sources dealing with the issue of corporate finance, resp. in the strict definition with SME finance (e.g. Fetisovova, 2012; Majkova, 2008; Neupauerova and Valek, 2010; Belanova, 2010 etc.). However, most of them just characterize the different possibilities for obtaining financial sources, and they do not analyze their development nor specific barriers encountered by Slovak SMEs in this process (actually, there have been some trials also in the SR, e.g. Belanova, 2013 etc.) and they do not formulate specific proposals for the support of obtaining external financial sources.

SME finance is based on the same principles and it works with the similar procedures as the corporate finance generally. SMEs, however, have more specifics, which are reflected in their financial management processes.

These are connected with their smaller size, lower degree of diversification, more limited market and higher riskiness. The specific features of SMEs include also their benefits, esp. their flexibility. SMEs have closer contact with customers and so they can adapt to their new needs faster.

They have different structure of assets compared to large companies – share of their fixed assets to total assets is significantly lower. On the other hand, the share of current liabilities to assets is higher, which indicates their higher financial vulnerability (Cressy and Olofsson, 1997).

SME finance is more complicated due to the fact, that they require different
spectrum of financial tools in various stages of life – cycle (figure no. 1).

These companies often depend on the informal sources of finance at the initial stages of their life. External sources are getting to be important with the beginning of the expansion stage and access to them can influence the development trajectory significantly.

SMEs tend to have less financial strength, do not have sufficient collateral, which is usually the main reason why banks refuse to provide credit to them and why such businesses obtain it so hard. Smaller businesses and enterprises with a shorter history have only short-term contacts with the banks and therefore pay higher interest rates and the banks require higher guarantees from them (Berger and Udell, 1995).

The situation when the SMEs have insufficient access to the sources of finance through financial markets is defined as the "financing gap" (figure no. 2). Its reasons are stated for example in (OECD, 2006).

The fact that financiers have difficulties with the assessment of the situation in financing of the company and its owners, less intensive relationship between SMEs and financial markets (SMEs often get the financial sources from informal sources) and
asymmetric information are those reasons. The information asymmetry is higher in SMEs which reduces their chances of getting financial sources compared to larger companies. Another factor influencing the intensity and character of the gap is the country where the SMEs operate. Financing gap is more evident in the so-called emerging markets than in OECD countries, though they point to the existence of partial financing gaps.

\[
\begin{array}{ccc}
\text{Financiers} & \text{SMEs} \\
\bullet \text{High risk} & \bullet \text{Lack of knowledge concerning the factors which determine the financiers' decision on lending capital} \\
\bullet \text{Lack of competence with instruments of financial analysis} & \bullet \text{The attitude towards external capital} \\
\bullet \text{Relatively high transaction and control costs} & \\
\end{array}
\]

Source: Landström (2003)

**Figure no. 2 Financing gap**

3. **Empirical Surveys**

There were many surveys realized regarding the SMEs’ access to finance. Yet, their conclusions are not always equal.

Despite the importance of SMEs for the economy of our country, reality in SME finance in Slovakia is according to their managers, resp. owners, significantly worse compared to the state in other European countries.

It is presented for example in the survey realized by the EC in cooperation with the ECB (2013). Managers of the SMEs included in a survey evaluated a list of eight possible problems. 15% of them marked as a problem “access to finance”. Due to this we take it as the second most pressing problem right after finding customers (22%). It is clear that insufficient access to finance of SMEs will become the most serious problem when domestic demand for goods and services will grow again.

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Regarding the evaluation of access to finance of SMEs it was quite changeable according to the country (40% of SMEs in Cyprus, 32% in Greece, 23% in Spain and Croatia, 22% in Slovenia, 20% in Ireland, Italy and the Netherlands, compared with just 7% in Austria or 8% in Germany and 9% in Poland). In case of Slovakia the value was 18% (higher than in 2011, resp. 2009).

Because 42% of the managers from Slovakia graded it by 10 points from 10, we can conclude that access to finance is extremely pressing in Slovakia.

On the other hand, it was seen as not so important in Estonia (only 3%), or Finland and the Czech Republic (both 5%).

However, every coin has two sides. That is why we have to present both sides. There is feeling of lack of funding sources for SMEs by their owners or managers on the one hand. On the other hand we will present assessment and comparison of countries through the SME Access to Finance Index (SMAF Index) developed by the EC. It monitors Small and Medium-sized Enterprises’ (SMEs’) access to financial resources, its development in time and analyzes differences between Member States.

Figure no. 3 shows the SMAF Index scores for Slovakia, EU and Euro area.

Source: EC (2013)

Figure no. 3 SMAF Index scores for Slovakia, EU and Euro area

The results of the SMAF Index are in accordance with the results of next survey (KPMG, 2014). 81% of the family businesses in Slovakia does not consider the access to finance as a problem.

According to the cited survey realized by the EC in cooperation with the ECB (2013), regarding sources of financing, we mean external and internal ones. The internal financing was defined in the survey as ‘Retained earnings or sales of assets’. External financing included “various sources of financing, including grants/subsidised bank loans, banks..."
most frequent for EU managers of SMEs to use mostly external financial sources. Exact numbers say that more than half (54%) used only external financing, and it is a little less than in 2011 (56%). Next 22% of SMEs used the combination of internal and external sources of funding, and the rest (4%) used only internal sources. 20% used no source of financing, which is the same as in 2011. Regarding Slovakia, 8% of SMEs surveyed used only internal funds, 51% used only external financing, 15% used both internal funds and external financing. Countries such as Austria, Hungary and Slovakia rely on internal sources the most (more than 8%, i.e. twice the EU average).

Bank loans (excluding bank overdrafts and credit cards) as a source of external financing were used by 27% of Slovak SMEs. It is lower than in 2011 by 0.7 p.p., resp. lower than in the EU – 28 (32%, increase by 1.2 p.p)." 5 Slovak SMEs reach the lowest degree of the complete successfulness when asking for the bank loan among the V4 countries.

Bank loans also remain the most preferable source of external financing for the future. This is true for the Slovak SMEs (74%) and also for the SMEs in EU – 28 (67%).

The survey also indicates that using loans was not so spread among the smallest SMEs, among the SMEs with low turnover or among the ones with only one owner.

Nevertheless, there are also other sources for financing, which are not so widely used and that is why they are called alternative sources of finance (Belanová, 2010). We will present crowdfunding as an alternative financial source for SMEs in the next part of the paper.

4. CROWDFUNDING

Crowdfunding is a form of common financing. It is an alternative source of financing. It is a new form, which has appeared only in past few years. It consists in obtaining smaller funds from a large group of people (i.e. crowd). Instead of usual providers of financial sources (banks or venture capital investors or business angels) the project, or the company itself is financed by the group of individuals. The collection of funds is realised by the use of internet. It used to be a help for financing a singular projects. Nowadays even a normal man can be an investor and get money in this way. It is popular esp. in the areas such as technology and marketing, media including film, music and video games. It connects two aims: source of getting money and promotion of the project before it is launched.

Figure 4 presents development of the crowdfunding market globally and shows how crowdfunding's popularity has increased over the years. Regarding the last year, the most active crowdfunding element was social causes (30%). Nearly 17 percent of crowdfunding money received startups (next 28% to other, 12% films and performing arts, 8% music and recording arts, 6% energy and environment) (Statista, 2014).

overdrafts, bank loans, trade credits, leasing/hire purchasing/factoring, debt securities, subordinated loans and equity”.


Crowdfunding has slowly but surely come also to Slovakia. There have been two successful start – up projects: project Culcharge (smallest USB charge and data cable for iPhone and Android) and Košice’s start – up Goldee (light controller). There are 4 types of crowdfunding (Kupferberg, 2012):

- Donation based; donor of the financial sources does not get any reward for the provided funds.
- Reward based; contributor gets a reward by a change for the financial sources. It is usually a product that the company wants to bring to the market by the help of the financial sources received thanks to a crowdfunding campaign. It is a possibility for obtaining required capital in a form of pre – sales still in prototype phase. Examples of reward based sites include Kickstarter and Indiegogo.
- Lending based; applicant receives a loan from a number of small creditors. He repays the principal as well as the interest.
- Equity based; contributor (actually investor in this case), increases equity of the company and gets a share in its ownership.

Of course, we can meet with a hybrid models in a practise. They present a combination of donation, lending and/or investment models. Recently a new form, so called innovative distribution rights models have emerged. They enable the investors to be involved in profit sharing without following a traditional investment model” (CMF, 2012).

Reward based, lending based and equity based models of crowdfunding are relevant from the perspective of corporate financial sources. Especially the use of
lending based and equity based crowdfunding is more flexible according to the situation and stage of company’s life cycle (the legislation of the country establishes the maximum amount which can be obtained in this way).

Although we can take crowdfunding as an alternative to bank loans and equity sources of financing, it has its own pros and cons. They can be summarized into the following points:

1. Access to capital – crowdfunding can provide SMEs with the capital they need to start or expand their business, esp. if they are not able to get a bank loan or attract an angel or venture capitalists. It is obvious that it is easier and faster to collect money from some individuals in a form of small contributions than from venture capital or investor, because they are required to provide higher amounts at once. This partially explains why crowdfunding usually works.

2. Awareness – thanks to word of mouth, crowdfunding helps SMEs to create brand awareness even before their businesses launch. So SMEs can make use of this marketing technique to make their mark more popular even before the product is launched to the market.

3. Feedback – if they succeed or no, SME receives feedback. Getting needed money earlier is a mark that people trust in the quality of the project. On the other hand, if it will not, it means that it needs some adjustments, otherwise it will fail.

4. Speed of response – campaigns are used to be rather short when we compare them with the getting money from venture capitalists or banks.

5. Free press coverage – these campaigns of a product or service can be so interesting that they can catch the attention of the media so potential consumers know about SME project even before it is launched. On the contrary, SME should be aware of certain drawbacks when it wants to finance a business through crowdfunding:

1. The “All – or Nothing” model – which is used by most crowdfunding platforms. It means that if a SME is not able to raise its target amount, it will get nothing. Money will be returned back to contributors.

2. Reputation – if the campaign fails, it will be on internet, on the website visible for everybody. So they can learn about this and it is not good for the possible future activities of SMEs.

3. Pressure – because contributors want the company to launch the business on time, SME can be under a big pressure.

4. Hidden costs – it happens if SMEs use some forms of benefits for attracting investors, and they do not charge in the extra costs or when the promised rewards are higher than expected.

5. Negative impact on other financing options – crowdedfunded businesses are usually indebted (debt – wise or equity – wise). It can be taken as a risk for formal venture capitalists.

6. Limitations – the total number of money a SME can get is limitated and it is necessary to fulfil the legislative requirements.

7. Potential lawsuits – esp. when the business fails. There is also a risk of fraud, breach and so on.
5. CONCLUSIONS

Many small businesses consist at the beginning only of one or two people, who invest their own money and probably turn to family and friends for financial help in return for a share in the business. But if they are successful, there comes a time for all developing SMEs when they need new investment to expand or innovate further. That is where they often run into problems, because they find it much harder than larger businesses to obtain financing. Regarding bank loans, these companies tend to have less financial strength; do not have sufficient collateral, which is usually the main reason why banks refuse to provide credit to them and why such businesses obtain it so hard. Smaller businesses and enterprises with a shorter history have only short-term contacts with the banks and therefore pay higher interest rates and the banks require higher guarantees from them.

For improvement of obtaining bank loans by SMEs theoretical papers offer a solution – decrease of information asymmetry.

Moreover, SMEs have also other possibilities of obtaining financing, namely the alternative sources. This article deals with different ways how SMEs can get money thanks to crowdfunding and the pros/cons of doing so.

As shown, crowdfunding is gaining in popularity among startup businesses and older firms willing to raise money. However, although it seems very easy to raise money in this form, actually, it is not so easy. Like any marketing or fundraising campaign, it requires a good strategy and solid execution. It is also recommended not to copy the successful campaigns, to be original.

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STATISTICAL TECHNIQUES AND INSTRUMENTS USED IN QUALITY MANAGEMENT

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Abstract: The problem arose once product quality and handicraft production has increased during the industrial revolution. The concept of quality control has evolved over time in the last three decades having been a shift from excessive concerns over the quality / reliability of the product itself, to those related to "generator" of the product, namely manufacturing. In the first half of the twentieth century, those who were turned to product quality techniques and statistical tools for achieving adequate quality. Currently supported seven basic quality techniques (summarized in this article) and seven basic management techniques

JEL classification: M11, M16, M21

Keywords: diagram, brainstorming, benchmarking, compatibility matrix, generic tools, techniques for nonnumeric data

1. INTRODUCTION

A consequence of the transition from craft production to mass production was the loss of control over the quality of the new organization as the final quality depends overwhelmingly on the effects of past work - this situation having production type place where the workshop was the master craftsman tools and steps manufacturing. Complex final product took off the production of a plant does not allow easy highlighting the responsibilities of quality, generically passing this responsibility on the company under whose logo appears product.
2. OBJECTIVES

Until 1924 quality control of industrial products limited to final verification of the products or subassemblies manufactured and withdrawal from the irregular delivery of technical requirements - a procedure known as Quality Technical Control (CTC). But that year, Walter A. Shewhart (1891-1967), an engineer employed at the plant of Western Electric Hawthorne Works Company, presented a memorandum to his superiors only a page containing a simple chart - the chart control - and that laid the foundation statistical control of production and procedure known as Quality Assurance (QA). AC is a set of measures based on statistical theory and practice implemented to formalize procedures of CTC, organizational, training and motivation that a company puts in place to ensure product quality and services. Theory W. A. Shewhart statistical control of production was presented in the book Economic Control of Quality of Manufactured Product which he published it in 1931. Thereafter his interest in statistical control extended to other areas, so that in 1939 was published the second book from the viewpoint of Statistical method quality control, having as editor on WE Deming.

Shewhart's work was taken up and developed by W. Edwards Deming (1900-1993) and Joseph M. Juran (1904-2008).

W. Edwards Deming, during 1939-1945, as an employee of the US Bureau of the Census (United States Census Bureau - an institution that manages both demographic and economic data) and a member of the Technical Committee of Emergency (Emergency Technical Committee - a institution created specifically to the outbreak of world War II) made a number of standards (American war standards) that were aimed at introducing statistical control of production for the war effort.

Joseph Moses Juran, born in Romania, Braila, a Hebrew family who emigrated in 1912 to the United States committed in 1924, the year the WA Shewhart present their theory, the same factory Western Electric Hawthorne Works of concern. Here, he built the team that deals with statistical control of production through the chain advancing to the position of Head of Division. At the end of the war left Western Electric became an economic consultant freelancer.

In 1941 he took over the 80/20 principle - uneven distribution, the economist Vilfredo Federico Damaso and Italian sociologist Pareto (1848-1923) and applied in industry. This principle says that 80% of losses from 20% misconduct, ie losses are never evenly distributed on quality characteristics; always, unevenness of distribution losses is such that a small percentage of quality characteristics (which are vital) have a significant share in the total loss on quality.

Unlike W.E. Deming, J. M. Juran believed that quality control process plays a determining factor and the human component. For Juran, human relations problem was decisive in the production process. He insists to educate and train managers laying the foundation Quality Management (CM). MC is basically a system that ensures quality so as to meet the needs of the beneficiary in terms of product performance, delivery time, price, service, etc. This theory expounded in the book Quality Control Handbook published in 1951. Subsequently he developed Juran Trilogy, a quality management concept based on three components: quality planning, quality control, quality improvement. Juran's vision of quality management industry has crossed the borders being taken and applied in all fields.

At the end of World War II, the American economy, theories of WE Deming and
J. M. Juran were marginalized. In contrast, in Japan, faced with the problem of conversion into a war economy to peace economy works two American authors have produced impression among Japanese economists. Japanese Union of Scientists and Engineers (Japanese Union of Scientists and Engineers - JUSE) invited the two to work in Japan. W. E. Deming invitation in 1950 and J. M. Juran in 1954. Although in Japan the two worked independently of each other, they had a prime role in educating Japanese industrial product quality, and have contributed to the affirmation of Japanese school quality management influencing some of its personalities Kaoru Ishikawa and (1915-1989). It originally stated (1962) concept of Quality Circles (Quality Circles - small group of people who deliberately carries quality management activities in their job, making this task continuously as part of a management program quality covering the whole enterprise) and then to contribute to the implementation of a new system of quality assurance system called Total Quality Management (Total quality Management - TQM).

This system assumes that encompasses the whole community activities organized at the enterprise level employees - managers and workers - in an effort to improve performance fully integrated at all levels. This improved performance is directed towards the final objectives are: quality, cost, lead time, workforce development, design new products. It is assumed that these activities will ultimately lead to ensuring consumer satisfaction.

In the early 1970s have seen the effects of this new management system quality Japanese products become competitive on the world market because of quality and low costs and also caused astonishment and concern in Western Europe and the United States. Thus, TQM has been adopted in these countries.

3. METHODOLOGY

Initially, the techniques and tools of quality management were used statistical methods to control the quality, grouped according to the difficulty of applying them. Of these, seven elementary statistical techniques should be considered basic techniques of quality: the check (control), histograms, correlation diagram, stratification analysis, Pareto chart, cause and effect diagram, control diagram.

Subsequently, a number of other 30 planning and management techniques were chosen seven techniques and tools: affinity diagram, diagram of relationships, matrix diagram, tree diagram, prioritization matrix, analysis diagram of decisions and activities factor.

Currently, the complexity of the quality, appearance of the total quality concept, most of the problems and possible solutions to overcome them, led to the development of new techniques and tools, such as operational research, techniques and tools to improve quality, etc.

All these techniques and tools are called the techniques and tools for numerical data.

Answered in most of the statistics, they are used for:
- Ordering and synthesizing data on quality - sheets, tables, graphics;
- Making decisions on the quality of consignments, based on the sample taken - the techniques of statistical quality control sample;
- Proper functioning of a control process in order to ensure its ability to achieve consistently the required quality - control chart.

Also in quality analysis using other techniques and tools such as process diagram,
Brainstorming, Benchmarking, etc. compatibility matrix, called generic tools and techniques for nonnumeric data.

They are used in comparative analysis to highlight trends, relationships between elements analyzed domain, which is very useful in making decisions.

They allow the ordering and presentation of a set of data quality in a synthetic manner, easily perceived.

4. ANALYSES

The seven basic techniques of quality are:

i) data recording sheets

It is used for the systematic recording of data on quality. The first checklist statistically (sheet for percentage of failure in a batch) was invented in 1924 by Shewhart. We present an example of a sheet to record the frequency of defects:

<table>
<thead>
<tr>
<th>Types of defects</th>
<th>Data</th>
<th>Total defects by type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Type A</td>
<td></td>
<td>30</td>
</tr>
<tr>
<td>Type B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total defects</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Who collected the data

The place where data were collected:

How have collected data

ii) Histograms

The histogram or frequency distribution diagram is a graph showing the distribution of a data set as variations (or ranges) grouping feature. It builds on data collected in a frequency table, which divides the total variation in the characteristic intervals, to compare the frequency obtained for each interval, in which case we have the frequency histogram. We can have cumulative frequency histogram and the cumulative variation for each interval of the previous ranges and frequencies.

iii) correlation diagram

Correlation chart or scatter diagram (Scatter Plot) is used to highlight the relationship between two sets of data, one of these categories (x) is represented on the abscissa, and the other (y) on the ordinate.

The correlation between data may be positive: strong or weak, or negative correlation: weak or strong. If the coordinate points (x, y) are highly scattering between the two sets of data there is no correlation.

iv) Analysis by layering

The method of grouping related data, the data points or common characteristics is
called stratification. Stratification and comparison of data is an effective way to isolate a problem.

The following table shows examples of types of coatings used in the workplace:

| 1. For material | Manufacturer, purchaser, brand, place of production, date of purchase, consignment reception, place of production, composition, purity, size, weight, storage time, storage space, etc. |
| 2. For machine, device or tool | Type of car, number, pattern, yield and wear, factory, line, tool, size, device, etc. |
| 3. For operator | Person, team, age, experience, reliability, etc. |
| 4. For operating procedures and operational conditions | Temperature, pressure, speed, speed, lighting, humidity, operating procedure. |
| 5. For measurements and checks | Tool measuring procedure, instead of measuring the person measuring instruments verification, the verification procedure, instead of checking inspector, etc. |
| 6. For time | Time, morning, evening, night, day, week, month, date, etc., immediately before commencing immediately after the operation is completed |
| 7. For medium and condition time | Air temperature, humidity, sunny, cloudy, rainy, windy, snowy, noise, lighting, etc. |
| 8. Others | New product compared to the old, good product against defective product, the method of packing, shipping method, etc., |

Stratification can apply on line charts, histograms, correlation diagrams, etc.

v) Pareto diagram

Pareto Chart allows highlighting the most important elements of a problem, to which must be a priority.

A Pareto chart is a diagram of a second vertical axis contains both columns (bars) and lines. On the horizontal axis (OX) are the categories of interest (often "defects") and their frequencies on the vertical axis. OY1 axis (the left) reveals absolute frequency of each category. OY2 axis (the right) highlights the cumulative percentage frequency categories. The columns are arranged in descending horizontal axis (as I sorted and categories). It is recommended but not required to remove the spaces between columns. It is also recommended to have more than seven columns. Cumulative frequencies resulting curve on the graph is a concave curve because the categories are arranged in descending order of absolute frequencies.

Pareto Chart is used for:

- a cross analysis on the principal aspect of this problem;
- deciding goal of improving and to select specific items or causes that produce a more effective improvement;
- predict the effectiveness of various proposed improvements;
- make ordering causes a problem in categories such as material causes, methods, machinery and equipment, the operator;
establish efficiency improvements.

The figure is an example of application of the Pareto chart defect analysis: the abscissa mentioned types of defects (A, B, C, D), in descending order of frequency.

![Pareto Chart](image)

**Fig. 1. Fault analysis using Pareto diagram**

vi) Diagram cause - effect (Ishikawa diagram)

Proposed in 1960, this tool allows highlighting and prioritizing causes a given effect. The effect may be, for example, a characteristic failure of the product the loss of sales, etc. The causes are factors that make the problem exists. They are sorted into categories and subcategories, arranged in graphical form a herringbone (hence diagram is also known as the bone-to-fish diagram, Fishbone diagram).

![Ishikawa Diagram](image)

**Fig. 2. Diagram Ishikawa**

The diagram is also used to investigate the expected outcomes of an action, highlighting the relationships between causes of a particular phenomenon, as registration process ideas.

Steps to follow in building the chart are:

- defining the problem - preferably be done in groups;
- defining the main categories of possible causes (manpower, methods,
environment, machines, materials, etc.);
  • identifying all possible causes - using, for example, the Brainstorming method;
  • construction diagram;
  • development chart.

vii) control chart
Shewhart control chart or diagram can be used for the following purposes:
  1. stability assessment process;
  2. determining when to be adjusted;
  3. improve its confirmation.

Control charts are applicable to all continuous processes with repetitive.
Control chart is like a waveform: a polygonal line indicates the dynamics of the process studied around a central line corresponding average feature. If the polyline is maintained between the limits of variation is stable under control.

![Control Chart Example](image)

**Fig. 3. An example of a control chart**

5. **Conclusions**

Among the techniques and tools used in nonnumeric data quality analysis present the following two:

i) Brainstorming
It is one of the most used techniques of creativity. Its aim is to get as many ideas about a given topic, with a minimum of restriction group members who apply it. The idea of the method is that more people will generate more ideas than one, no matter how expert is it in the topic covered. Brainstorming will apply at a meeting at which all persons involved should attend. The meeting must be driven by a moderator. Participants must be encouraged to generate as many ideas, no matter how "crazy" they may be. Criticizing the ideas of others is strictly prohibited.

The ideas developed will be grouped into categories. Doubled ideas will be removed; also removed and ideas unrelated to the issue discussed.

ii) Benchmarking
It is used to compare the performance of processes and products and services to those leaders recognized as such at some point in the market. With this method facilitates
the identification and prioritization aims at developing plans to increase competitive advantage in the market.

The steps for applying this technique are:

- establishment of processes and products or services will be analyzed, taking into account their most important characteristics;
- establishment of companies that will do the comparison;
- collection of data on process performance and product analyzed on customer needs;
- ordering and analysis of data;
- identify opportunities to improve the quality, taking into account the needs of customers and the performance of firms that initiated the comparison.

From conception 1920s, when only apply technical control mainly based on technical focus in 1940 has passed quality assurance, based on technical and economic components, by formalizing procedures, and in 1960 to understand the great importance of personality in the context of a business, social axis becomes as important as the other two, thus taking birth quality management. Although classed as Shewhart, Deming and Juran have attracted attention since six decades ago that the so-called process control is the cornerstone of obtaining an adequate quality, process orientation was adopted on a broad scale as managerial policy only in the 90s, which became total quality management. There was therefore a fundamental evolution toward participatory management. A key point to remember: there can be no total quality management and quality assurance it without any technical supervision. And all this is based on statistical techniques and tools either basic or advanced.

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ERP SYSTEMS AND MANAGEMENT ACCOUNTING — EVOLUTIONS AND CHALLENGES

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Abstract: Large-scale introduction of technology into companies’ accounting determine many changes, some regarding the management accounting too. The aim of the current paper is to identify the manner in which, as well as the extent to which ERP systems alter the content of the management accountant position, i.e. the tasks carried on by management accountants, as well as their requested skills and responsibilities. The research was conducted based on an exploratory and descriptive approach. Besides an overview upon the main features of an ERP system, and the main effects of the implementation, we found that the routine task absorption changed the role of the management accountant, making him a closer partner in top management, a cross-functional, business, and forward looking analysis. Consulting, communication and interpersonal skills are coming into demand for management accountants working into this new context.

JEL classification: M41, M15

Key words: ERP; management accounting; accountants’ tasks; changes; skills

1. INTRODUCTION

The purpose of accounting can ultimately be restrained to control and decision making (Zimmerman, 2000). In the context of the recent changes aroused by the globalisation, the business networking and the increased importance of the resource allocation mechanisms, company managers felt the need of identifying data gathering and processing instruments, meant to facilitate the strategic planning and the decision making process. Due to their architecture, modern accounting information systems like
Enterprise Resource Planning Systems support the convergence of the two accounting cycles – financial accounting and management accounting, as well as a major organisational reengineering. They practically changed the manner in which information was collected, recorded, processed and used.

The literature provides several definitions of an Enterprise Resource Planning (ERP) system, all of them focused on the concept of integration. As such, “ERP systems are packages of computer applications that support many, even most aspects of a company’s ... information needs” (Davenport, 2000). Hyvonen (2003) considers this definition as inadequate, given the fact that the implementation of an ERP is not a single step operation but a process, as well as based on the fact that many companies use to combine ERP systems with previous standalone components. In the same direction, ERPs are ”...integrated software packages that control all personnel, material, monetary and information flows of a company” (Granlund and Malmi, 2002), and ”...integrate all corporate information in one central database” (Dechow and Mouritsen, 2005).

The demand for integrated systems grew along with the development of the technology supporting them. Alsop (1998) defines three subsequent computing ages: the “big computing” age, when centralized computers were operated by computer specialists, followed by the “personal computing” age, during which computer-supported individual tasks were the usual way to work and finally, the current “networking computing” age. The last one allowed users to connect PCs into larger systems and cleared the way for the development of ERP systems. These were used at the beginning especially in large companies, more recently followed by the middle-sized ones. In the same line, Hyvonen (2003) links the chronological evolution of computing to the increasing complexity of the computer supported tasks: routine tasks, such as payroll – in the early 60s, financial applications, performed by company customized licensed software packages – around the 1970s, fully integrated suites of applications, supporting most of the company’s functions – by the late 1980s and, finally, ERP packages throughout the 1990s.

However, the idea of an integrated system had actually been issued earlier, more exactly in the early 1980s, though it was considered not achievable, according to Anthony (1988): “The problem of making the pieces fit together, and especially, being able to revise the system as the need changes, is beyond the capability of humans”.

Frequently identified factors supporting the demand for the integrated systems are the high cost of the own legacy systems, the desire for new functionality, the incapacity of the systems in use to deal with technical accounting issues, or the euro currency, as well as the push of globalization and competition (Davenport, 2000; Moriarty, 1999; Shields, 2001; Scapens et al., 1998). The study performed by Spathis and Constantinides (2004) identified the most significant benefits of adopting an ERP system in the accounting, i.e. the information generated proves to be more flexible, the accounting applications are better integrated, the reports show an improved quality, the decisions are made on a more „timely and reliable accounting information”, the annual accounts are closed more rapid than they used to be.

Considering the changing needs of the organizations, as well as the available technical support, the literature set the focus on the interests, motivation and attitude of the accountants, as determining factors of the management accounting evolution. In this context, given that management accounting is meant to deliver information regarding
the company’s internal performance, Grosu et al. (2014) emphasize the fact that “the challenge in a competitive environment is to adopt a flexible approach in designing an effective management accounting system, a cost control system, as well as a performance measurement system”. ERP systems are designed as an instrument meant to be a support in this direction. Its outcomes are yet enhanced or reduced by the attitude of the management accountants involved in its implementation. In the same direction, several authors (Järvenpää, 2007; Kaplan, 1995; Granlund & Lukka, 1998; Burns & Baldvinsdot, 2005) support the role change of the management accountant in becoming business partner, active in the decision making process.

The objective of the current paper is to identify the manner in which, as well as the extent to which ERP systems alter the content of the management accountant position, i.e. the tasks carried on by management accountants, their requested skills and their responsibilities, in other words the role played by management accountants within the company. To this purpose, based on an exploratory and descriptive analysis, the second section of the paper will present, mainly based on case studies provided by the specific literature, the main advantages and disadvantages of the ERP implementation, as well as its first impact: the business reengineering need. Consequently, we shall debate, within the third section, the role changes experienced by the management accountant subsequent to the introduction of the new system and complete the paper with a conclusion section.

2. Implementing ERP: Pros and Cons

Regarding the implementation of ERP systems, the literature is generally focused on the experience of large companies, with a few inputs related to middle-sized enterprises. Interviews with employees involved in the implementation reveal both advantages and disadvantages of the integrated systems.

As a main advantage, the ERP system implementation is considered a key step for entities, able to enhance their competitiveness (Themistocleous et al., 2011). Literature emphasize more the intangible benefits of the ERP implementation, like “internal integration, improved information, improved customer service, cost efficiency, improvements in productivity” (Nicolaou & Bajor, 2004), “the improvement in transaction processing capabilities, coordinating record keeping, reducing the cost of duplicating data, but also fiduciary control” (Wagner et al., 2006 in Dumitru et al., 2013).

Regarding the time spent by management accountants in collecting data and preparing reports, several authors (Scapens & Jazayeri, 2003; Caglio, 2003) point to the fact that ERP systems significantly decrease the period dedicated to such routine activities. Following a case study on SAP, Scapens and Jazayeri (2003) show that after the implementation, the ”historical information” provided by accounting reports became less relevant as the integrated system made real-time information more available. The list of benefits was completed by O’Leary (2004) with the inventory and financial close cycle reduction, personnel reduction, management improvements, IT cost reduction, on-time delivery, information visibility, integration, flexibility, better decisions, financial controls, new reporting capability.

More recently, Kanellou and Spathis (2013) categorized the accounting benefits in five dimensions: IT accounting benefits (ERP gathers data more quickly and
easier, ERP produces results more quickly and easier), operational accounting benefits (reduction of closure and financial statements issuing time), organizational accounting benefits (increased flexibility in information generation and integration of accounting applications, improved decision-making, improved internal audit and improved quality of reports – statements of account), managerial accounting benefits (improved working capital control and increased use of financial ratio analysis) and operational accounting benefits (reduction of personnel of the accounting department). An interesting input of this study consists in the identification of statistically significant differences between the degree of satisfaction between the accountants and the IT professionals, meaning that accountants are satisfied to a higher degree with the ERP performance than the IT professionals. They give as a pertinent explanation the fact that accountants enjoy directly the benefits derived by the system and related to accounting, as they are not as much involved in the system set up process as IT professionals; as such, they are not so much aware of the risks and difficulties encountered in the system implementation and customization. Unlike them, IT professionals tend to be more demanding from the system, as they put much time and effort in making it work properly.

On the other hand, research on the ERP implementation experience reveals also disadvantages of the system, whereas one of the most important shortcomings is that ERP systems can be very expensive, and require large project teams (Scapens & Jazayeri, 2003). Moreover, ERP systems fail sometimes, based on the underestimation of social, organizational and cultural aspects (Boersma & Kingma, 2005).

Implementing an ERP system is not a simple, one move operation, as the company “(1) may need to make changes to its business processes and procedures, (2) customize the ERP system, and (3) become dependent on the ERP vendor for support and updates” (Velcu, 2010), However, if each division and/or operating company were allowed to customize or modify the system to fit its own current needs, the benefits of a global system could be damaged (Scapens & Jazayeri, 2003), as one of its most important benefits is the ability to purchase support and new releases from the vendors.

The centralized and structured approach to the business process and functions lead to the fact that an ERP system is not adequate for all entities (Light et al., 2001). In the same context, Scapens et al. (1998) also show that the centralization can lead to a loss of control at the local level. The usefulness of the ERP systems is also differently perceived between the two accounting cycles, as shown further below. In this direction, Dechow and Mouritsen (2005) note that an ERP system has no place for details of all management control problems, so that ERP may not be a proper support for the management accounting.

Hyvonen (2003) focuses on management accounting functions and concludes that financial departments have been more interested in traditional Best of Breed (BoB) systems, while other departments have concentrated more on ERP solutions. The reason for it was that traditional BoB dealt better than ERPs with most of the problems in management accounting. In the same line, Hyvonen (2003) indicates that, within his research, early adopters of advanced cost and management accounting techniques, were not necessarily adopters of modern information technology.

No matter if the performed case study highlighted the time savings in routine tasks or the high financial and human resource consumption and the shortcomings in the management accounting applications, turning the author into a pro or a con of the
ERP system, there is a consistent view upon the starting point of the ERP introduction: the company reengineering.

3. ERP AND COMPANY REENGINEERING

According to Hammer and Champy (1993), reengineering of business processes is the "...fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service and speed". In the same context, Hyvonen (2003) finds that there are two directions to act at the implementation of an ERP, starting from the premise that the ERP implementation requires the reengineering of the business processes (Davenport, 2000; Scapens et al., 1998):

- the organization and its processes are changed so as to support the right functioning and enhance the benefits of the ERP system; or
- the system is customized to the needs of the organization.

In the first direction, Granlund and Malmi (2002) point to the threat that the implementation of ERP can change an organization and its processes more than was originally intended. In reference to the second direction, the customization of the standard package lead to the loss of some of its main advantages (Scapens et al., 1998).

As a result of survey focused on the ERP implementation plans within Romanian SMEs, Dorobăț (2006) identified several factors favoring the decision to adopt an integrated system, like "increased business process cycle time, high level of inventories, inefficient use of resources, reduced productivity, unsatisfied customers and suppliers, reduced flexibility, lack of planning and control mechanisms". The research concluded that the ERP implementation is often poorly managed, based on the lack of managerial knowledge, as well as on the poor understanding of the ERP implications. In the same idea, a Market Watch article about the Romanian ERP market mentioned that at that time (year 2006), two negative factors affects mainly the need and implementation of ERP solution projects: "financial capacity of most companies in Romania, and lack of managerial culture" (Schwab-Chesaru & Bucin, 2006).

When it comes to reengineering, Scapens and Jazayeri (2003) point to the need to create a “to be” vision of the organization, after having mapped the current business model (the “as is” model). However, as a consequence of the business reengineering need, resources need to be devoted to training, turning training costs into a major and sometimes hidden cost of installing the ERP system.

Scapens and Jazayeri (2003) emphasize the fact that, given the integrated nature of the ERP, data are entered into the accounting system not only by the accountants, but mainly by operating people from other parts of the business. Training is required as clerks need to have a clear view of the way their data input affects the rest of the company as, in early stages of the ERP implementation, companies encounter often mistakes and data-entry errors, causing problems in other parts of the system, than the one they were produced. Such consequences may raise a lack of confidence in the integrity of the information. Following the fact that formerly accounting specific information is now an input of other operational employees, accountants have felt like losing control of what was happening in the business. The key for overcoming the problem proved to be the communication: employees acting within different functions of the company started talking to each other, thus launching a communication process
which had previously never existed. Dorobăț (2006) also identifies communication as a main problem during the implementation stage; yet further reluctance is replaced by understanding of the change called by the new system (Dumitru et al., 2013).

The literature includes also studies on companies which encountered major financial, organizational and technical problems with the implementation of ERP systems. Davenport (1998) points to several companies and considers that some of the troubles might have been caused by the huge technical implementation challenges, yet the main reason is connected to the companies failing in combining their business needs with the technological imperatives of the system. More drastic, Dillard et al. (2005) emphasize the fact that ERP systems might lead to “administrative evil” because they can alter the climate, structures and roles within the company. Furthermore, after the introduction of an ERP system, the own organizational practices are replaced with industry “best practices”, which come as a part of the software, so that the implementing companies “can lose their unique characteristics and goals” (Kanellou & Spathis, 2013).

In the same direction, Granlund (2011) observes that companies do not necessarily use all the analytical capacity embedded in an ERP system, so that the performance improvement potential of the new information technology is actually not realized in practice. More, Dechow and Mouritsen (2005) and Hyvönen et al. (2009) notice that, if the system proves not to be suitable for the organization, it is difficult to be given up.

4. MANAGEMENT ACCOUNTANT’S ROLE CHANGES

The key word defining the accountant’s profile after the implementation of an ERP system is hybridization, i.e. the mixture of roles and tasks taken over by the employees involved in the operation of the system. Granlund (2011) defines hybridization as a situation in which professional groups like IT specialists and other non-accountants start dealing with accounting processes, because of the new technology adoption.

The accountants’ current new role has been researched and reported in the last years by different authors, based on case studies performed mostly within large, multinational companies. Caglio (2003) emphasizes the fact that, as many accounting routine tasks are now performed by ERPs, accountants are supposed to start focusing on “strategic decision-making, business management and information technology (IT) initiatives”. Caglio (2003) is concerned by the bidirectional accountants - IS and line people hybridization, called by the spread of the accounting knowledge into the IT area and the rest of the organization, by means of the ERP system. Vice-versa, as the system partly takes over the accounting routine, accountants may use the extra-time to get involved in the design and management of the IT systems.

Caglio (2003) illustrates the profile of the chief accountant position after the ERP implementation. His/ her activities and responsibilities were rather related to the areas of management accounting, reporting, consolidated balance, fixed assets management and inventory management, formerly included in the management accounting sub-function. With the move towards management accounting, Caglio (2003) highlights an essential change, as the Italian accounting system, similar to the Romanian one, is characterized by a clear separation between financial accounting and
management accounting. Moreover, the hybrid position is enriched with a third dimension, embodying to a certain extent the activities and responsibilities of an IT professional.

By reference to IMA (1999) and IFAC (2002), Burns and Balvindottir (2005) also point to the increase of the time spent by accountants on tasks like “strategy formulation, systems development, organisational (re-)design, change management and more”, in the detriment of “score keeping and corporate policing”. The case study provided by Burns and Balvindottir (2005) focuses on the implementation of the process way of working (specifically mentioned in the literature both as an immediate effect and as a condition of ERP systems support), and as a factor of creating hybrid accountants too. The switch to the process way of working leads to the observation of three major consequences: (a) the lack of concurrent change, or inadaptability to the new working conditions of the classical accounting systems; (b) the increased transparency and a value-for-money check of the Finance function, and (c) the need to physically relocate accountants from their separate office, closer to the factory and operational managers.

Scapens and Jazayeri (2003) provide a case study on SAP implementation (as a specific example of ERP implementation) and research the role changes experienced at the same time by the management accountants. They observe the fact that the ERP support did not alter in any manner the nature of the management accounting information used, but emphasize four particular changes in the role previously played by management accountants: routine jobs are eliminated, operational managers start showing accounting knowledge, the information is forward-looking and management accountants start playing a more extensive role. On the other hand, against the common opinion that such role changes are the consequence of an ERP system implementation, they admit that the changes accompanied the introduction of SAP, but wonder if they were indeed driven by the new system, or were already happening within the company, whereas the ERP system “simply reinforced and facilitated the new process way of working”.

A particularly interesting input in the research made by Scapens and Jazayeri (2003) consists in the quoted statements of the management accountants in place within the analyzed company, related to the experienced changes. In summary, these statements emphasize following phenomena:

- the loss of the management accountant’s simple, basic skills, regarding the variance analysis, as the associated tasks were performed automatically by the system;
- the conversion to business analysts, simultaneously to the partial takeover of the accounting tasks by the line manager position;
- the decreasing need of people within the management accounting function, accompanied by the development of the cost owners, expected to interrogate and forecast their own costs;
- the imminent change in the training needs of future management accountants, as their current analyst roles required not only technical skills, but also “consulting skills, especially communication and interpersonal skills, and a much broader knowledge of the business than would be required for a recordkeeping role”.

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The picture of the changes in the management accounting profession is completed by a case study performed by The Chartered Institution of Management Accountants (CIMA, 2009) within seven organizations that had implemented ERP systems. The changes in the management accounting profession were related to the same aspects as the ones reported by other researchers: i.e. the time spent on data collection, complementary to the time spent on data analysis, the involvement in business decision-making, the increasing focus on internal reporting, as well as on the external environment, the change of focus from historic to forward looking analysis, as well as from domain specific to cross-functional analysis, as well as the changes required in the management accountant’s communication skills.

Particularly interesting were the study results associated to the changes in the management accountant’s satisfaction resulting from the ERP system. In this context, respondents of the mentioned CIMA survey (2009) reported that immediately after the ERP implementation, most management accountants were very frustrated with the software, the tasks, the hours and similar aspects. But after the system had been operated for a longer period of time (usually at least six months), the level of job satisfaction becomes significantly higher, as the management accountant had understood the manner in which the profile of his job was evolving “from putting historic numbers together to becoming a business partner to top managers” (CIMA, 2009).

Consistent with the international state of the art, the role changes experienced by management accountants are also debated by Romanian researchers (Almășan & Grosu, 2008; Dumitru et al., 2013; Albu et al., 2011). Within a research focused on the current role of the accountants in Romania, Almășan & Grosu (2008) stress the fact that managers are not aware of the usefulness of accounting information, partly because of a poor communication with the accountants. Nevertheless, accountants remain reluctant to changing the traditional accounting tools and techniques they use. Albu et al. (2011) research the changing competency demands in the accounting field and investigate the hypothesis of the increasing hybridization of the financial and management accounting roles, based on the analysis of a job-offer announcements sample, over three equally spaced periods of time: February 2007, July 2008 and December 2009. With their research, the CIMA (2009) study is actually completed with the specific Romanian picture.

5. DIFFERENT PERCEPTIONS OF ERP USEFULNESS

Turning from the role of the accountant in relationship with the ERP system, to the role of the ERP system in relationship with the company and its accountants, several case studies provided by the literature (Järvenpää, 2007; Granlund & Malmi, 2002; Quattrone & Hopper, 2006; Teittinen et al., 2013; Dechow & Mouritsen, 2005) point to the fact that ERP systems are not perceived as equally useful by all employee categories. Järvenpää (2007) observes that ERP systems support new practices in the field of management accounting, increase the efficiency in performing routine activities and allow a quicker handling of large databases, as well as a faster and more flexible reporting. Granlund and Malmi (2002) also indicate the improved mass processing of documents as the most important benefit of ERPs. The two authors suggest three possible reasons for the ‘moderate’ effects of ERP systems on management accounting:
(1) the time needed to fully implement ERP systems means that other impacts may be slow to emerge; (2) the complexity of ERP systems can hinder other sophisticated accounting developments; and (3) ERP systems may play a stabilizing role, reinforcing the existing management accounting routines.

One of the most difficult aspects in the implementation of the ERP, as indicated by Quattrone and Hopper (2006), is that it is a never-ending process. They illustrate their statement with a case study on SAP implementation in a multinational company, reporting that “even four years after starting its implementation, when it appeared to operate smoothly, SAP was... incomplete”. A similar observation was made by Rikhardsson and Kraemmegaaard (2006), who performed case studies in six Danish companies and called the ERP implementation an organizational development journey.

Teittinen et al. (2013) emphasize the fact that for many tasks there are best-of-breed software solutions with better functions than an ERP. Dechow and Mouritsen (2005) point to the fact that data are accurate, shareable and available to many different parties in the ERP, however there is no place for all the details of all management control problems. Something is always omitted. As a consequence, even if ERP systems make financial accounting stronger, they do not automatically strengthen management accounting.

While most case studies provided by the specific literature focus on large companies, Teittinen et al. (2013) performed research within a middle-sized company, interviewing relevant employees four years after the ERP implementation. They found that the attitudes and feelings of the personnel in relationship with the ERP system differed in a significant manner along the company’s hierarchy. As such, top management described ERP as a “fantastic management control tool”, adding transparency and making it “easy to control all the business units and activities at the time”. By using ERP, the purpose of the top management was “to systematize and standardize the functions and work methods between different production plants”. In summary, at this level the authors identify three major benefits of the ERP system in management control: “1) enabling the strategic vision, 2) implementing standards worldwide in the company; and 3) enabling transparency in controlling subsidiaries”. Lower in the hierarchy, one of the company’s accountants pointed to the fact that “the system was good, but that its excellence depended on its usage”, meaning on the correctness of the entries.

Based on the above, we observe that the performed case studies provided by the literature lead to several results, regarding the ERP usefulness:

1. ERP systems are enthusiastically adopted by the top management, given the integrated view upon the business provided by the system, as well as the fast delivery of information, however the benefits of the system are used rather by the line management;

2. the role played by management accountants within the company changes dramatically, due to the fact that the routine tasks are taken over by the system, however the information delivered by management accounting, as well as the methods used by management accounting are not significantly altered by the ERP system implementation;

3. given the financial and human resources required by the proper working of the system, successful implementation projects are experienced rather by large companies, than by middle ones.
6. Conclusions

Within a study focused on the critical issues of the ERP implementation, Bingi et al. (1999) emphasized at an early moment that “once an ERP system is implemented, going back is extremely difficult”, as giving the new system up is an expensive operation. As a consequence, the decision to replace a classical system with an ERP must be well substantiated. Hence, with the current paper we intended to provide support in the specific decision-making process, by delivering an overview upon the main features of an ERP system, its advantages and disadvantages, the main effects of the implementation, as well as the main conditions to turn the implementation into a successful management move. Based on the case studies provided by the literature, we observed that a successful ERP implementation depended on the correct identification of the organization’s needs, on the ability to re-shape the business so that the system becomes a tool in its further development, instead of a burden, as well as on the proper selection and training of the personnel meant to operate the system.

The thorough review of international research on ERP implementation also led us to the conclusion that the debate on the new role of the management accountant subsequent to the ERP implementation was quite complex: there are arguments supporting the role change as a consequence of the new system, as well as voices claiming that roles had already been changing for a while and that the ERP was not more than a step in an existing evolutionary process. Further on, authors and management spoke enthusiastically about the higher quality of the accountant’s new role, while accountants didn’t seem to be content with their new tasks, at least during and immediately after the implementation.

As the most case studies included in our research were performed outside Romania, one of the main limits of the current paper consists in the poor representation of the national experience. However, we consider that the overview provided by our study, as a summary of the international experience in ERP implementation, could in fact be regarded as a foundation of future ERP case studies at national level.

References


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