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FOREWORD

At the end of 2017, according to World Economic Forum Agenda, it seems that economic competitiveness matters, but not as an end in itself. It matters because nations that are more competitive are more productive, and are therefore more able to provide for the social needs of their people. The world has changed dramatically over the last decade, and measuring the factors that determine competitiveness continues to be a highly complex process. It is certainly true that the Fourth Industrial Revolution (4IR) – new, rapidly changing technologies in many different fields – has changed the way we need to measure some aspects of competitiveness, particularly in relation to innovation and ideas. We need to stress, for example, the value of ideas and collaboration within companies; the values of open-mindedness, of connectivity, and the value of an entrepreneurial spirit. And we have had to emphasize a new kind of education: one that is more conducive to students' creativity, their ability to observe and generate ideas. The new industrial revolution, also known as the 4IR, has forced us to put more emphasis on all these aspects of a nation's innovation ecosystem. The appearance of very disruptive technologies has been incredibly rapid. If we go back 10 years, the iPhone didn't even exist. We have seen huge developments in artificial intelligence, new materials, synthetic biology, big data and on-demand technologies, and all these are changing the business landscape at a planetary level. Significantly, many of these innovations did not occur in those countries where technology used to be produced almost monopolistically. It is no longer the case that only the US and Europe innovate; the new industrial revolution has created opportunities for nations across the globe. This is a hugely important trend.

According to ***Focus Economics****, economic momentum is largely holding up in the world's largest economies, the effects of which are reverberating across the globe. The global economy is benefiting from a combination of loose financial conditions, more supportive fiscal policies in some key countries following years of harsh fiscal consolidation, low inflation and strong global trade. According to revised estimates by Focus Economics, the global economy expanded 3.3% annually in Q3, overshooting the 3.2% growth in Q2. The third-quarter print marked the strongest growth in nearly four years.*

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Despite a catastrophic hurricane season that hit the southeast of the country in late August and September, the U.S. expanded robustly in Q3 on the back of an improving labour market and relatively low inflation. Against this backdrop, the chances that the Federal Reserve will deliver an interest rate hike in December have increased considerably. Going forward, the economy will continue to benefit from solid domestic conditions, which will be further bolstered by the post-hurricane reconstruction efforts as well as U.S. President Donald Trump's tax reform, which could be passed in early 2018. While it is not clear for how long the current expansion cycle will last, the potential U.S. withdrawal from NAFTA represents a key downside risk for the U.S. economy as well as for the other two participating countries.

The Euro area economy continues sailing smoothly on the back of accommodative monetary policy, solid job gains and resilient global demand. In annual terms, the euro bloc economy expanded at the fastest pace in over six years in Q3, and leading indicators for Q4 suggest that the economy still has considerable positive momentum. Europe's recent streak of growth could, however, be derailed by increased political instability. German parties failed to form a coalition government due to differences over immigration policies. Although the German President urged party leaders to resume talks to seal a coalition government, Chancellor Angela Merkel has expressed scepticism over a minority government, and fresh elections are now a possibility. In Japan, the external sector continues to lead economic growth and the economy recorded the longest period of economic expansion in over a decade in Q3. While **Abenomics** *succeeded in shoring up economic growth, inflation remains stubbornly high and further economic reforms will be needed.*

The global economy will continue to benefit from loose financial conditions and supportive fiscal policies in 2018. The strengthening is expected to be broad-based and extend to both developed and emerging economies. That said, while the economic recovery will gather steam in Brazil and Russia, and India should continue its positive growth trend, China's economy will continue its managed slowdown. Analysts expect the global economy to grow 3.2% in 2018. In 2019, the global economy is seen decelerating slightly, to 3.1% growth, as tailwinds start to wane.

The stable 2018 outlook for the global economy reflects unchanged growth projections for Japan, the United Kingdom and the United States. Conversely, the panel upgraded their view of the Canada and Euro area economies.

Among developing nations, an improved economic outlook for India and resilient growth projections for China continue to shore up panellists' view on the Asia (ex-Japan) region. Eastern Europe is in a sweet spot as Russia's economy

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recovers, while the Euro area is firing on all cylinders. Although higher commodities prices are supporting the outlook for the Middle East and North Africa economies, ongoing political unrest is putting a dent in any sharp economic improvement. Sub-Saharan Africa's economic outlook remains jeopardized by security threats and domestic imbalances. In Latin America, political uncertainties are plaguing the outlook as elections are set to take place in Brazil, Colombia, Mexico and Paraguay.

Having said this about the state of the world economy and about the new trends, we will go further to what our authors propose about the news in their field of interest, news they consider appropriate to bring to our attention.

In his article, called ***The Importance of Financial Management Principles in the State Budget Execution,*** *Yuriy Holynskyy draws attention that in the structure of the financial system of each state, one of the most important places is given to the budget, which characterizes the degree of development of budget relations that arise between government bodies and economic entities in the process of distributing gross domestic product. He says that the budget as an instrument of macroeconomic regulation has an impact on the development of social sectors, the functioning and modernization of national defence and law enforcement activities, the development of national economic sectors and the welfare of the society. At the same time, it is shown that the implementation of budgeted activities of supporting the sectors of the national economy and other activities depends not only on their consideration in drawing up the budget, but also on the quality of its execution. In this paper, the author determines the possibilities of using the financial management principles in the public sector during all stages of state budget execution.*

Luminița Ionescu, in her article called ***Errors and Fraud in Accounting. The Role of External Audit in Fighting Corruption,*** *says that accounting errors and fraud are common in most businesses, but there is a difference between fraud and misinterpretation of communication or accounting regulations. The author puts the accent on the role of management in preventing fraud and she tells us that it became important in the last decades and the importance of auditing in curbing corruption is increasingly revealed. There is a strong connection between fraud and corruption, accelerated by electronic systems and modern platforms. The most recent developments tend to confirm that external auditing is curbing corruption, due to international accounting and auditing standards at national and regional levels. Thus, a better implementation of accounting standards and high quality of external control could prevent errors and fraud in accounting, and reduce corruption, as well. The aim of this paper is to present some particular aspects of errors and fraud in*

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accounting, and how external audit could ensure accuracy and accountability in financial reporting.

Natalia Manea and Mihaela Purcaru, in their paper entitled ***Evolution of Educational Marketing,*** *show us how the association of the term 'educational' to the term 'marketing' generates a specialized domain, by applying methods, policies and marketing strategies in the area of education. Due to the cultural, social and complex role of education, the educational marketing represents a part of the services marketing, the social marketing and the non-profit organizations. By offering compulsory education services financed from the state budget, the school units, through their activity, respect the principles of social marketing, regardless of the financial benefits that result from the provision of these services.*

This article aims to place educational marketing below the conceptual level in the field of service marketing; the reference works in the field of educational marketing are not many, a consequence of the fact that this is a new field.

Through her article entitled ***The Human Potential and its Role in Business Development,*** *Raluca-Ana-Maria Dumitru surprises that, through its object of activity, an economic organization has the role to efficiently use the means of production that it possesses in terms of the full utilization of the production capacities, of a high quality of the products and of obtaining profit.*

Companies need in their activities human, material, financial, informational resources etc., resources that they have at a certain moment in order to accomplish the mission and strategic objectives around which their entire activity revolves.

*Haradhan Kumar Mohajan****,*** *in his paper called* ***Two Criteria for Good Measurements in Research: Validity and Reliability,*** *draws attention that reliability and validity are the two most important and fundamental features in the evaluation of any measurement instrument or tool for a good research. The purpose of this research is to discuss the validity and reliability of measurement instruments that are used in research. Validity concerns what an instrument measures, and how well it does so. Reliability concerns the faith that one can have in the data obtained from use of an instrument that is the degree to which any measuring tool is checked for random errors. An attempt has been taken here to review the reliability and validity, and treat them in some details.*

*Bogdan Sofronov****,*** *in his paper called* ***Impact of Sustainable Tourism in the Travel Industry,*** *says that sustainable tourism is the concept of visiting a place as a tourist and trying to make only a positive impact on the environment, society and economy. A key aspect is the respect for the people who call the location home, the culture and customs of the area, and the socio-economic system. While sustainable*

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tourism is sometimes confused with ecotourism, ecotourism is actually only one aspect of sustainable tourism.

Sustainable tourism is attempting to have a low impact on the environment and local culture, while also helping to generate future employment for local people. The aim of sustainable tourism is to ensure that development brings a positive experience for local people, tourism companies and the tourists themselves.

From the above mentioned studies, there is a contribution to ideas and solutions brought by teachers, researchers or Ph.D. students to improve the economic situation in certain areas, on certain levels and in certain directions.

Finally, hoping that you found interesting Issue 4/2017, I strongly invite you to address your comments and suggestions at ***office_analeserieconomie@spiruharet.ro*** *and, of course, to submit your own paper via the online submission system.*

Let's join in attitude and feelings to build together an economy to resist current attempts!

Associate Professor Elena GURGU, Ph.D.
Deputy Chief Editor

ACADEMIC PAPERS

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THE IMPORTANCE OF FINANCIAL MANAGEMENT PRINCIPLES IN THE STATE BUDGET EXECUTION

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Abstract

In the structure of the financial system of each state, one of the most important places is given to the budget, which characterizes the degree of development of budget relations that arise between government bodies and economic entities in the process of distributing gross domestic product. The budget as an instrument of macroeconomic regulation has an impact on the development of social sectors, the functioning and modernization of national defense and law enforcement activities, the development of national economic sectors and the welfare of the society.

At the same time, the implementation of budgeted activities of supporting the sectors of the national economy and other activities depends not only on their consideration in drawing up the budget, but also on the quality of its execution.

In this paper, author determines the possibilities of using the financial management principles in the public sector during all stages of state budget execution.

Keywords: *budget execution; financial management; public finance; New Public Management.*

JEL Classification: H_{72}

Introduction

The state budget has paramount importance for all areas of public life. In the process of execution of various government functions, public authorities implement the necessary state regulation in the sectors of the national economy and social sphere through the financing and redistribution of funds provided for these purposes in the budget and in the main areas of budgetary policy. At the same time,

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the quality and timeliness of the implementation of these public functions by state authorities depends on the organization of the execution of the state budget.

The importance of researching the problem of state budget execution is also in its ability to influence the implementation of the priorities set by state policy while simultaneously meeting all previously established obligations to the society, which is characteristic of a socially-oriented state.

The ongoing changes in the management of public finances imply the active implementation of fundamentally new tools for budget planning and financing, which necessitates the improvement of stages of the budget process, including the stage of state budget execution.

Compared with other stages of the budget process, budget execution covers a significant time period and involves the interaction and participation of a large number of business entities and public authorities.

Almost like any complex fact, the system of budget execution can be considered in functional and organizational aspects. At the same time, in the organizational aspect, the system of budget execution is represented by a set of entities participating in the framework of their competence.

The specifics of the organizational aspect of the state budget execution imply the need to analyze the arising relations between various subjects of economic relations and the authorities regarding the formation of budget revenues and expenditures. The study of the organizational aspect makes it possible to analyze the content and specificity of the relations between certain groups of participants and non-participants in the budget process from a position of specific types of revenues, the budget deficit financing sources and forms of budget expenditures inherent to each of them.

The functional aspect allows us to consider the budget execution system from the standpoint of the individual components of the budget execution process, namely: the implementation of the budget by revenue, expenditure and sources of financing the budget deficit. This aspect of researching the content of individual components of the budget execution allows to obtain a holistic view of the nature, volume and structure of the current expenditures, received and used sources of financing the budget deficit, as well as the ratio and receipt of the corresponding revenues of the state budget in comparison with their projected values. Thus, the functional aspect allows getting an idea of the reliability of planning budget allocations and sources of financing the budget deficit, as well as the reliability of forecasting the revenues of the state budget.

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These aspects, by their nature, are necessary because each of them leads to the conclusion about the quality of the organization of the state budget execution for the relevant participants of the budget process, as well as about the results of providing expenses determined by the budget law.

In connection with the above, researching the execution of the state budget and improving the instruments used for the goals and objectives of implementing program-targeted planning and financing are relevant and necessary.

Literature review

Definitely, the main scientific research that had influence on writing this paper is *Reinventing Government: How the Entrepreneurial Spirit Is Transforming the Public Sector* by D.E. Osborne and T. Gaebler [Osborne & Gaebler, 1993]. In that book, the authors define how, adjusted from the private sector, the operating principles can improve the government functions, with a large amount of examples.

Another important paper is "based on general review of literature such as relevant books, journals, articles and newspapers, attempts to pinpoint the emergence, principles and criticisms of New Public Management considering its theoretical aspects" [Kalimullah *et al.*, 2003].

There is also an interesting issue about the connection between the private management and the public sector in the article written by Liebman and Mahoney – "many organizations have budgets that expire at the end of the fiscal year. In the United States, most budget authority provided to federal government agencies for discretionary spending requires the agencies to obligate funds by the end of the fiscal year or return the funds to the Treasury; state and municipal agencies typically face similar constraints" [Liebman & Mahoney, 2017].

The importance of transparency of budget execution is described in [Ríos *et al.*, 2016]. Authors in "this article attempt to evaluate the role the legislative budgetary oversight plays in enhancing budget transparency".

Results and discussion

Transformation of the directions of economic development associated with the transition to innovative approaches urgently requires changes in the organization and functioning of the entire public administration sector, including modernization and implementation of new conceptual approaches to the management of public finances.

In this regard, many countries are actively pursuing reforms in public finances aimed at increasing the effectiveness and transparency of the financial system,

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strengthening the responsibility of government authorities for the consequences of their managerial decisions based on the managerial model of public administration.

At the present time, management tools in the public sector, including implementation of measures based on the results of public management, are not widely used in developing countries.

Thus, in the context of the transition from cost management to the concept of results management, the role of assessing the quality of financial management in the public administration, including assessing the quality of financial management of public authorities involved in the execution of the state budget, is growing.

The idea of introducing the concept of public management in the public sector for foreign countries is not new, since as early as in the 20th century separate attempts were made to bring the processes of increasing the efficiency of budget expenditures closer to the growth of their effectiveness in business. The solution of this problem was also researched in the implementation of the bases for developing the effectiveness of the activities of state structures and organizations and shifting the emphasis of management from the costs of results.

In the 1930s, the term "performance budgeting" arose in the scientific community, which later gave rise to the formation of a new term "New Public Management", which was characterized by D. Osborne and T. Gabler in the scientific work *Reinventing Government: How the Entrepreneurial Spirit Is Transforming the Public Sector* [Osborne & Gaebler, 1993] as being a set of modern approaches to the management of the new sector, which became the core of intellectual thought in the field of public finance.

Thus, the need to use a managerial approach to the management of public finances is largely due to the increasing role of the state in the economy and the social sphere and in terms of the shift from the focus on the volume of intervention to its efficiency and effectiveness.

The essence of this process was very accurately described by R. Lee: "...whereas traditional budgeting, oriented on budgetary resources, is primarily focused on the amount of budget expenditures, the new format shifts this emphasis to results from budget expenditures" [Lee *et al.*, 2012].

In general, analyzing different points of view on this concept, it should be noted that the scientific and methodological justification of the state's financial management system is capable of becoming a reliable basis for implementing strategic guidelines, including the economic implementation of growth in developing countries.

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At the same time, it should be noted that the solution of this task is impossible without the creation of a complete and effective system of public financial management capable of ensuring a macroeconomic balance, increasing the effectiveness and transparency of the management of public financial resources.

Based on the above information and taking into account the classical theory of financial management, we will try to identify the main elements of the public financial management system that will be applicable to the budget system of developing countries, including the execution of the state budget.

Considering the management of public finances through the prism of the principles of financial management, it can be noted that it is a set of interrelated and interdependent elements, namely: the organization of financial resources management, financial forecasting and planning, financial regulation, financial control.

The main objective of the public financial management in managing the system of state budget execution is to maximize budget revenues to improve the quality of public services for the society through the timely and complete financial provision of the budgetary spending.

Thus, it should be noted that the public financial management managing the system of state budget's execution is a complex of subsystems aimed at achieving the main goal by means of the key elements of this system. These subsystems provide the management of state budget revenues, expenditures and sources of budget deficit financing, in which certain procedures, processes and technologies are designed to minimize budget risks and losses, the implementation of financial control over budget implementation by applying a set of financial leverage to ensure the quality of public services for the society.

It is also important to note the existing conditions, which contribute to the need to implement public financial management principles in the execution of the state budget. One of the main conditions, first of all, is the results-oriented budgeting.

The main goal, in turn, of the results-oriented budgeting is the integration of the budgetary allocations' provision with the results of the activities of the budgetary planning subjects.

The research conducted by the author in the field of results-oriented budgeting showed that the process of modernizing the public financial management in the global community is ambiguously and has both supporters and opponents among representatives of science and practice. The systematization of the opinions of supporters and opponents of results-oriented budgeting can be presented in the following form.

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Opinions of those supporting the New Public Management ideology:

- disadvantages of traditional budget financing lie in the fact that it is aimed at budgeting costs, rather than the results of the activities of public authorities and public organizations;
- the system of budget financing does not allow to react quickly to new needs and opportunities, fixing in the structure of expenses the decisions of "yesterday", corrected by a biased and sufficiently defective method of increment;
- the budget system makes budgetary planning complex and opaque, and transparency disappears as the main characteristic of the budget.

Opinions of those opposing the New Public Management ideology:

Performance management systems, first of all, are intended for industrial and production activities of a cyclic nature. Most of the activities of public authorities are multi-purpose, and many political tasks cannot be quantified.

The causal relationship between activity and its outcome in the public administration sector is generally weak. There is a long period of time between the process of activity and the receipt of the planned results.

Most performance indicators are subjective, and their evaluation is associated with high costs, so that results-based management methods cannot be completely objective.

The brief overview of the budgeting elements that have been formed so far in terms of the direction of budget planning has made it possible to identify a number of key areas.

First, they include the characteristics of the goals, objectives and performance indicators of the main administrators of budgetary funds, as reflected in the annual reports on the results and main activities of the subjects of budget planning.

The indicators used in them are divided into two groups:

- formed directly from the activities of the main administrators of budgetary funds;
- formed based on the operation of the subordinate network.

Secondly, the transition to the organization of public services and the development of administrative regulations, including:

- general provisions;
- the standard of provision;
- the composition, sequence and timing of the implementation of administrative procedures (actions);
- requirements for their implementation;

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- forms of control over the implementation of administrative regulations;
- pre-judicial (extrajudicial) procedure for appealing decisions and actions (inaction) of the body that provides public services and their officials.

In addition, basic and departmental (sectoral) lists of public services are being formed in developing countries at present time.

The basic ones are approved by the state bodies of executive power, which carry out the functions of public policy development and legal regulation in the established sphere of activity, and departmental ones – by bodies responsible for the functions of state autonomous institutions, as well as the main administrator of budgetary funds.

Thirdly, the specification of the provided public services makes it possible to determine their value. It should be noted that the normative costs for a particular budget service are allowed to be calculated for each institution separately and for the group – on average, or taking into account corrective factors that are correlated with the specifics of providing the services (provision of engineering infrastructure, the status of the municipality, etc.).

Fourthly, the transition of determining the amount of funding from the calculation of the needed cost for the functioning of public sector institutions to planning the cost of performing public tasks for the providing of public services.

Common in these types of public tasks are:

- provision on early termination of the performance of the state task;
- the order of control over its execution;
- the form of the report on performance and its terms.

The results-based budgeting tools and, at the same time, the innovations in the public sector have created conditions that allow the development of the financial mechanism in the management of state budget system. In addition, the public financial management is also aimed at improving the efficiency and effectiveness of the implementation of fiscal policy.

Based on the above, we can form a model of the management system's results at all stages of the budget process, considered from the standpoint of the principles of financial management and including the corresponding four phases presented in Figure no. 1.

It should be noted that monitoring in this case is an end-to-end element and is present in each phase, thus its leading role should occur in the monitoring phase of the budget execution.

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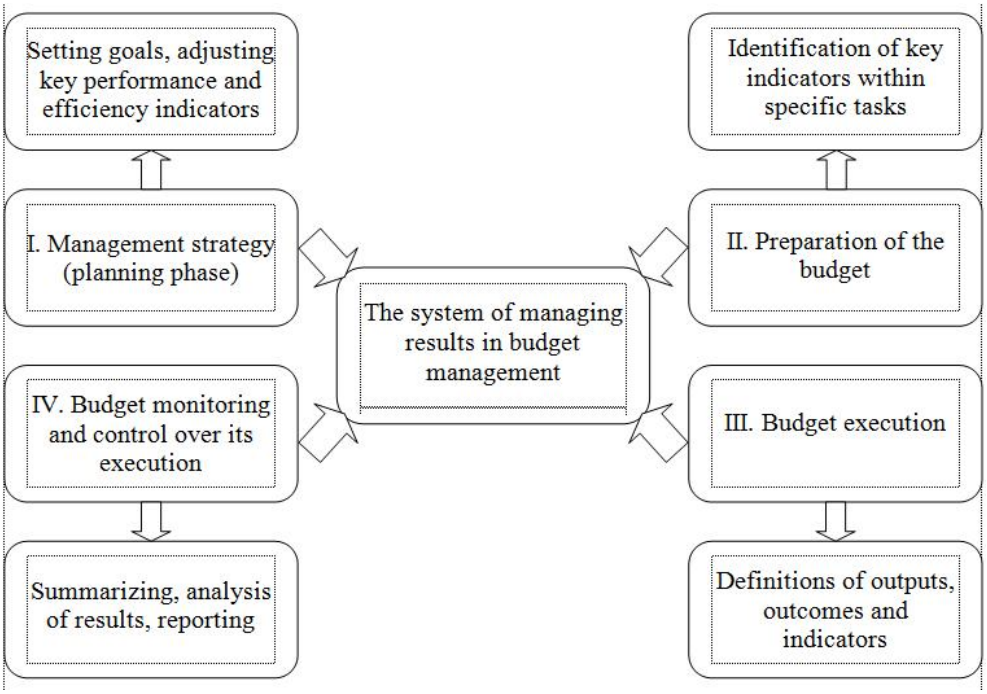

Figure no. 1. The system of managing results in budget management
Source: personal contribution

In the strategic planning of the activities, predetermined by the program-target method, indicators are developed to determine the results and the effectiveness that are expected in 3-5 years, and other indicators that are directly related to the development of the budget for the next year (program and non-program part of it).

Also it should be noted that results-based budgeting is a different budget management paradigm, which implies fundamental changes in approaches to all components of the management system: planning, goal setting, monitoring, etc. Simultaneously, results-based budgeting is regarded as the budget management paradigm providing a radical change in approaches to the structure of the budgetary process, i.e. to the budget process: drawing up, parliament discussion, execution of budgets and budgetary control. Lack of such an understanding can lead to the fact that the results-oriented budgeting tool can be implemented as a formal project.

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During the implementing principles and elements of results-based budgeting in practice, the possibility of establishing performance indicators for most government services provided by public authorities and state institutions should be used. The experience of developing countries in the development of results-based budgeting demonstrates a significant arsenal of indicators for assessing public services developed both at the state level and at the level of its regions and municipalities, that have a clearly defined professional reference point and are able to overcome the system of limitations identified by opponents of the New Public Management theory.

Conclusions

The process of state budget execution not only has an impact on the timely and fully transfer of the incomes to the budget, but also on improving the efficiency of using budget funds, which, in turn, are formed to implement the state budget policy and ensure the development of budget and management tools of public administration.

Execution of the state budget is the most important stage of the budgetary process in developing countries, within the framework of which the planned tasks and plans are being implemented.

Financial (budgetary) management is a process of managing the formation, distribution and use of public resources and optimizing the use of financial resources in the interests of socio-economic development of individual regions and the country as a whole. It is aimed at solving the following main interrelated tasks: ensuring high financial sustainability of legal entities in the process of their social and economic development and optimizing cash flows on the territory of public legal entities.

Future researches can be concerned with further specification of financial instruments, which are used in the private sector, but also can be implemented to the management of state budget execution.

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ERRORS AND FRAUD IN ACCOUNTING. THE ROLE OF EXTERNAL AUDIT IN FIGHTING CORRUPTION

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Abstract

Accounting errors and fraud are common in most businesses, but there is a difference between fraud and misinterpretation of communication or accounting regulations. The role of management in preventing fraud becomes important in the last decades and the importance of auditing in curbing corruption is increasingly revealed. There is a strong connection between fraud and corruption, accelerated by electronic systems and modern platforms.

The most recent developments tend to confirm that external auditing is curbing corruption, due to international accounting and auditing standards at national and regional levels. Thus, a better implementation of accounting standards and high quality of external control could prevent errors and fraud in accounting, and reduce corruption, as well.

The aim of this paper is to present some particular aspects of errors and fraud in accounting, and how external audit could ensure accuracy and accountability in financial reporting.

Keywords: *corruption; government; audit; accounting.*
JEL Classification: D_{73}, H_{70}, H_{83}, M_{48}

Introduction

This paper covers some particular aspects of errors and fraud in accounting, characteristics of fraud and explains how external audit could prevent the misstatements in the financial statements. According to International Standards of Auditing (ISA) the management is responsible for implementing accounting policies and for maintaining internal control, the auditor's responsibility is to express their opinion on the fairness of financial statements. It is common knowledge that the phenomenon of corruption cannot be eradicated altogether, for it exists in all

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countries, but corruption must have a controllable level and could be prevented by implementing internal control, internal audit and external audit [Ionescu, 2012a].

Corruption is related to fraud, financial crime, currency counterfeiting, money laundering, intellectual property crime, payment card fraud, computer virus attacks, etc. [Zaman & Ionescu, 2014]. The damaging effects of fraud and corruption could be identified in financial reporting with overpayment or recording non-delivery of goods and services for third-party transactions [Evans, 2008]. Recently, auditors are playing a central role in fighting against corruption and detecting errors or fraud with significant impact on the financial statements or other management reports [Bunget & Dumitrescu, 2009].

The development of fraud and corruption in Romania is facilitated by the internal and external environment marked by a high degree of uncertainty and vulnerability, connected to the international context of 2016-2017 emphasized by BREXIT at European level [Gurgu & Zorzoliu, 2016]. The economic crisis became a big challenge for the European Union and there are deep differences among member states on their understanding of economic and financial behaviour [Lorca-Sussino, 2016]. There is big difference between error and fraud. According to ISA 240 *The Auditor's Responsibilities Relating to Fraud in an Audit of Financial Statements*, fraud is "an intentional act by one or more individuals among management, those charged with governance, employees or third parties, involving the use of deception to obtain an unjust or illegal advantage". Fraud and corruption have grown in the last decades due to the conflict of interest, poor management and bureaucracy costs. We can observe in the figure below the relation between fraud, poor management and corruption.

According to ISA 240 *The Auditor's Responsibilities Relating to Fraud in an Audit of Financial Statements*, the auditor may identify the occurrence of fraud and corruption, but the auditor does not make legal connection between fraud and corruption, and the responsibility for the prevention and detection of fraud is the role of the company's management. Independence of the auditor is important in order to be objective during performing the auditing duties.

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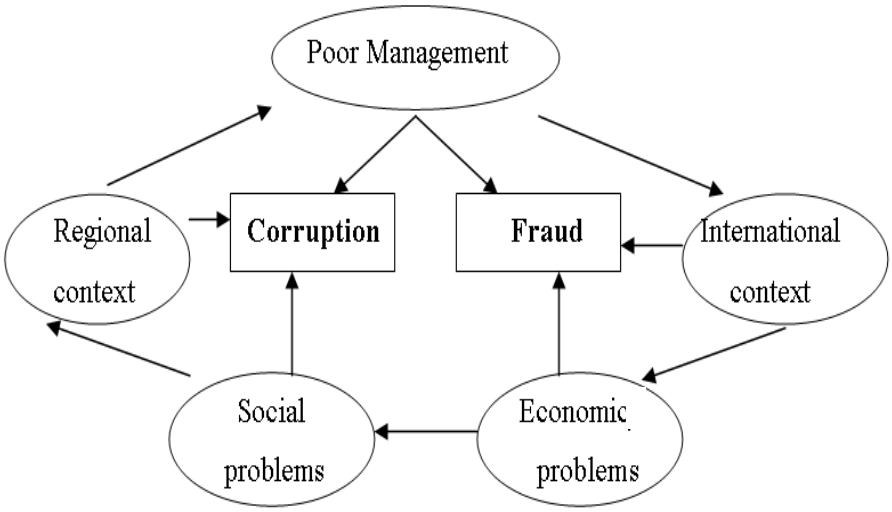

Figure no. 1. The relation between fraud, poor management and corruption
Source: Authors' own work

The perception of corruption and fraud in Romania

Accounting may facilitate bureaucracy and corruption, especially since regulation changes and the implementation of European directives in the national accounting system, including the requirements of financial-banking institutions or international bodies, are produced at a relatively high frequency [Ionescu, 2012b]. The reform of the Romanian accounting system has created prerequisites for the development of bureaucracy and corruption for at least two reasons:

a) inaccuracies, incompatibilities and confusion, both in respect of new and old accounting rules;

b) lack of clear, comprehensive and easy to use instructions and methodologies.

In this context, numerous accounting errors have been discovered, either due to erroneous records or due to software deficiencies. However, fraud and corruption are permanent problematic factors for doing business in Romania, as we can see in Table no. 1:

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Table no. 1. The evolution of five problematic factors for doing business in Romania

Indicators Romania	Years						
	2009	2010	2011	2012	2013	2014	2015
– bureaucracy	12.2	13.0	12.8	10.2	9.9	14.7	15.9
– corruption	6.9	9.7	17.4	13.4	11.0	8.7	10.1
– tax rates	11.6	15.5	13.9	17.8	15.6	15.8	14.7
– access to financing	15.9	10.8	12.1	10.5	16.6	14.0	16.6
– tax regulations	11.2	8.7	7.6	11.8	9.9	7.4	7.4

Source: http://www3.weforum.org/docs, *Global Competitiveness Reports*

Analyzing the indicators from table no. 1, we observe that bureaucracy, corruption, tax rates and access to financing record a high score as problematic factors for doing business in Romania. The evolution of perception of corruption is presented in the figure below:

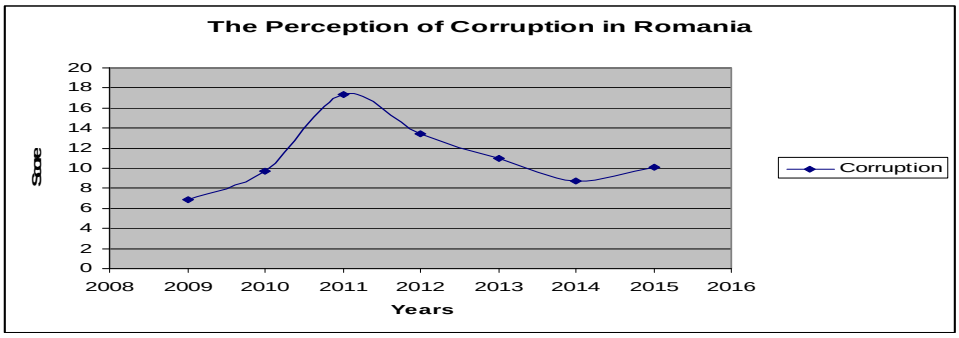

Figure no. 2. The perception of corruption period 2009-2015
Source: http://www3.weforum.org/docs, *Global Competitiveness Reports*

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Failure by auditors to detect such errors, mistakes and fraudulent activities could undermine the accuracy and transparency of the financial statements, leading to misrepresentation of expenses, costs, assets and profit or loss. According to Transparency International (2017), the recent economic crisis reveals accounting scandals with errors or fraud in the financial reports.

Prevention of errors and fraud in accounting

Fighting against corruption and fraud became a priority for governments, but also for professional organizations, as well. In Romania, The Body of Experts and Licensed Accountants of Romania (CECCAR) is the leader of the accounting profession, adopting accounting norms and encouraging all the members to fight against corruption and fraud. The Superior Council of CECCAR has decided to adopt the International Code of Ethics for Professional Accountants issued by IFAC as its own National Code of Ethics for Professional Accountants, for periods beginning on or after January 1st, 2011.

One of the fundamental principles of the National Code of Ethics is professional competence and due care in order to maintain professional knowledge and skill at the required level to avoid errors and mistakes. Another important ethical principle is referring to professional behaviour, in order to comply with relevant laws and regulations and avoid any action that discredits the profession. According to National Code of Ethics for Professional Accountants, a professional accountant discovering a significant error when evaluating the accounting reports from the past must correct the error, in order to avoid the misleading information in the financial statements.

Errors, fraud and corruption could be prevented by implementing principles from the Code of Ethics and auditing procedures. In this research, we developed a survey undertaken by over 100 accountants, expert accountants and managers from public and private companies in Bucharest and the suburbs. The questions were referring to the existence of errors and fraud in the accounting system and the role of audit in minimizing corruption. About 15% of the participants were expert accountants and 90% were accountants, all of them had university/college degrees. Thus, in the first question, we asked the respondents if, in their opinion, financial reporting included many errors. Here are the results: 90% of the respondents said NO (there are no mistakes), 3% of the respondents said YES (sometimes there are some mistakes), while the remaining said they did not know. We present the results in the figure below:

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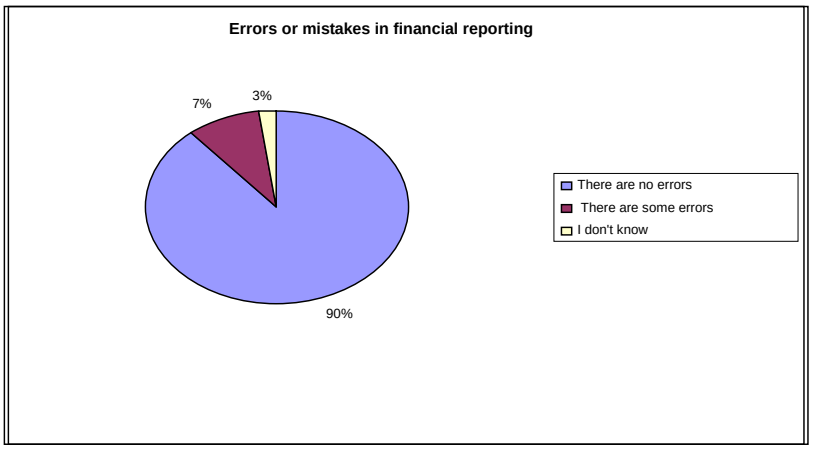

Figure no. 3. Errors in financial reporting
Source: Authors' own work

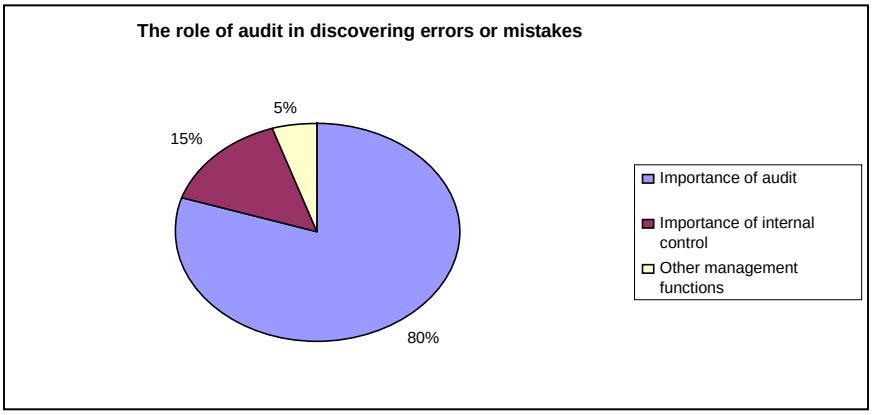

Figure no. 4. The role of audit in discovering errors or mistakes
Source: Authors' own work

Then, in the second question, the respondents were asked whether they believed in the role of audit in discovering errors or mistakes. Therefore, 80% of the respondents said YES, external audit can reveal the errors and fraud from financial reporting, while 15% of the respondents said that internal control is more

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important, and 5% said there are some other methods to prevent or discover mistakes. The results are presented in the figure above.

In fact, external auditors have limited investigative powers which restrict their ability to further investigate corruption cases or fraud [Evans, 2008]. It is the function of the management or financial controller to implement control techniques and prevent the errors or fraud in primary documents and financial statements. According to ISA 240 *The Auditor's Responsibilities Relating to Fraud in an Audit of Financial Statements*, management of the company is in a unique position to facilitate fraud because of management's ability to manipulate accounting records and prepare fraudulent financial statements by overriding controls that otherwise appear to be operating effectively.

Conclusion

Errors and mistakes in accounting are common and, most of the time, they are discovered by implementing internal control techniques or auditing procedures. Errors are due to misinterpretation of the accounting regulations or principles and mistakes are, most of the time, human errors. Fraud in accounting is more complex and involves the managers or employees who have access to documents or transactions during the year. The role of external audit in discovering errors and fraud is important, because fraud is connected to money laundering and corruption. Fraud and bureaucracy are causes of corruption and they could be minimized by implementing the International Accounting Standards and the International Standards of Auditing.

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THE EVOLUTION OF EDUCATIONAL MARKETING *

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Abstract

The association of the term 'educational' to the term 'marketing' generates a specialized domain, by applying methods, politics and marketing strategies in the area of education. Due to the cultural, social and complex role of the education, educational marketing represents a part of the services marketing, the social marketing and the non-profit organizations. By offering mandatory educational services, financed from the state budget, the school units, through their activity, respect the principles of social marketing, regardless of the financial benefits that result from the provision of these services.

This article aims to place educational marketing below the conceptual level in the field of service marketing; the reference works in the field of educational marketing are not many, a consequence of the fact that this is a new field.

Keywords: *educational pillars; educational marketing; social marketing; services marketing.*

JEL Classification: M_{31}, I_{23}

Introduction

Education is a human oriented activity, mean to develop the human personality, thus determining the development of the society. Firstly, education occurs inside the family, afterwards takes a new shape inside the school units, inside the church. The mass-media's influence is not to be avoided neither – though

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it cannot be controlled by the human being, it has a very strong impact. Learning inside the educational units is a systematic activity, managed with the objective to gain as much knowledge, aptitudes, personality shaping competences as possible.

Literature review

The most important and relevant contribution in the literature, in my opinion, is related to Gyönös' paper written in 2011, which is emphasizing the purpose of the educational marketing: maximize the effects of an educational process and bring into harmony the individual interests together with the collective ones, when it comes to learning. Thus, by a larger definition of education, this presumes the process that develops the capacities, ideas and human behaviours.

Educational marketing – conceptual determinations

In 1985, *Strategic Marketing for Educational Institutions* by Philip Kotler and Karen F.A. Fox appeared and offered solid marketing foundations for the basic activities of the school units. In 1993, the work of John H. Holcomb came to surface, named *Educational Marketing*, referring to the public schools systems in America. His work offers methods for more efficient educational services by improving the activities of the pupils, the members of the administrative council, the school directors, etc. Andrew Hockley, in his book entitled *Educational Management*, tackled subjects related to the organizational culture, the human resources, the consumer's behaviour, the financial management and also the projects' management in the school units.

In Romania, in 1976, M. C. Demetrescu's article called "Social Marketing for Education" appeared in *Magazine of Pedagogy*. Among the most important papers in Romanian language, we can name the ones belonging to the university professors Gabriel Brătucu and Ana Ispas, „Introduction into the Social Marketing", respectively „Social Marketing".

At the beginning of 1990, a study has been conducted showing that the educational marketing was interpreted in a very narrow context of the communications marketing definition. This study had as a standpoint a hypothesis supporting the idea that in order to ensure the success of the market universities, there is a great need for the managers to examine the process of decision taking and also to examine the way it is perceived by the potential student. At the same time, it was concluded that any student can be considered also a client for the educational product. [Manea, 2015]

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Just two decades after the first debates on introducing the marketing topic into the educational management practice, the adepts of the educational marketing have strongly claimed that education can be 'marketed' in a social, ethical and educationally responsible way [Stachowski, 2011], so that the educational marketing term has become a formal one, being introduced in the second half of 1980 in the United States of America and Great Britain, moment marked by the launching of some publications, such as 'how to promote your school', that were based on marketing models that were previously developed in the lucrative sector. The emergence of the marketing term into the university management lexicon is also framed by Maringe and Mourat (2012) at the beginning of 1980.

Oplatka and Hemsley-Brown are substantiating that the educational marketing represents an indispensable management function that is vital for the educational units in the competitive environment nowadays, as the efficiency of an educational unit itself is not enough and it has to illustrate an efficient image among parents and stakeholders, as well. In addition to that, the adoption of the marketing practice in the superior educational units represents a solution to decrease the negative effects of educational services extension, on a general level, which manifests more and more as a lack of individualized attention among the students, a crucial problem of the university management in the context of global competition. [Petruzzellis & Romanazzi, 2010]

Stachowski (2011) completes the series of arguments in favour of adopting the educational marketing by inventorying its benefits:

- better accomplishment of the institutions' missions;
- increased satisfaction of employees and pupils;
- the ability to attract more resources, financial and non-financial;
- increased efficiency of the marketing actions, in general.

Educational marketing, component of the services marketing

In the context of the definition, the service can be defined by facts, processes and the performance to be composed of all those actions and reactions that the consumers have understood to purchase [Agrawal, 2001]. In a larger definition, the services represent any act or performance that can be offered to any other party, an act that is essential and intangible and does not lead to obtaining the property right over anything; the production of that act can be or cannot be related to a physical product [Enasel, 2012]. Referring to the essence of services, those are defined by economical activities that create value and offer benefits to the consumers in

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certain moments, specific places, as a result of the action to generate the desired change in the name of the one that receives the service [Lovelock & Wright, 1999].

From all the range of definitions encountered in the major literature, the most representatives for the different stages of the conceptualization of services marketing are considered to be the ones made by the Marketing American Association (1960), Leonard L. Berry (1980) and Philip Kotler (1986).

According to the American Association, the services represent activities, benefits or utilities that are offered on the market or performed in close relation to the sale of a good. The definition given by L.L. Berry proves to be particularly concise and it tells that the service is an activity, an effort, a performance. According to the definition provided by P. Kotler, the service represents any activity or advantage that can be offered to the other and that, in essence, has an intangible character, not having as a result the property right of one thing over the other. Most of the definitions encountered in the specialty literature are emphasising the fact that services are 'activities that have a result that is not material and cannot be stocked', they do not apply to products that have an independent existence. [Enache, 2003]

Educational marketing, component of social marketing

The main goal of social marketing is to develop constructive approaches that support the desired behavioural changes and underpin the principle of increasing public perception that the benefits of new behaviour exceed the costs of adopting that behaviour [Kotler & Lee, 2009]. The social marketing concept has its roots in the rhetorical question from 1951, of the American academician Wiebe: "Why can't we sell our brotherhood in the same way as we are selling the soap?", an idea that found productive grounds in Kotler's paper work from 1969 that was sustaining that marketing is a social activity, universally spread, which goes beyond the spectrum of toothpaste, soap or iron sale [Kotler & Levy, 1969].

These first steps are the basis for introducing the official term of "social marketing" by Kotler and Zaltman, when, through their pioneer work, they formed the basis for demonstrating the use of marketing for analyzing, planning and controlling the issues of social change. The argument that stands as a pillar for embracing the concept of philosophy and marketing tools for social causes derives from the marketing discipline that provides the context for the development of new solutions to the social problems we face and which most often amaze and frustrate the society [Lefebvre, 2013].

At bottom, social marketing stands on two main pillars: firstly, it focuses on people, their needs and demands, aspirations, lifestyle and freedom of choice and

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secondly, social marketing has as main objective the change of the involved behaviour, the target of all social marketing projects being the segments of the priority population and not the people [Lefebvre, 2011] and it is a systematic process of managing the strategic allocation of resources to address widespread social problems [Lefebvre, 2013].

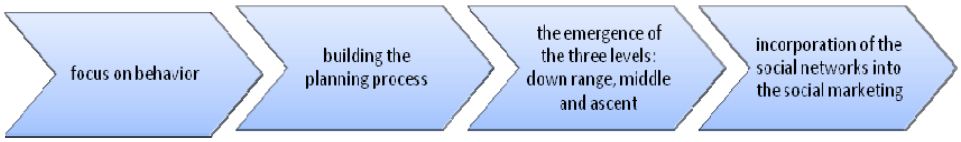

Figure no. 1. Evolution of the social marketing concept
Source: Adaptation of the Dibb & Carrigan's classification (2013)

Figure no. 2. Educational marketing mix
Source: Kondwani B.J. Manda (2014)

According to a more recent definition, the social marketing is a process that applies the principles and techniques of marketing to create communication and deliver value, in order to influence the audience target behaviour for the benefits of

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the society (public health, safety, environment, community), as well as the respective target audience [Kotler & Lee, 2009]. From a more practical point of view, the social marketing defines an organized effort led by a group with the intention to convince the others to accept, change or give up some ideas, attitudes, practices and behaviours [Cihovska, 2013]. Being a field enriched with challenges and opportunities, the social marketing has become, in the last years, an instrument to change the largely recognized behaviour that is used by non-profit organizations and governments for the social welfare promotion. [Pang & Kubacki, 2015]

On the other side, the evaluation of affiliation to the lucrative or non-lucrative services sector, in parallel with the evaluation of affiliation to the public sector vs the private sector, a series of shades need to be highlighted: the mandatory education (in the case of our country, until the high school) enters under the sphere of the non-lucrative services from the public sector (excepting the alternative private system that have a lucrative purpose, but have in the same time an area of coverage very narrowed, especially in the big urban centers).

Educational marketing: a strategy for building customer loyalty

Educating customers about products and services has long been a priority for leading companies. But new Internet-based approaches now enable them to develop far deeper customer relationships through ongoing education and information sharing. You can too, by applying our five critical success factors, your marketing challenge.

Advanced communication technologies now make it possible for companies to interact directly with their clients, distributors, channel partners and other important stakeholders in ways never dreamed possible until quite recently. Leading companies are maximizing those opportunities with a variety of approaches to support their business objectives. Instead of focusing solely on product-related information, they pursue communication and learn strategies that emphasize flexibility, interactivity and understanding, with a fundamental focus on enabling customer success. Educational content is often packaged for consumption via the Internet or mobile devices to win the favour of busy clients who are deluged with information.

A properly developed and executed educational marketing initiative is the antithesis of a hard-sell marketing campaign. It is a highly professional educational program dedicated to keeping valued clients informed about important issues and trends related to their interests. Its sole purpose is to help customers achieve success with their objectives and pursuits, not to push products and services.

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Figure no. 3. Educational marketing framework – mapping goals and drivers
Source: Intrepid Learning Solutions Report, 2010

Conclusions

Educational marketing represents the extension of marketing's application in the education sector, approached by school units to differentiate themselves on the education market and to develop long-term relationships with all stakeholders, from all categories. This marketing orientation has as main argument the fact that the higher education passes through an era of change, a statement that gives the impression that is part of the TINA syndrome („There-Is-No-Alternative"), maybe even an era of radical changes [Stensaker & D'Andrea, 2007]. Therefore, in the face of the environmental challenges, the paradigm of higher education needs to be

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continually restructured from the grounds in order to facilitate the entrepreneurial spirit and needs a coordinated strategy that focuses on the consumer [Judson et al., 2009].

Taking into account the numerous defining characteristics of the approached sectors until now in this chapter, a series of conclusions regarding the context of educational marketing can be enunciated. On the one hand, given the intangible nature of the purpose of the educational act (except for a diploma that is, in fact, a way to certify that the educational objectives related to knowledge, skills and abilities have been met), the involvement of the "client" in the provision of the service (educational objectives that can only be achieved with the help of contact persons for the achievement of educational objectives) can prove that educational marketing is an area of the large service marketing sector.

In the business perspective, we have an effective educational marketing that applies best practices of adult learning theory to ensure customer engagement and success. At the same time, educational marketing achieves measurable business objectives to satisfy the most skeptical directors looking for clear and measurable results. It builds trust, loyalty and credibility with customers, which directly translates to increased customer retention and higher revenues. Educational marketing programs that are well executed also cut through the din of today's incessant drumbeat of low-value, high-volume marketing "noise," and credibly position companies with the coveted status of "trusted advisor."

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THE HUMAN POTENTIAL AND ITS ROLE IN BUSINESS DEVELOPMENT*

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Abstract

Through its object of activity, an economic organization has the role to efficiently use the means of production that it possesses in terms of the full utilization of the production capacities, of a high quality of the products and of obtaining profit.

Companies need their human, material, financial, informational resources etc., resources that they have at a certain moment in order to accomplish the mission and strategic objectives around which their entire activity revolves.

Although technical progress has substantially reduced man's presence in some production processes, no economic process has been noticed at any stage in the evolution of humanity that can replace by man's contribution. On the contrary, this involvement becomes more and more substantial, as man conceives and produces the productive apparatus necessary to meet his ever more diverse needs

Keywords: *human potential; human resource; workforce; business; technical progress.*

JEL Classification: J_{20}, J_{21}, J_{24}, L_{26}

Introduction

Companies need in their human, material, financial, informational resources etc., resources that they have at a certain moment in order to accomplish the mission and strategic objectives around which their entire activity revolves.

* This article was presented at ICESBA 2017 (International Scientific Conference on Economic Sciences and Business Administration), Intercontinental Hotel, Bucharest, 24-25 of November 2017.

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In order to truly appreciate a company, first of all we must know its potential, namely the human, material, financial, and other resources.

Through its object of activity, an economic organization has the role to use efficiently its means of production that it possesses, in terms of the most complete use of production capacities, a high quality of products and profit-making.

Although the technical progress has substantially reduced man's presence in some production processes, no economic process has been noticed at any stage in the evolution of humanity that can replace by man's contribution. On the contrary, this involvement becomes more and more substantial, as man conceives and produces the productive apparatus necessary to meet his ever more diverse needs.

The human potential

The notion of human potential has seen numerous and varied approaches. The concept of human potential is addressed at microeconomic level.

The workforce is the breathing, dynamic factor that puts, through work, the other factors into action, having a decisive role in the economic process. The study of the human resources at microeconomic level reflects labour as an active production factor; so, to characterize labour "it is necessary to highlight aspects such as: volume, structure, dynamics, movement and use of labour" [Isaic-Maniu et al., 1999].

In the paper *Corporate Managerial Strategies* [Nicolescu et al., 1998] the authors state that the human potential "is represented by the total number of employees that the company needs in order to carry out its activities. Besides employees – which are usually the basic human fund of the enterprise, the human potential also includes other members outside the unit, which through the board of directors, consultants or other forms use a part of the time budget for works and actions in the interest of the respective organizations".

At the microeconomic level, the main problems of the human potential analysis, as they are found in the specialty papers [Moroşan, 2008], are the following:

- the analysis of the size and structure of human resources;
- the analysis of human resource behaviour;
- analyzing the efficiency of human resource utilization.

The analysis of the size and structure of human resources pursues the quantitative and qualitative side of the economic organizations' framing with their staff, structure and size.

The quantitative analysis of the human resources highlights the human potential available to an economic agent and is expressed by *number of employees* indicator (scriptic number). This indicator characterizes the level of the human

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potential at a given time and consists of all the persons who have a contract of employment with the unit for which the calculation is made, whether they were present at work or absent for various reasons during the calculation period.

The human resources available to an economic organization can be interpreted in terms of indicators such as: the number of employees, the number of staff, the average number of employees, the average number of staff and the maximum permissible number of staff.

In analyzing the human potential the used indicators are *the average number of employees* and *the average number of staff*.

The qualitative analysis of human resources aims at the fact that the qualitative aspects of the human resource are reflected in the degree of qualification and have a particular importance for the companies.

In the literature, we find specific indicators for qualitative analysis of human resources such as:

a) the average qualification coefficient of the personnel;

b) the average complexity of the executed works.

The comparison of the two average coefficients (of the qualification and the complexity of the executed works) gives us the possibility to find out how to use the human resources from the point of view of the qualification, in the sense of a full concordance or of some discrepancies.

c) the average compliance coefficient reflects the reconciliation between the average worker qualification and the average job class.

The analysis of the human resources structure is grouped in: occupied personnel in industrial activities and personnel occupied in non-industrial activities.

At the level of the company, the classification of the personnel per occupation is carried out according to the Romanian Occupation Classification elaborated by the Ministry of Labour, Family and Social Protection together with the National Statistics Commission in 2011. The occupied personnel is divided into the following nine major groups [*Order of the Minister of Labour, Family and Social Protection and of the President of the National Institute of Statistics* no. 1832 of July 6th, 2011 regarding the approval of the Classification of Occupations in Romania – level of occupation (six characters), published in the Official Gazette of Romania no. 561 of August 8th, 2011]: members of the legislative body, the executive, senior public administration heads, senior officials and officials; specialists in various fields of activity; technicians and other technical specialists; administrative officials; service workers; skilled workers in agriculture, forestry and fishing; skilled and assimilated workers; plant and machine operators, machine and equipment assemblers; unqualified workers.

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The staff of an economic organization can be grouped together by other characteristics: direct productive and indirect productive workers; technical staff: engineers, sub-engineers; staff with economic background; technical driving staff: foremen, technicians; management and administrative staff; general service personnel: service, guard, fire brigade or can be grouped on the basis of the following criteria: age (under 30 years, 31-40 years, 41-50 years, 51-60 years, over 60 years); seniority in the firm (1 year, 2 years, 3 years, etc.); gender; professional training; professional status (patron, employee, self-employed, etc.); functions of the firm (research and development, production, commercial, personnel, financial and accounting).

Staff grouping can be based on one or more features (age, level of training, profession, qualification, gender etc.).

The analysis of the human resources structure is done by reporting each category of personnel to the total staff (structural rates).

In the paper *Statistical and Economic Analysis and Company Evaluation Methods,* it is stated that "the structure of the workforce differs from one unit to another depending on its legal form, the ownership form and the type of main activity" [Vasilescu et al., 2002].

The human resources behaviour is analyzed from the perspective of employee mobility and stability and the use of working time.

The analysis of staff mobility and stability pursues the inputs and outflows of the personnel within the economic organization from normal causes (transfer, medical causes, studies, citizenship obligations, retirement, etc.).

Employees' *fluctuation* represents the outputs from the organization without the approval of the management or the termination of the employment contract; therefore, "the enterprises need to adopt a flexible system of ensuring the staffing needs both in terms of number and structure, which generates a process of the workforce movement".

In order to characterize the movement and fluctuation (mobility) of the staff, in the literature we can find indicators such as [Moroşan, 2008]:

a) *the average staff input* (C_i) calculated as a ratio between the total number of personnel entries during the period (I) and the average number of staff (N_p);

b) *the average output coefficient* (C_e) is determined as the ratio between the total number of personnel exits (for normal causes) during the period (E) and the average number of staff (N_p);

c) *the coefficient of staff fluctuation* (C_f) established as the ratio between the total number of staff exits for unjustified reasons during the period (E_N) and the average number of staff (N_p).

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The financial economic analysis based on these indicators is carried out in a dynamic period of 3-5 years to highlight trends of increase or decrease of staff movement and fluctuation.

The author Iosefina Moroșan considers that "the limitation of the fluctuation trend can generate the premises for increasing the stability of the personnel" [Moroșan, 2008] and uses for its sizing the following indicators:

a) *share of seniority in the unit analyzed in total working time* (V_t);

b) *the average seniority in the same unit* is calculated as a weighted arithmetic mean according to the seniority of the employees in the unit (t_i) and the number of employees having the same seniority (N_i).

Changing average age ($\Delta\overline{T}$) is given to influence the structure of employees by age ($\Delta_g^{\overline{T}}$) and the length of the same unit ($\Delta_t^{\overline{T}}$) and calculated as the following:

$$\Delta\overline{T} = \overline{T}_1 - \overline{T}_0 = \frac{\sum N_1 t_1}{\sum N_1} - \frac{\sum N_0 t_0}{\sum N_0} = \Delta_g^{\overline{T}} + \Delta_t^{\overline{T}}, \text{ where: } \Delta_g^{\overline{T}} = \frac{\sum N_1 t_0}{\sum N_1} - \frac{\sum N_0 t_0}{\sum N_0}$$

and $$\Delta_t^{\overline{T}} = \frac{\sum N_1 t_1}{\sum N_1} - \frac{\sum N_1 t_0}{\sum N_1}$$

In analyzing the use of working time, it is necessary to state that "full use of working time is an important way of increasing the volume of production and increasing the efficiency of economic activity".

Therefore, the growth of an economic organization's performance can also be achieved by making optimum use of the working time.

The analysis of the use of working time aims at finding ways to increase the performance of the economic organization by fully using the working time and determining the economic repercussions that occur as a result of its irrational use.

Within the analysis, according to the literature [Isaic-Maniu et al., 1999], the indicators which are used there are the calendar time fund (F_{tc}) and the maximum available time fund (F_{tmd}).

The calendar time fund (F_{tc}) is the product of the average number of employees (N_s) and the number of calendar days of the analyzed period (N_{zc}) when expressed in man/days.

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The calendar time fund is also expressed in man-hours and is calculated as a product between the calendar time fund expressed in man-days and the normal working day of an employee expressed in hours/day.

The maximum available time fund (F_{tmd}) is established as the difference between the calendar time fund and the time fund affected to weekly rest, legal holidays and rest leaves.

The author Iosefina Moroşan believes that "the maximum available time fund is the normal time resource that can be used within a calendar year. In the balance of working time, some losses from the maximum available time fund due to illnesses or other justified reasons are also considered" [Moroşan, 2008].

The structural analysis of the working time is done by weighting the working time in the total available maximum time fund (structural rates).

The maximum available time fund is obtained after the legal leaves of rest, holidays and free days have been deducted from the calendar time fund and this is the basic indicator of planning and analyzing working time.

The maximum available time fund consists of the two components: actual worked time (excluding extra worked time) and unused time for certain causes, namely:

– objective – one day breaks and within the shift, maternity leave, sick leave and part-time sickness, one day permissions and leaves and within the shift;

– subjective – the non-worked time for various other reasons.

The analysis looks at the evolution of the share of the actual time used in the maximum available time fund compared to the previous periods or with other units. Thus, the coefficient of the maximum fund available is calculated by reporting the time actually worked to the maximum available time fund.

This coefficient allows us to determine the amount of unused time in the maximum available time fund.

Within the financial economic analysis, a particular focus is on discovering the causes that determine the incomplete use of the maximum available time. This highlights the structure of unused time from objective and subjective causes. Increasing the share of the unused time from objective causes compared to the previous period and reducing the weight of non-motivated absences reflects positive aspects of a company's business

The analysis of the justified unused time's structure allows the adoption of the measures that are necessary to reduce the absences that are the causes of the

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actually used working time's reduction, with negative consequences on the volume of production.

The factorial analysis of the actual time used allows the discovery of the reserves to improve this indicator. In this respect, we start from the calculation model of the actual time indicator, expressed in man-hours, as follows [Moroşan, 2008]:

$$T = N \times Z \times h$$

where:

Tl – working time

N – the average number of workers in the script

Z – the average number of days worked per year by a worker

h – the average number of hours worked per day by a worker.

For example, if a company has 30 employees and an employee works 5 days / week, 8 hours / day, the working time is calculated as follows:

$$Tl = N \times W \times h = 30 \times 5 \times 8 = 1200$$

Using the chain substitution method, the respective influences are determined. The average length of the year in days is obtained as the ratio between the actual worked time in man/days and the average number of workers in the script. The average duration of the working day in hours is established by reporting the actual time in man/hours to the actual time in man/days.

The analysis of using the working time would be irrelevant if its link with the production program would not be established. Thus, knowing the productivity of the planned hourly work, we can determine the production related to the non-working time.

In the literature, *the static and dynamic analysis* of the working time is done using the following indicators:

a) *degree of scheduling the calendar time fund* (G_{Ftc});

b) *degree of using the calendar time fund* (G_{uFtc});

c) *degree of using the maximum available time fund* (G_{uFtmd});

d) degree of non-using the maximum available time fund (G_{nt});

d) degree of using the average normal working day (G_{udmzl}).

In the paper *Statistical and Economic Analysis and Company Evaluation Methods* [Vasilescu et al., 2002], it is considered that "a constant concern of the decision-makers within the companies must be the promotion of an efficient

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personnel policy which will result in maximizing the indicators of the amount of working time. This must be done not by increasing the number of staff employed, but by reducing the non-worked time, with favourable effects on the average duration of the working day and month, respectively the average actual time worked".

The effects of changing the working time – practical and theoretical aspects

Changing the working time has consequences on some economic and financial indicators related to the total time fund and to the average time per employee. *The effects of changing the working time* on the following economic and financial indicators are:

a) the value of the production obtained for sale;
b) the value of the exercise's production;
c) the volume of the turnover;
d) the added value;
e) the profit related to turnover;
f) the profit per employee.

The analysis of the human potential cannot be achieved without establishing the effective use of human resources.

The most important aspect of increasing employees' motivation is to emphasize their *progress*.

Basically nothing motivates more than the concept of progress. A steady stream of minor achievements brings more happiness than an occasional great success. This requires a constant flow of challenges, achievements and feedback, but dosed so that they do not reach any of the extremes of routine or overload.

In the paper *Statistical and Economic Analysis and Company Evaluation Methods* [Vasilescu et al., 2002], it is considered that "determining as accurately as possible the indicators that reflect the expense of working time for production must be a permanent concern of the decision-makers within companies".

The authors show that, in fact, "working time costs are the indicator of the effort used in calculating the level of labour productivity".

The human resource holds an important place in a company regardless of its object of activity. Motivation contributes to ensuring the balance of a psycho-material nature. Self-esteem is developed as a result of the individual's stimulation, and the remuneration contributes to raising the individual's standard of living.

In order to be efficient, the employee must receive incentives both in the form of remuneration and of a psychological nature. A motivated man is the true

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value of the organization because it has a great interest in achieving the goals, while an unmotivated man has no concerns in this respect.

There are situations in which the manager is pressed by time and wanting to win a large number of clients does not take into account the wishes of the work resource, implicitly of the proper motivation, and the firm and the employee will suffer. The company will feel the lack of employee's performance, and the work resource will perceive work as a chore.

To understand the concept of motivation in work, we need to define it and identify the etymology. Many theorists and practitioners have been interested in studying work motivation under economic, but also psycho-social impact.

Motivation is a term borrowed from Latin and means "moving", "progressing", "acting". The motivation is given by all processes that have a psycho-material character and which determine the direction and persistence of the voluntary actions in order to achieve the objectives [Vagu & Stegăroiu, 2006].

The goal of motivation should be to urge employees to stay within the company, to do everything they can to achieve performance for themselves and for the company they work for [Manolescu, 2001].

Motivation represents all the factors that contribute to stimulating the individual in order to achieve the results desired by the employee, but also by the manager. The human resources manager must continually seek to motivate the employee because he is the basis of any activity in the organization.

Motivation is the phenomenon to be studied according to the following levels [Frăţilă & Duică, 2014]:

1) individual – knowledge and identification of the human resources' wishes;

2) organizational – developing and implementing strategies at the human resources department to stimulate employees.

The essential functions of motivation are [Stănciulescu, 2001]:

1) determination of action;

2) targeting the action;

3) the control and support of targeted behaviour in order to achieve the objectives.

As part of the employee motivation process, rewarding holds an important place. This represents the totality of the forms by which the human resource obtains a financial or non-financial income. The work resource benefits from rewards during the work contract, as long as is doing business in the company.

The most common rewarding form for an employee is the salary. The factors of influence in the salary sphere are as follows [Chivu, 2009]:

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1) trade union policies;
2) economic and social conditions;
3) labour legislation;
4) government policies;
5) business sector;
6) company size.

Other forms of rewards that a company's staff can benefit from are: meal vouchers, promotion, salary increases, bonuses granted for different occasions.

Employees want to be valued by the leadership team who must constantly seek to develop policies to ensure they are valued and rewarded for their results. Capitalizing the creative potential of the employee is based on non-discriminatory practices in the reward systems. People who are not attracted to the type of activity they carry are not seen as rare cases, but only the company suffers because it cannot stimulate the staff.

The labour productivity

Labour productivity and profit per employee determine the intensive use of the human resources that show the efficiency of resources' use.

The efficiency of labour expenditure is reflected by labour productivity.

Average labour productivity (physical or value) and marginal labour productivity are of interest in analyzing the efficiency of human resources utilization.

Iosefina Moroşan (2008) states that "the level of average labour productivity can be determined on the basis of several economic indicators, in the form of one of the following reports":

a. Production obtained for delivery / Total working time fund is the quantity or the value of the goods obtained in a unit of time or by an employee.

b. Total working time fund / Production obtained for delivery is the amount of time consumed for obtaining a good, performing a work or providing a service.

The labour productivity in industry, according to the methodology of the National Institute of Statistics and in accordance with the EUROSTAT requirements, is calculated as the ratio between the gross index of industrial production and the average number of employees in the industry. Industrial productivity indices are calculated per total industry, sections (mining, manufacturing, electricity, heating, gas, hot water and air conditioning) and per divisions CAEN Rev.2.

The average labour productivity is calculated both on the basis of the economic indicators expressed in physical units (pieces, tons, meters, etc.) and on the basis of the economic indicators expressed in terms of value (production of the exercise,

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production obtained for delivery, added value, turnover, revenues from exploitation). It is thus possible to calculate the average physical labour productivity and the average value labour productivity.

The marginal productivity shows how much the manufactured production, the production of the financial exercise, the added value and the turnover increase by using an extra unit of working time.

Profit per employee is another indicator used to reflect the efficiency of human resources' usage.

Conclusions

Although the technical progress has substantially reduced man's presence in some production processes, no economic process has been noticed at any stage in the evolution of humanity in which man's contribution can be dispersed. On the contrary, this involvement becomes more and more substantial, as man conceives and produces the productive apparatus necessary to meet his ever more diverse needs.

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Employees want to be valued by the leadership team who must constantly seek to develop policies to ensure they are valued and rewarded for their results. Capitalizing the creative potential of the employee is based on non-discriminatory practices in the reward systems. People who are not attracted to the type of activity they carry are not seen as rare cases, but only the company suffers because it cannot stimulate the staff.

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TWO CRITERIA FOR GOOD MEASUREMENTS IN RESEARCH: VALIDITY AND RELIABILITY

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Abstract

Reliability and validity are the two most important and fundamental features in the evaluation of any measurement instrument or tool for a good research. The purpose of this research is to discuss the validity and reliability of measurement instruments that are used in research. Validity concerns what an instrument measures, and how well it does so. Reliability concerns the faith that one can have in the data obtained from the use of an instrument, that is the degree to which any measuring tool controls for random error. An attempt has been taken here to review the reliability and validity, and treat them in some details.

Keywords: *validity and reliability; errors in research; threats in research.*
JEL Classification: A_2, I_2

1. *Introduction*

Reliability and validity are needed to present the research methodology chapter in a concise, but precise manner. These are appropriate concepts for introducing a remarkable setting in research. Reliability is referred to as the stability of findings, whereas validity is represented as the truthfulness of findings [Altheide & Johnson, 1994].

Validity and reliability increase transparency, and decrease opportunities to insert researcher bias in qualitative research [Singh, 2014]. For all secondary data, a detailed assessment of reliability and validity involve an appraisal of methods used to collect data [Saunders et al., 2009]. These provide a good relation to interpret scores from psychometric instruments (e.g., symptom scales, questionnaires, education tests, and observer ratings) used in clinical practice, research, education, and administration [Cook & Beckman, 2006]. These are important concepts in modern

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research, as they are used for enhancing the accuracy of the assessment and evaluation of a research work [Tavakol & Dennick, 2011]. Without assessing reliability and validity of the research, it will be difficult to describe for the effects of measurement errors on theoretical relationships that are being measured [Forza, 2002]. By using various types of methods to collect data for obtaining true information; a researcher can enhance the validity and reliability of the collected data.

The researchers often not only fail to report the reliability of their measures, but also fall short of grasping the inextricable link between scale validity and effective research [Thompson, 2003]. Measurement is the assigning of numbers to observations in order to quantify phenomena. It involves the operation to construct variables, and the development and application of instruments or tests to quantify these variables [Kimberlin & Winterstein, 2008]. If the better mechanism is used, the scientific quality of research will increase. The variables can be measured accurately to present an acceptable research. Most of the errors may occur in the measurement of scale variables, so that the scales development must be imperfect for a good research [Shekharan & Bougie, 2010]. The measurement error not only affects the ability to find significant results but also can damage the function of scores to prepare a good research. The purpose of establishing reliability and validity in research is essentially to ensure that data are sound and replicable, and the results are accurate.

2. ***Literature review***

The evidence of validity and reliability is a prerequisite to assure the integrity and quality of a measurement instrument [Kimberlin & Winterstein, 2008]. Haynes et al. (2017) have tried to create an evidence-based assessment tool, and determine its validity and reliability for measuring contraceptive knowledge in the USA. Sancha Cordeiro Carvalho de Almeida has worked on validity and reliability of the 2nd European Portuguese version of the "*Consensus Auditory-Perceptual Evaluation of Voice*" (II EP CAPE-V) in some details in her master thesis [de Almeida, 2016]. Deborah A. Abowitz and T. Michael Toole have discussed on fundamental issues of design, validity, and reliability in construction research. They show that effective construction research is necessary for the proper application of social science research methods [Abowitz & Toole, 2010]. Corey J. Hayes, Naleen Raj Bhandari, Niranjan Kathe, and Nalin Payakachat have analyzed reliability and validity of the Medical Outcomes Study Short Form-12, Version 2 in adults with non-cancer pain [Hayes et al., 2017]. Yoshida et al. (2017) have analyzed the Patient Centred Assessment Method and have determined that is a valid and reliable scale for

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assessing patient complexity in the initial phase of admission to a secondary care hospital. Roberta Heale and Alison Twycross have briefly discussed the aspects of the validity and reliability in the quantitative research [Heale & Twycross, 2015].

Moana-Filho et al. (2017) show that reliability of sensory testing can be better assessed by measuring multiple sources of error simultaneously instead of focusing on one source at a time. Reva E. Johnson, Konrad P. Kording, Levi J. Hargrove, and Jonathon W. Sensinger have analyzed in some detail the systematic and random errors that often arise [Johnson et al., 2017]. Christopher R. Madan and Elizabeth A. Kensinger have examined the test-retest reliability of several measures of brain morphology [Madan et al., 2017]. Stephanie Noble, Marisa N. Spann, Fuyuze Tokoglu, Xilin Shen, R. Todd Constable, and Dustin Scheinost have obtained results on functional connectivity brain MRI. They have highlighted the increase in test-retest reliability when treating the connectivity matrix as a multivariate object, and the dissociation between test-retest reliability and behavioural utility [Noble et al., 2017]. Kilem Li Gwet has explored the problem of inter-rater reliability estimation when the extent of the agreement between raters is high [Gwet, 2008]. Satyendra Nath Chakrabartty has discussed an iterative method by which a test can be dichotomized in parallel halves, and ensures maximum split-half reliability [Chakrabartty, 2013]. Kevin A. Hallgren has computed inter-rater reliability for observational data in details for tutorial purposes. He provides an overview of aspects related to study design, selection and computation of appropriate inter-rater reliability statistics, and interpreting and reporting results. Then he has included SPSS and R syntax for computing Cohen's kappa for nominal variables and intra-class correlations for ordinal, interval, and ratio variables [Hallgren, 2012].

Carolina M. C. Campos, Dayanna da Silva Oliveira, Anderson Henry Pereira Feitoza, and Maria Teresa Cattuzzo have tried to develop and to determine reproducibility and content validity of the organized physical activity questionnaire for adolescents [Campos et al., 2017]. Stephen P. Turner has expressed the concept of face validity, used in the sense of the contrast between face validity and construct validity, conventionally understood in a way which is wrong and misleading [Turner, 1979]. Jessica K. Flake, Jolynn Pek, and Eric Hehman indicate that the use of scales is pervasive in social and personality psychology research, and highlight the crucial role of construct validation in the conclusions derived from the use of scale scores [Flake et al., 2017]. Burns et al. (2017) have analyzed the criterion-related validity of a general factor of personality extracted from personality scales of various lengths which have been explored in relation to organizational behaviour and subjective well-being with 288 employed students.

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3. ***Research objectives***

The aim of this study is to discuss the aspects of reliability and validity in research. The objectives of this research are:

- to indicate the errors the researchers often face;
- to show the reliability in a research;
- to highlight validity in a research.

4. ***Methodology***

Methodology is the guidelines in which we approach and perform activities. Research methodology provides us the principles for organizing, planning, designing and conducting a good research. Hence, it is the science and philosophy behind all researches [Legesse, 2014]. Research methodology is judged for rigor and strength based on validity, and reliability of a research [Morris & Burkett, 2011]. This study is a review work. To prepare this article, we have used the secondary data. In this study, we have used websites, previous published articles, books, theses, conference papers, case studies, and various research reports. To prepare a good research, researchers often face various problems in data collection, statistical calculations, and to obtain accurate results. Sometimes, they may encounter various errors. In this study, we have indicated some errors that the researchers frequently face. We also discuss the reliability and validity in the research.

5. ***Errors in a research***

Bertrand Russell warns for any work "*Do not feel absolutely certain of anything*" [Russell, 1971]. Error is common in scientific practice, and many of them are field-specific [Allchin, 2001]. Therefore, there is a chance of making errors when a researcher performs a research, for no research is certainly error free.

5.1. **Types of errors**

When a researcher runs in research, four types of errors may occur in his/her research procedures [Allchin, 2001]: Type I error, Type II error, Type III error, and Type IV error.

Type I error: If the null hypothesis of a research is true, but the researcher takes decision to reject it; then an error must occur, it is called Type I error (false positives). It occurs when the researcher concludes that there is a statistically significant difference when in actuality one does not exists. For example, a test that shows a patient to have a disease when in fact the patient does not have the disease,

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it is a Type I error. A Type I error would indicate that the patient has the virus when he/she does not have it, a false rejection of the null hypothesis. Another example is a patient might take an HIV test, promising a 99.9% accuracy rate. This means that 1 in every 1,000 tests could give a Type I error informing a patient that he/she has the virus, when he/she has not, also a false rejection of the null hypothesis.

Type II error: If the null hypothesis of a research is actually false, and the alternative hypothesis is true. The researcher decides not to reject the null hypothesis, and then it is called Type II error (false negatives). For example, a blood test failing to detect the disease it was designed to detect in a patient who really has the disease is a Type II error.

Both Types I and II errors were first introduced by Jerzy Neyman and Egon S. Pearson [Neyman & Pearson, 1928]. The Type I error is more serious than Type II, because a researcher has wrongly rejected the null hypothesis. Both Type I and Type II errors are factors that every scientist and researcher must take into account.

Type III Error: Many statisticians are now adopting a third type of error, a Type III, where the null hypothesis was rejected for the wrong reason. In an experiment, a researcher might postulate a hypothesis and perform the research. After analyzing the results statistically, the null is rejected. In 1948, Frederick Mosteller first introduced Type III error [Mitroff & Silvers, 2009]. The problem is that there may be some relationship between the variables, but it could be for a different reason than stated in the hypothesis. An unknown process may underlie the relationship.

Type IV Error: The incorrect interpretation of a correctly rejected hypothesis is known as Type IV error. In 1970, L. A. Marascuilo and J. R. Levin proposed Type IV error. For example, a physician's correct diagnosis of an ailment followed by the prescription of a wrong medicine is a Type IV error [Marascuilo & Levin, 1970].

We have observed that a research is error free in the two cases: i) if the null hypothesis is true and the decision is made to accept it, and ii) if the null hypothesis is false and the decision is made to reject it.

Douglas Allchin identifies taxonomy of error types as [Allchin, 2001]: i) material error (impure sample, poor technical skill, etc.), ii) observational error (instrument not understood, observer perceptual bias, sampling error, etc.), iii) conceptual error (computational error, inappropriate statistical model, miss-specified assumptions, etc.), and iv) discursive error (incomplete reporting, mistaken credibility judgments, etc.).

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5.2. **Errors in measurement**

Measurement requires precise definitions of psychological variables such as intelligence, anxiety, guilt, frustration, altruism, hostility, love, alienation, aggression, reinforcement, and memory. In any measure, a researcher is interested in representing the characteristics of the subject accurately and consistently. The desirable characteristics of a measure are reliability, and validity. Both are important for the conclusions about the credibility of a good research [Waltz et al., 2004]. The measurement error is the difference between the true or actual value and the measured value. The true value is the average of the infinite number of measurements, and the measured value is the precise value. These errors may be positive or negative. Mathematically we can write the measurement error as:

$$\Delta x = x_r - x_i \qquad (1)$$

where Δx is the error of measurement, x_r is the real untrue measurement value, and x_i is the ideal true measurement value. For example, if electronic scales are loaded with 10 kg standard weight, and the reading is 10 kg 2 g, then the measurement error is 2 g.

Usually, three measurement errors occur in research [Malhotra, 2004]: i) gross errors, ii) systematic error that affects the observed score in the same way on every measurement, and iii) random error; that varies with every measurement. In research, a true score theory is represented as [Allen & Yen, 1979]:

$$X = T + E_r + E_s \qquad (2)$$

where X is the obtained score on a measure, T is the true score, E_r is the random error, and E_s is the systematic error. If $E_r = 0$ in (2), then the instrument is termed as reliable. If both $E_r = 0$ and $E_s = 0$ then, $X = T$ and the instrument is considered as valid.

5.2.1. *Gross errors*

These occur because of the human mistakes, experimenter's carelessness, equipment failure or computational errors [Corbett et al., 2015]. Frequently, these are easy to recognize and the origins must be eliminated [Reichenbacher & Einax, 2011].

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Consider a person using the instruments takes the wrong reading. For example, the experimenter reads the 50.5ºC, while the actual reading is 51.5ºC. This happens because of the oversights. The experimenter takes the wrong reading. Hence, the error occurs in the measurement. This error can only be avoided by taking the reading carefully. Two methods can remove the gross error as: i) the reading should be taken very carefully, and ii) two or more readings should be taken by the different experimenter, and at a different point for removing the error.

5.2.2. *The systematic errors*

These influence all examinee's scores in a systematic way. These occur due to fault in the measuring device. These can be detached by correcting the measurement device [Taylor, 1999]. The systematic errors can be classified as: i) instrumental errors, ii) environmental errors, iii) observational errors, and iv) theoretical errors (figure 1).

Instrumental errors: These occur due to manufacturing, calibration or operation of the device. These may arise due to friction or hysteresis [Swamy, 2017]. These include loading effect, and misuse of the instruments. In order to reduce the gross errors in measurement, different correction factors must be applied, and in extreme conditions the instrument must be recalibrated carefully. For example, if the instrument uses the weak spring, then it gives the high value of measuring quantity.

Environmental errors: These occur due to some external conditions of the instrument. External conditions include pressure, temperature, humidity, dust, vibration, electrostatic or magnetic fields [Gluch, 2000]. In order to reduce these errors, a researcher can try to maintain the humidity and temperature constant in the laboratory by making some arrangements, and ensuring that there shall not be any external electrostatic or magnetic field around the instrument.

Observational errors: These types of errors occur due to wrong observations or reading in the instruments, particularly in case of energy meter reading [Allchin, 2001]. The wrong observations may be due to parallax. To reduce the parallax error highly accurate meters are needed with mirrored scales.

Theoretical errors: These are caused by simplification of the model system [Allchin, 2001]. For example, a theory states that the temperature of the system surrounding will not change the readings taken when it actually does, then this factor will be a source of error in measurement.

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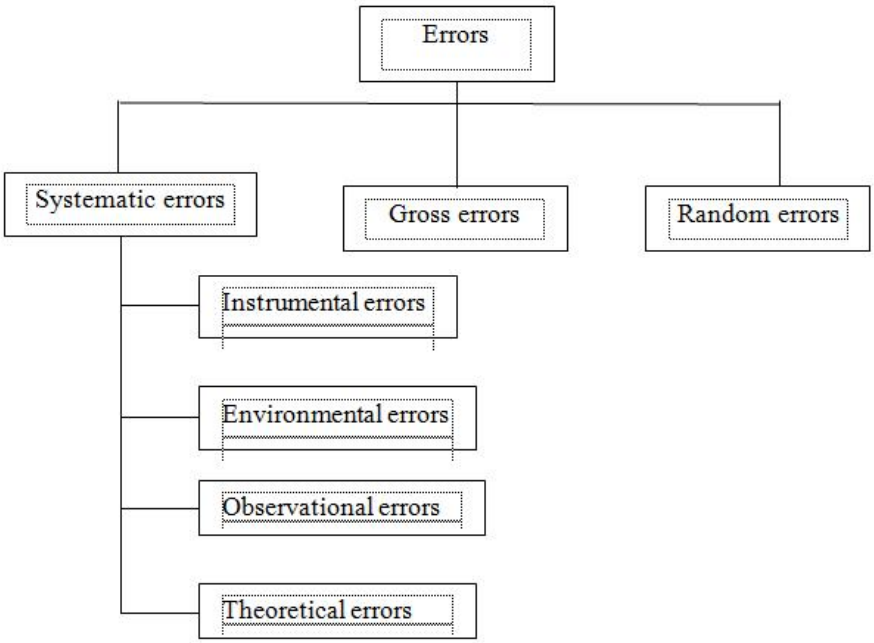

Figure no. 1. Structure of errors occurred in measurement

5.2.3. *Random errors*

After calculating all systematic errors, it is found that there are still some errors in measurement left [DeVellis, 2006]. These errors are known as random errors (figure no. 1). These are caused by the sudden change in experimental conditions, also for noise, and tiredness in the working persons. These errors are either positive or negative [Taylor, 1999]. Examples of the random errors are: changes in humidity, unexpected change in temperature, and fluctuation in voltage during an experiment. These errors may be reduced by taking the average of a large number of readings.

If both systematic and random errors occur in a research, it is considered as total measurement error [Allen & Yen, 1979]. Systematic errors are found for stable factors which influence the observed score in the same way on every occasion of measurement. But, random error occurs due to transient factors which influence the observed score differently each time [Malhotra, 2004]. If the random

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error is zero then the research is considered as reliable. If both systematic error and random error are zero then the research is considered as valid [Bajpai & Bajpai, 2014]. To minimize overall error, random errors should be ignored, whereas systematic errors should result in adaptation of the movement [Johnson et al., 2017].

5.3. **Evaluation of the quality of measures**

Key indicator of the quality of a measure is the proper measurement of reliability and validity of the research. In a standard research, any score obtained by a measuring instrument is the sum of both the 'true score', which is unknown, and 'error' in the measurement process. If the error margins are low and reporting of results of a research are of high standards, no doubt the research will be fruitful. If the measurement is very accurate then a researcher will find a true score [Kimberlin & Winterstein, 2008]. Actually, the foundation of a good research is the trustworthiness (reliability and validity) of the data to make decisions; otherwise a good decision cannot be made.

In quantitative research it is possible for a measurement to be reliable, but invalid; however, if a measurement is unreliable, then it cannot be valid [Thatcher, 2010; Twycross & Shields, 2004].

6. ***Reliability***

The reliability refers to a measurement that supplies consistent results with equal values [Blumberg et al., 2005]. It measures consistency, precision, repeatability, and trustworthiness of a research [Chakrabartty, 2013]. It indicates the extent to which it is without bias, and hence insures consistent measurement across time and across the various items in the instruments (the observed scores). Some qualitative researchers use the term 'dependability' instead of reliability. It is the degree to which an assessment tool produces stable (error free) and consistent results. It indicates that the observed score of a measure reflects the true score of that measure. It is a necessary, but not sufficient component of validity [Feldt & Brennan, 1989].

In quantitative researcher, reliability refers to the consistency, stability and repeatability of results, that is, the result of a researcher is considered reliable if consistent results have been obtained in identical situations, but different circumstances. But, in qualitative research it is referred to as when a researcher's approach is consistent across different researchers and different projects [Twycross & Shields, 2004].

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It is a concern every time a single observer is the source of data, because we have no certain guard against the impact of that observer's subjectivity [Babbie, 2010]. Reliability issues are most of the time closely associated with subjectivity, and once a researcher adopts a subjective approach towards the study, then the level of reliability of the work is going to be compromised [Wilson, 2010].

The coefficient of reliability falls between 0 and 1, with perfect reliability equalling 1, and no reliability equalling 0. The test-retest and alternate forms are usually calculated reliability by using statistical tests of correlation [Traub & Rowley, 1991]. For high-stakes settings (e.g., licensure examination) reliability should be greater than 0.9, whereas for less important situations values of 0.8 or 0.7 may be acceptable. The general rule is that reliability greater than 0.8 are considered as high [Downing, 2004].

Reliability is used to evaluate the stability of measures administered at different times to the same individuals and the equivalence of sets of items from the same test [Kimberlin & Winterstein, 2008]. The better the reliability is perform, the more accurate the results; situation that increases the chance of making correct decision in research. Reliability is a necessary, but not a sufficient condition for the validity of research.

6.1. **Types of reliability**

Reliability is mainly divided into two types as: i) stability, and ii) internal consistency reliability.

Stability: It is defined as the ability of a measure to remain the same over time despite uncontrolled testing conditions or respondent themselves. It refers to how much a person's score can be expected to change from one administration to the next [Allen & Yen, 1979]. A perfectly stable measure will produce exactly the same scores time after time. Two methods to test stability are: i) test-retest reliability, and ii) parallel-form reliability.

Test-retest reliability: The reliability coefficient is obtained by repetition of the same measure on a second time, is called the test-retest reliability [Graziano and Raulin, 2006]. It assesses the external consistency of a test [Allen & Yen, 1979]. If the reliability coefficient is high, for example, $r = 0.98$, we can suggest that both instruments are relatively free of measurement errors. If the coefficients yield above 0.7, are considered acceptable, and coefficients yield above 0.8, are considered very good [Sim & Wright, 2005; Madan & Kensinger, 2017].

The test-retest reliability indicates score variation that occurs from testing session to testing session as a result of errors of measurement. It is a measure of

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reliability obtained by managing the same test twice over a period of time ranging from few weeks to months, on a group of individuals. The scores from Time 1 and Time 2 can then be correlated between the two separate measurements in order to evaluate the test for stability over time. For example, employees of a Company may be asked to complete the same questionnaire about employee job satisfaction two times with an interval of three months, so that test results can be compared to assess stability of scores. The correlation coefficient calculated between two set of data, and if found to be high, the test-retest reliability is better. The interval of the two tests should not be very long, because the status of the company may change during the second test, which affects the reliability of research [Bland & Altman, 1986].

Parallel-forms reliability: It is a measure of reliability obtained by administering different versions of an assessment tool to the same group of individuals. The scores from the two versions can then be correlated in order to evaluate the consistency of results across alternate versions. If they are highly correlated, then they are known as parallel-form reliability [DeVellis, 2006]. For example, the levels of employee satisfaction of a Company may be assessed with questionnaires, in-depth interviews and focus groups, and the results are highly correlated. Then we may be sure that the measures are reasonably reliable [Yarnold, 2014].

Internal Consistency Reliability: It is a measure of reliability used to evaluate the degree to which different test items that probe the same construct produce similar results. It examines whether or not the items within a scale or measure are homogeneous [DeVellis, 2006]. It can be established in one testing situation, thus it avoids many of the problems associated with repeated testing found in other reliability estimates [Allen & Yen, 1979]. It can be represented in two main formats [Cortina, 1993]: i) The inter-item consistency, and ii) Split-half reliability.

Inter-rater reliability: It is the extent to which information is collected consistently [Keyton et al., 2004]. It establishes the equivalence of ratings obtained with an instrument when used by different observers. No discussion can occur when reliability is being tested. Reliability is determined by the correlation of the scores from two or more independent raters, or the coefficient of agreement of the judgments of the raters. It is useful because human observers will not necessarily interpret answers the same way; raters may disagree as to how well certain responses or material demonstrate knowledge of the construct or skill being assessed. For example, levels of employee motivation of a Company can be assessed using observation method by two different assessors, and inter-rater reliability relates to the extent of difference between the two assessments. The most common internal

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consistency measure is Cronbach's alpha (α), which is usually interpreted as the mean of all possible split-half coefficients. It is a function of the average inter-correlations of items, and the number of items in the scale. It is widely used in social sciences, business, nursing, and other disciplines. It was first named alpha by Lee Joseph Cronbach in 1951, as he had intended to continue with further coefficients. It typically varies between 0 and 1, where 0 indicates no relationship among the items on a given scale, and 1 indicates absolute internal consistency [Tavakol & Dennick 2011]. Alpha values above 0.7 are generally considered acceptable and satisfactory, above 0.8 are usually considered quite good, and above 0.9 are considered to reflect exceptional internal consistency [Cronbach, 1951]. In the social sciences, acceptable range of alpha value estimates from 0.7 to 0.8 [Nunnally & Bernstein, 1994].

Split-half reliability: It measures the degree of internal consistency by checking one half of the results of a set of scaled items against the other half [Ganesh, 2009]. It requires only one administration, especially appropriate when the test is very long. It is done by comparing the results of one half of a test with the results from the other half. A test can be split in half in several ways, for example, first half and second half, or by odd and even numbered items. If the two halves of the test provide similar results this would suggest that the test has internal reliability. It is a quick and easy way to establish reliability. It can only be effective with large questionnaires in which all questions measure the same construct, but it would not be appropriate for tests which measure different constructs [Chakrabartty, 2013].

It provides a simple solution to the problem that the parallel form faces. It involves, administering a test to a group of individuals, splitting the test in half, and correlating scores on one half of the test with scores on the other half of the test [Murphy & Davidshofer, 2005]. It may be higher than Cronbach's alpha only in the circumstances of there being more than one underlying responses dimension tapped by measure, and when certain other conditions are met as well.

7. ***Validity***

Validity is often defined as the extent to which an instrument measures what it asserts to measure [Blumberg et al., 2005]. Validity of a research instrument assesses the extent to which the instrument measures what it is designed to measure [Robson, 2011]. It is the degree to which the results are truthful. So that it requires research instrument (questionnaire) to correctly measure the concepts under the study [Pallant, 2011]. It encompasses the entire experimental concept, and establishes whether the results obtained meet all of the requirements of the scientific research method. Qualitative research is based on the fact that validity is a matter of trustworthiness,

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utility, and dependability [Zohrabi, 2013]. Validity of research is an extent at which requirements of scientific research method have been followed during the process of generating research findings. It is a compulsory requirement for all types of studies [Oliver, 2010].

In quantitative research validity is the extent to which any measuring instrument measures what it is intended to measure [Thatcher, 2010]. But, in qualitative research it is when a researcher uses certain procedures to check for the accuracy of the research findings [Creswell, 2014]. It is not a property of the instrument, but of the instrument's scores and their interpretations. It is best viewed as a hypothesis for which evidence is collected in support of proposed inferences [Messick, 1989]. Lee J. Cronbach and Paul E. Meehl first introduced the issue of validity in quantitative research in the mid 20th century in relation to the establishment of the criteria for assessing psychological tests [Cronbach & Meehl, 1955].

In research, validity has two essential parts: a) internal (credibility), and b) external (transferability). Internal validity indicates whether the results of the study are legitimate because of the way the groups were selected, data were recorded or analyses were performed. It refers to whether a study can be replicated [Willis, 2007]. To assure it, the researcher can describe appropriate strategies, such as triangulation, prolonged contact, member checks, saturation, reflexivity, and peer review. External validity shows whether the results given by the study are transferable to other groups of interest [Last, 2001]. A researcher can increase external validity by: i) achieving representation of the population through strategies, such as random selection, ii) using heterogeneous groups, iii) using non-reactive measures, and iv) using precise description to allow for study replication or replicate study across different populations, settings, etc.

Shekharan & Bougie (2010) were alarmed with whether a researcher measures the right concept or not. Validity requires an instrument to be reliable, but an instrument can be reliable without being valid [Kimberlin & Winterstein, 2008].

7.1. **Types of validity**

Validity test is mainly divided into four types as [Creswell, 2005; Pallant, 2011]: i) content validity, ii) face validity, iii) construct validity, and iv) criterion-related validity (figure no. 2).

Content validity: It is the extent to which the questions on the instrument and the scores from these questions represent all possible questions that could be asked about the content or skill [Creswell, 2005]. It ensures that the questionnaire

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includes adequate set of items that tap the concept. The more the scale items represent the domain of the concept being measured, the greater the content validity [Shekaran & Bougie, 2010]. With it is the interested in assessing current performance rather than predicting future performance. It is related to a type of validity in which different elements, skills and behaviours are adequately and effectively measured [DeVellis, 2006; Messick, 1995]. There is no statistical test to determine whether a measure adequately covers a content area, content validity usually depends on the judgment of experts in the field. The unclear and obscure questions can be amended, and the ineffective and non-functioning questions can be discarded by the advice of the reviewers. For example, if we want to test knowledge on Bangladeshi Geography it is not fair to have most questions limited to the geography of Dhaka, the capital city of Bangladesh. Another example is, in arithmetic operations: the test problem will be content valid if the researcher focuses on addition, subtraction, multiplication and division, but will be content invalid if the researcher focuses on one aspect of arithmetic alone, addition (say) [Thatcher, 2010].

To effectively evaluate content validity, L. Crocker and J. Algina suggest the four steps procedures as [Crocker and Algina, 2010]: i) identify and outline the domain of interest, (ii) gather resident domain experts, (iii) develop consistent matching methodology, and (iv) analyze results from the matching task. Content validity can be grouped into two types: i) face validity, and ii) logical validity [Allen & Yen, 1979].

Face validity: It is considered as a basic and minimum index of content validity, but it is determined after the test is constructed [Allen & Yen, 1979]. The concepts of content evidence and face validity bear superficial resemblance, but they are in fact quite different. Face validity refers to the degree to which a test appears to measure what it claims to measure [Leedy & Ormrod, 2004]. It is a global answer as a quick assessment of what the test is measuring. It is the simplest and least precise method of determining validity which relies entirely on the expertise and familiarity of the assessor concerning the subject matter [Nwana, 2007]. It ascertains that the measure appears to be assessing the intended construct under study. It is usually used to describe the appearance of validity without empirical testing [Cook & Beckman, 2006]. So, it is normally considered to be the weakest form of validity [Hashim et al., 2007]. For example, estimating the speed of a car based on its outward appearance (guesswork) is face validity.

If the test is known to have content validity, face validity can be assumed, but face validity does not ensure content validity. The stakeholders can easily assess

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face validity. Although this is not a very scientific type of validity, it may be an essential component for enlisting motivation of stakeholders. If the stakeholders do not believe the measure is an accurate assessment of the ability, they may become detached with the task. Therefore, it looks as if it is indeed measuring what it is designed to measure. Unlike content validity, face validity does not depend on established theories for support [Fink, 1995].

Criterion-related validity: It is used to predict future or current performance. It correlates test results with another criterion of interest [Burns et al., 2017]. It deals with relationship between scale scores, and some specific measurable criterion. It tests how the scale differentiates individuals on a criterion it is expected to predict [Pallant, 2011]. That is, when we are expecting a future performance based on the scores obtained currently by the measure, we correlate the scores obtained with the performance [Messick, 1989]. For example, a hands-on driving test has been shown to be an accurate test of driving skills. The test can be repeated by the written test to compare validity of the test. It can be established by; i) the concurrent validity, and ii) the predictive validity.

Concurrent validity: It is the degree to which the scores on a test are related to the scores on another, already established as valid, designed to measure the same construct, test administered at the same time or to some other valid criterion available at the same time. It is necessary when a test for assessing skills is constructed with a view to replacing less efficient one in used [Denga, 1987]. It is established by correlating one question with another that has previously been validated with standard setting [Okoro, 2002]. It examines the validity of a tool on a highly theoretical level [Messick, 1989]. Example, a new simple test is to be used in place of an old troublesome one, which is considered useful; measurements are obtained on both tests at the same time.

Predictive validity: It is often used in program evaluation studies, and is very suitable for applied research. It is a test constructed and developed for the purpose of predicting some form of behaviour [Allen & Yen, 1979]. It indicates the ability of the measuring instrument to differentiate among individuals with reference to a future criterion. Tests that are constructed to pick applicants who are most likely to be successful subsequently in their training while rejecting those applicants who are most likely to be failures if given admission [Nwana, 2007]. Logically, predictive and concurrent validation are the same, the term concurrent validation is used to indicate that no time elapsed between measures.

The higher the correlation between the criterion and the predictor indicates the greater the predictive validity. If the correlation is perfect, that is 1, the

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prediction is also perfect. Most of the correlations are only modest, somewhere between 0.3 and 0.6.

Construct validity: It is especially important for the empirical measures and hypothesis testing for the construction of theories. Researchers create theoretical constructs to better understand, explain, and predict behaviour [Thatcher, 2010]. It involves testing a scale in terms of theoretically derived hypotheses concerning the nature of underlying variables or constructs [Pallant, 2011]. The term 'construct validity' was first formulated by a sub-committee (P.E. Meehl and M.C. Challman) of the American Psychologists Association's Committee on Psychological Tests [Cronbach & Meehl, 1955]. A construct needs to be both operationalized and syntactically defined in order to measure it effectively. The operationalization of the construct develops a series of measurable behaviours that are hypothesized to correspond to the latent construct. The construct syntactically involves establishing hypothesized relationships between the construct of interest and other related behaviours [Crocker & Algina, 1986; DeVellis, 2006]. It pertains to a specific use of a scale, and can often be context or population dependent [Kane, 2013].

It is a judgment based on the accumulation of evidence from numerous studies using a specific measuring instrument. It is used to ensure that the measure is actually measuring what it is intended to measure, and not other variables [Twycross & Shields, 2004]. Using a panel of experts familiar with the construct is a way in which this type of validity can be assessed [Kane, 2013]. The experts can examine the items and decide what that specific item is intended to measure. The process of validating the interpretations about that construct as indicated by the test score is construct validation. It is used to refine a theory, for making predictions about test scores in various settings and situations [DeVellis, 2006]. It is evaluated through convergent and discriminate validity. Construct validity of the instrument is checked by correlation analysis, factor analysis, and the multi-trait, multi-method matrix of correlations [Pett et al., 2003]. For example, a researcher inventing a new IQ test might spend a great deal of time attempting to 'define' intelligence to reach an acceptable level of construct validity. It is divided into two categories: i) convergent validity, and ii) discriminant validity [Huck, 2007].

Convergent validity: It refers to the extent to which scores on a measure share a high, medium or low relationship with scores obtained on a different measure intended to assess the similar construct [Messick, 1995]. It is established when the scores obtained with two different instruments measuring the same concept are highly correlated. It is the degree to which two variables measured separately bear a relationship to one another [Straub, 1989]. It is the actual general agreement

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among ratings, gathered independently of one another, where measures should be theoretically related [Campbell, 1959].

Discriminant validity: It is established when, based on theory, two variables are predicted to be uncorrelated, and the scores obtained by measuring them are indeed empirically found to be so, that is, to differentiate one group from another. It is the lack of a relationship among measures which theoretically should not be related [Messick, 1995; Sperry, 2004]. For example, surveys that are used to identify potential high school drop-outs would have discriminant validity if the students who graduate score higher on the test than students who leave before graduation [Campbell, 1959].

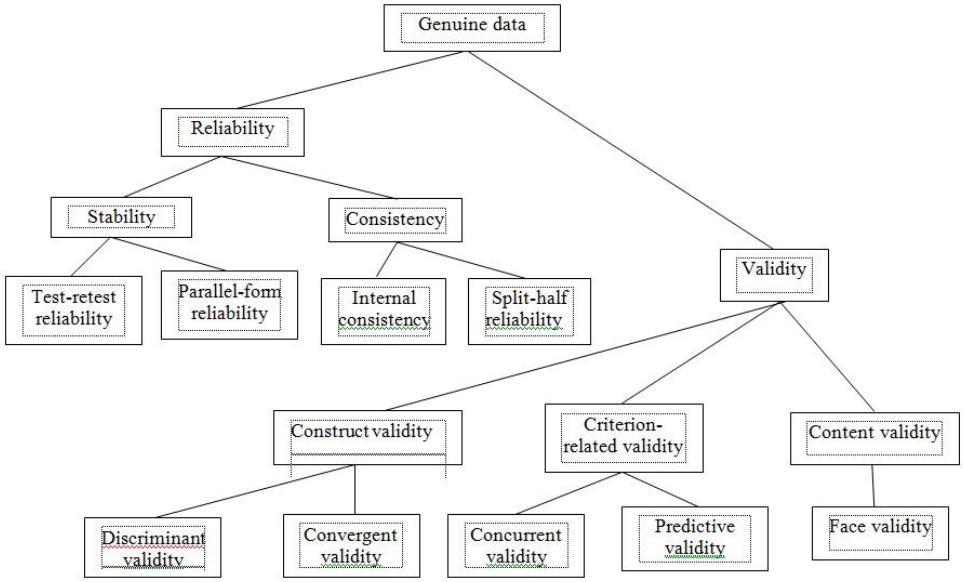

Figure no. 2. Structure of reliability and validity
Source: Bajpai and Bajpai (2014)

To ensure validity of a research, the following points are measurable:

- appropriate time scale for the study has to be selected;
- appropriate methodology has to be chosen, taking into account the characteristics of the study;
- the most suitable sample method for the study has to be selected;

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- the respondents must not be pressured in any way to select specific choices among the answer sets.

There are some ways to improve validity as follows:

- make sure a researcher's goals and objectives are clearly defined and operationalized;
- match the assessment measure to the goals and objectives of the research;
- the researcher looks over the assessment for troublesome wording, or other difficulties;
- if possible, compare the measure with other measures, or data that may be available.

It is possible to have a high degree of reliability with a low level of validity, but for a research instrument to be valid it must also be reliable [Keller, 2000]. Therefore, reliability is a sub-component of validity, and must first be attained if validity is to be achieved [Willis, 2007].

8. ***Threats to validity and reliability***

The multiple factors can create risks to the validity and reliability of the findings of a researcher. Error is one of them. Researchers thus must be careful of the sources of errors in plans and implementation of their studies. The major sources of research errors can be obtained from the careless of researcher, the subjects participating in the study, the social context, and the methods of data collection and analysis [Lillis, 2006]. Errors of measurement that affect reliability are random errors, and errors of measurement that affect validity are systematic or constant errors. Threats to the validity and reliability of a research exist at almost every turn in the research process. It can never be totally eliminated, so a researcher needs to try his best to minimize the threats as much as possible. A common threat to internal validity is reliability.

Threats to reliability may occur for lack of clear and standard instructions, not all alternatives are provided, the questions are not presented in the proper order, measurement instruments describe items ambiguously so that they are misinterpreted, the questionnaire is too long or hard to read, and the interview takes too long time [Kerlinger, 1964; Fink & Kosecoff, 1985].

Threats to the internal validity may occur throughout the research process. The threats to internal validity are insufficient knowledge during data collection, analysis and/or interpretation. During data collection, possible threats to internal validity are instrumentation issues, order bias, and researcher bias in the use of techniques [Tashakkori & Teddlie, 1998; Ongwuegbuzie, 2003]. The external

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validity of a quantitative study may threaten population, time and environmental validity [Ryan et al., 2002]. External validity is seriously threatened, if biases or other limitations exist in the accessible population [Howell, 1995].

Instrumentation issues occur when scores yielded from a measure lack the appropriate level of consistency, or do not generate valid scores. Order bias threat occurs if the effect of the order of the intervention conditions cannot be separated from the effect of the intervention conditions. Researcher bias threat is a personal bias in favour of one technique over another. Errors in statistical testing, illusory correlation, and causal error are some threats during data analysis and interpretation [Ihantola & Kihn, 2011]. For example, a table clock that is always five minutes fast is reliable because it is always five minutes fast; however, it is not valid because when compared to a standard format such as the GMT is not correct.

9. ***Conclusion***

In this study, we have tried to show that reliability and validity of instrumentation are important considerations for researchers in their investigations. To perform a good research of validity and reliability, tests need to be taken very carefully. We have highlighted the research errors that are arisen in measurements. In the study we have observed that a valid tool must be reliable, but a reliable tool may not necessarily be valid. We have also included the threat to reliability and validity when a researcher tries to do a good research.

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DOCTORAL AND POSTDOCTORAL PAPERS

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IMPACT OF SUSTAINABLE TOURISM IN THE TRAVEL INDUSTRY

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Abstract

Sustainable tourism is the concept of visiting a place as a tourist and trying to make only a positive impact on the environment, society and economy. A key aspect is the respect for the people who call the location home, the culture and customs of the area, and the socio-economic system. While sustainable tourism is sometimes confused with ecotourism, ecotourism is actually only one aspect of sustainable tourism.

Sustainable tourism is attempting to have a low impact on the environment and local culture, while also helping to generate future employment for local people. The aim of sustainable tourism is to ensure that development brings a positive experience for local people, tourism companies and the tourists themselves.

Keywords: *sustainable impact; sustainable tourism; tourism; travel industry; sustainability.*

JEL Classification: Z_{30}, Z_{32}

Introduction

Sustainable tourism is defined as the development of all forms of tourism, tourism management and marketing that respect the natural, social and economic integrity of the environment, ensuring the exploitation of natural and cultural resources and future generations.

The sustainable tourism covers all forms and activities in the hospitality industry, including conventional table tourism, cultural tourism, business tourism, rural tourism, cruise tourism, religious tourism and sports tourism, urban tourism. The sustainability process should normally be coordinated at national level by governmental stakeholders and supported by local stakeholders at the community level.

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The sustainability in tourism has the following independent aspects: environmental, socio-cultural and economical. Sustainable development implies sustainability, which means that sustainable tourism requires optimal use of resources, minimizing economic, socio-cultural and ecological negative impacts, maximizing benefits for local communities, national economies, and preserving nature. As a natural consequence, sustainability also refers to the managerial structures needed to meet these desires.

In my opinion, the goal of sustainable tourism must be subordinated to national and regional economic and social development plans. Actions can cover economic goals, social goals, poverty alleviation and inequality in income distribution, the protection of indigenous socio-cultural heritage, participation and involvement of local communities, or ecological goals to protect the functions of ecotourism, the conservation and sustainable use of biodiversity. Some specialists prefer to talk about the sustainable development of tourism rather than sustainable tourism, the first referring to all aspects of development, and the second to some aspects and components of tourism – such as long-distance air transport that can purely and simply not be sustainable under current technology, even with the use of best practices.

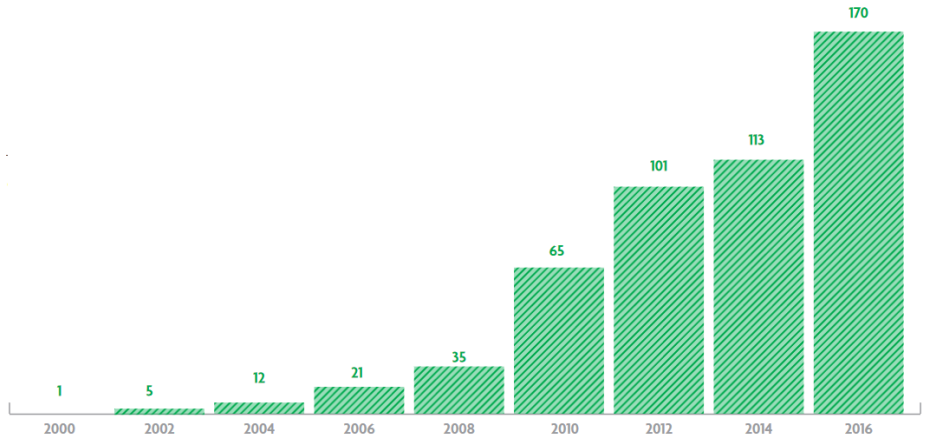

Figure no. 1. Sustainability Reporting within Tourism
Source: Sustainability Reporting in Travel and Tourism (2017), World Travel & Tourism Council, accessed October 31, 2017, https://www.wttc.org/-/media/files/reports/policy-research/esg-2017/esg-2017-sustainability-reporting-in-travel-and-tourism.pdf

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Literature review

My research paper entitled *Impact of sustainable tourism in the travel industry* is written after I have documented on the basis of the following published articles:

1. "Sustainable Tourism Research: An Analysis of Papers" written by Jiaying Lu and Sanjay K. Nepal, published in the *Journal of Sustainable Tourism*.

2. "Sustainable Tourism: A State-of-The-Art Review" written by Richard W. Butler and published in the *International Journal of Tourism Space, Place and Environment*.

3. "Romanian Tourism Marketing Researches" written by Viorica Jelev and published in the *Annals of Spiru Haret University. Economic Series.*

Key challenges for more sustainable tourism

Promoting sustainable tourism is essential, especially in the regions of the world that have experienced the fastest rate of global warming. Therefore, the management of water resources, pollution and waste and the fight against soil erosion are among the major challenges of tourism.

Promoting sustainable tourism requires the reduction of foreign visitors' culture as much as possible, as well as the prevention of excessive marketing of the local culture. It is vital that sustainable tourism allows for the preservation of traditions and does not affect the rich diversity of the region.

Starting from the key points of sustainable tourism development, the impact of tourism activities implies the following:

– increasing the viability of some localities with reduced natural resources;

– the use of poorly productive agricultural land, by developing appropriate tourism facilities;

– increasing the incomes of the inhabitants in the conditions of the reduction of grazing and exploitation forestry;

– increasing the economic power of the localities, by obtaining new revenues from new and local taxes;

– encouraging the traditional activities, especially those of artisanal and small industry traditional;

– developing a specific trade based on local economy and craft products;

– the revenues from tourism and the specific trade of this framework can contribute to supporting the modernization of the cultural objectives, the ecological restoration of the valuable landscapes;

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– the profit and earnings port – as a result of the reception, hosting, transport and public catering activities, will be an important contribution to the local development plan.

To have a more sustainable tourism, we need to [Sustainable Tourism, 2017]:

– use biodegradable products for washing, cleaning, protecting local water sources;

– use only sustainable products to build hotels and ensure the wood is from sustainable forests;

– collect rainwater and recycle the water. This is possible in the tropical climates, where there is a large quantity of water;

– set quotas to limit the amount of tourists visiting an area. Establish a carrying capacity and stick to it;

– creating national parks and reservations to protect local flora and fauna;

– creating breeding programs for endangered species e.g. the Amur Leopard or the Panda;

– use renewable energy to power tourist facilities e.g. solar or wind;

– use local food products to reduce food miles;

– transport guests using public transport or low emission vehicles.

To make tourism economically sustainable, we need to [Sustainable Tourism, 2017]:

– secure as much money as possible in the host country, then to minimize economic leakage. Profits from many companies go overseas. This can be a difficult balancing act, because we do not want to stop FDI;

– employ only the local residents in touristic facilities. Train local staff so that they are able to work in managerial positions, as well as other positions. These skills can then become transferable to different local industries;

– be locally owned. This is not always possible, especially if FDI is needed to establish a tourism resort or project, but local staff and products should definitely be used;

– purchase only local products;

– avoid debt when building tourist developments.

The sustainable tourism in urban areas [Sustainable Tourism, 2017]:

– promote local hotels and shops;

– reduce electricity and water waste by educating tourists;

– ensure locals can also afford to visit national historic sites. Many countries run dual pricing, where tourists pay more than locals to visit sites;

– recycling bins;

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– enforced fines for littering;
– pedestrianised areas;
– cheap public transport;
– bike hire;
– possible introduction of quotas or curfews to protect areas;
– ensure locals are not priced out of the local market – try and maintain traditional mix of residents, tourists, businesses, etc.

The sustainable tourism in coastal environments [Sustainable Tourism, 2017]:
– is important to avoid sewage being pumped into the sea;
– banning of plastic bags very harmful to turtles who mistake them for jellyfish;
– avoid light pollution near turtle nesting sites. Baby turtles are often confused by light and struggle to find the sea (normally they use the light from the horizon);
– promote sustainable diving (possible introduction of quotas like in Sipadan, Malaysia);
– avoid privatisation of beaches. Ensure that locals can also use the beach;
– stop trade in coral, turtles shells, etc.;
– ensure that seafood is caught from sustainable sources. In Japan, sustainable sushi is being introduced to protect blue fin tuna, whales, etc.;
– minimise damage to mangroves, dunes, forests, etc. when building resorts;
– ensure proper boating channels to avoid injury and death to turtles, manatees, etc. from speed boats and jet skis.

The sustainable tourism in national parks [Sustainable Tourism, 2017]:
– is important to create National Parks to protect flora and fauna;
– reforest areas that have been damaged or logged;
– ensure that no illegal logging takes place;
– stop poaching (catching wild animals) by making it illegal and enforcing with strong penalties;
– only allow low impact activities e.g. walking, horse riding;
– start breeding and reintroduction programmes e.g. the giant panda in China;
– only allow small scale developments using locals products to build the small-scale low-impact developments e.g. basic cabins or just tents;
– use renewable energy sources e.g. local HEP;
– ensure no non-biodegradable products are released into local water sources or into the ground;

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– educate tourists about flora and fauna and the importance of protection.

Impact of sustainable tourism in the travel industry

The tourism industry is responsible for about 5.3% of total greenhouse gas emissions, 75% of which is generated by transport, which is the main source of air pollution related to tourism. Therefore, it is important to promote clean or less energy-efficient modes of transport.

The air transport is by far the most polluting means of transport, but public administration itself often promotes it against rail transport. Every year there has been an annual 5-6% increase in the number of flights, especially as a result of the significant reduction in ticket prices.

Sustainable tourism has the following principles:

– the tourist activity must be initiated with the own means of the local community, and it must maintain its control over the tourism development;

– tourism must provide jobs to residents to improve the quality of life for the local communities and a balance must be struck between the economic activities already existing in the area and the tourism activity;

– a code of practices for tourism must be established at all levels: national, regional and local, based on already accepted international standards. The guidelines for tourism operators, the monitoring of the impact of different tourist activities and the acceptability limits for different areas can also be established;

– educational and training programs are needed to improve management in the field of natural and cultural resources protection.

So, the sustainable tourism development is not only a concept debated, completed or reformulated in the conferences held on this topic. The need to protect the natural, social and cultural richness that constitutes the common heritage of humanity and the satisfaction of the needs of the tourists and the local population has led to the emergence of sustainable forms of tourism. The objectives, principles and requirements of sustainable tourism development are found in forms of tourism such as ecotourism, rural tourism or cultural tourism. These forms are the expression of the desire for tourism to represent not only a positive and dynamic development factor, but also a practical solution for the unaltered preservation of the environment.

Critical issues for the future of sustainable tourism

These critical issues are the following: developing of sustainable tourism through its practical forms, reconciling antagonistic interests and objectives, fostering

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partnership and cooperation among decision-makers, operators and consumers and promoting long-term general interest.

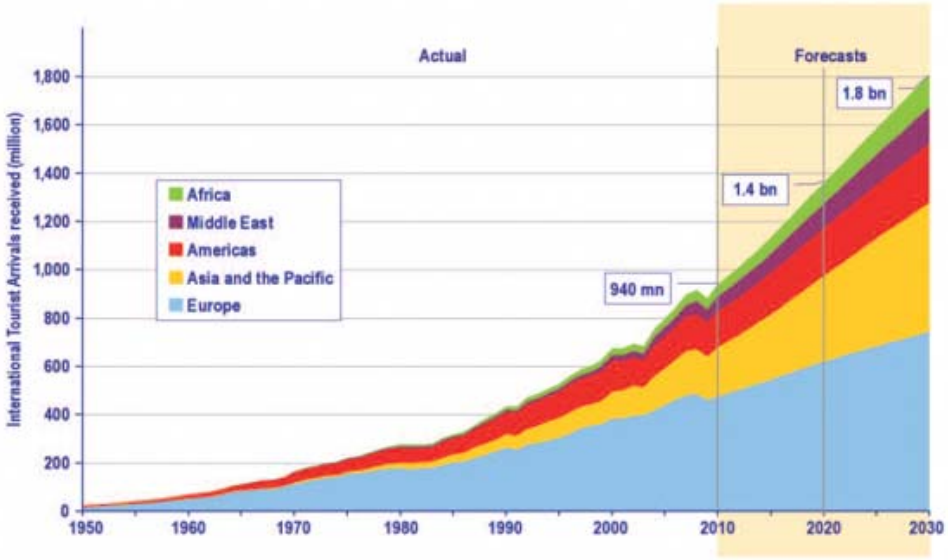

Figure no. 2. UNWTO Tourism Towards 2030: Actual trend and forecast 1950-2030

Source: Gaval, I. (October 6, 2016), *The Economic Benefits of Sustainable Tourism*, accessed October 31, 2017, https://ecobnb.com/blog/2016/10/economic-benefits-sustainable-tourism/

The tourism industry gives a greater importance to environmental issues and increasing attention to sustainable tourism, the differences between good intentions expressed by people when undergoing research and what they will actually do on holidays should not be underestimated. There is no doubt that tourism, if well-planned and driven, can generate income for the local population and speed up the development of the region. It has become a major source for many countries around the world. World, cultural and natural heritage, for example, attracts visitors from all over the world and can become the engine of local development. But more attention should be paid to the physical and cultural impact of mass tourism, including indirect losses arising where overcrowding occurs.

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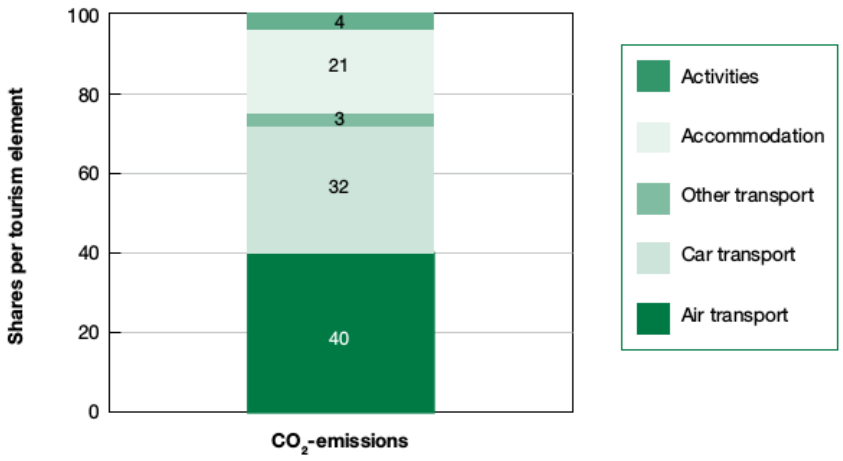

Figure no. 3. Contribution of various tourism sub-sectors to CO_2 emissions (%)

Source: Gaval, I. (October 6, 2016), *The Economic Benefits of Sustainable Tourism*, accessed October 31, 2017, https://ecobnb.com/blog/2016/10/economic-benefits-sustainable-tourism/

The future of sustainable development depends on the restructuring of the global economy and requires major changes in human behaviour, value system and lifestyle. We can no longer claim that tourism is one of the best ways to achieve local sustainable development when it is rather the bitter-bitter antidote of sustainable development from anywhere. World, cultural and natural world should be used as best to sensitize people in terms of the importance of building links between nature and culture, between different cultures.

Conclusions

In conclusion, the sustainability and competitiveness of the tourism industry go hand-in-hand as the quality of tourist destinations is strongly influenced by their natural and cultural environment, and their integration into the local community. [Sustainable Tourism, EC, 2017]

Sustainability in tourism on long-term requires a balance between economic, socio-cultural, and environmental sustainability. The need to reconcile economic

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growth and sustainable development also has an ethical dimension. [Sustainable Tourism, EC, 2017]

	Overall Universe	Overall Universe Reporters
Set a GHG Target	11%	46%
Set an Energy Target	9%	36%
Set a Water Target	6%	26%

Figure no. 4. Prevalence of energy, water, waste, and carbon targets in travel & tourism

Source: "Sustainability Reporting in Travel and Tourism," World Travel & Tourism Council, accessed October 31, 2017, https://www.wttc.org/-/media/files/reports/policy-research/esg-2017/esg-2017-sustainability-reporting-in-travel-and-tourism.pdf

The most significant challenges for sustainable tourism are [Sustainable Tourism, EC, 2017]:

– improving the quality of tourism jobs;

– preserving natural and cultural resources;

– limiting negative impacts at tourist destinations, including the use of natural resources and waste production;

– promoting the wellbeing of the local community;

– reducing the seasonality of demand;

– limiting the environmental impact of tourism-related transport;

– to make tourism accessible to all.

The development of sustainable tourism is based on the following:

– setting ecological limits, consumption standards and norms, reducing unjustified consumption;

– redistribution of economic activity and reallocation of resources, satisfaction of the essential needs of life, and at the same time economic growth;

– providing a optimal population, the demographic increase being in line with the potential of the exploitable ecosystems;

– conservation of basic resources and preservation of natural areas that support the genetic patrimony of flora and fauna;

– legal access to resources, increased technological effort and rational use;

– the establishment of a minimum rate of exploitation and resource consumption;

– community control, the role of the local community in the decision-making of local development;

– ensuring the management of all resources that emphasize quality.

The positive aspects of sustainable tourism are:

– increase the social and professional chances by creating new jobs, tourist services and general infrastructure;

– create new seasonal jobs, especially for young people and women;

– developing and ensuring social progress, increasing the cleanliness and public hygiene, general comfort in the tourist localities;

– decreasing the differences between socio-professional categories in terms of income;

– developing feelings of understanding and tolerance because intercultural exchanges between tourists and the host population facilitate the disappearance of linguistic, social, racial, religious and cultural barriers.

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