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Each issue has a specific topic that is a subtopic of major journal coverage.

FREQUENCY

The frequency of the journal ***Annals of Spiru Haret University. Economic Series*** is quarterly.

JOURNAL HISTORY

The journal ***Annals of Spiru Haret University. Economic Series*** was founded in 2000 at the initiative of two professors from Spiru Haret University: professor Ph.D. Gheorghe Zaman – also corresponding member of the Romanian Academy and professor Ph.D. Constantin Mecu – one of the University's founders and vice-rector.

Between 2004-2010, the journal is headed by professor Ph.D. Constantin Mecu, as editor-in-chief, and associate professor Ph.D. Aurelian A. Bondrea, as deputy editor, both of them vice-rectors of the university.

In 2011, associate professor Ph.D. Aurelian A. Bondrea, rector of the university, takes over the presidency as editor-in-chief and leads the journal until present.

The ***Annals of Spiru Haret University. Economic Series*** was issued annually, once a year, starting 2000, until 2009.

Since 2010, the ***Annals*** have a new format, with a four-annual issuance exclusively in English, with both redaction and review conditions comparable to the most rigorous international requirements.

In 2007, ***Annals of Spiru Haret University. Economic Series*** obtained the B+ quotation from The National Council of Research in Higher Education in Romania, becoming a publication of real scientific interest.

Starting 2009, the review is indexed in REPEC, SSRN and Google Scholar and beginning with 2016 our Journal is under a process of rebranding, the new team trying to rethink the journal indexing strategy in international databases, suggesting a greater external visibility.

Along the years, in the journal pages, the members of the teaching personnel – professors, associate professors, lecturers and teaching assistants – active in six economics faculties and distinct specialty departments, as well as in the Central Scientific Research Institute, functioning within Spiru Haret University, present the results of their scientific research. The journal also hosts many studies of professors, researchers or Ph.D. students from other universities and research institutes all over the world.

The subject of the publication firstly reflects the concern for the modernization of teaching economic science in University: marketing, management, finance, banking, accounting, audit, international economic relations, trade, business, tourism, administrative data processing, politic economy, commercial law, cybernetics, environmental economics, statistics, ethics in economics, insurance, advocacy & lobby, economic philosophy, econometrics etc.

In the published materials, there are analyzed theoretical and practical issues of edification and consolidation of the Romanian market economy, as well as the fundamental directions of the technical and scientific progress, the actual state and ways of its promotion in the Romanian economy, the issue of developing the new world economy, the directions of globalization and contemporaneous economic integration and Romania's participation to these processes. Also, there are hosted articles that refer to different aspects of economic phenomena from all over the world.

The editing team and the scientific advisors are Romanian intellectual personalities – members of the Academy, professors, and specialists in different fields of the practical economic and social activities. In scientific committee have been engaged as reviewers different professors and personalities in economic field coming from economics and academic institutions in our country, such

as Academy of Economic Studies Bucharest, West University from Timisoara, The National Scientific Research Institute for Labour and Social Protection Bucharest, The Romanian Court of Auditors, The Body of Expert and Licensed Accountants of Romania – CECCAR, Institute of National Economy and The Economic and Legal Sciences Department from Romanian Academy, etc. Among them, we also find members of the academia, professors and researchers from other countries of the world: Australia, Azerbaijan, Bosnia & Herzegovina, Bulgaria, France, Germany, Greece, Iceland, India, Indonesia, Italy, Lithuania, North Ireland, Norway, Poland, Republic of Macedonia, Republic of Serbia, Russia, Slovenia, The Netherlands, Turkey, Ukraine, United Kingdom, etc.

As a response to the public interest, the publication is sent to the libraries in Bucharest and Romania, as well as to other universities and economic faculties abroad.

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FOREWORD

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According to the OECD Economic Outlook from the 21st of November 2018, the global expansion has peaked. Global GDP growth is projected to ease gradually from 3.7% in 2018, to around 3½ per cent in 2019 and 2020, broadly in line with underlying global potential output growth. In the near term, policy support and strong job growth continue to underpin domestic demand. However, macro-economic policies are projected to become less accommodative over time, and headwinds from trade tensions, tighter financial conditions and higher oil prices are set to continue.

Growth in the OECD area is set to slow gradually, from around 2½ per cent in 2017-18 to just under 2% by 2020. Wage and price inflation are projected to rise, but only moderately. Considerable uncertainty remains about the strength of the relationship between capacity and inflation, and there are risks that a sharper inflation upturn could occur. The rise in oil prices this year has pushed up headline inflation, and import tariffs have begun to raise prices in a few countries.

Global trade has already started to ease, with trade restrictions having adverse effects on confidence and investment plans, and global trade growth appears set to remain at under 4% per annum on average over 2018-20. Outcomes could be weaker still if downside risks materialise. Further moves by the United States and China to raise barriers on bilateral trade would hit output in these economies, with adverse effects on global growth and trade. A supply-driven disruption in oil markets would place upward pressure on inflation, at least temporarily, around the world and slow growth. Financial market pressures on emerging-market economies could intensify, particularly if an upside surprise in inflation in the advanced economies were to trigger a further rise in policy interest rates and a new round of asset repricing.

A decade after the financial crisis, vulnerabilities also persist in many economies from elevated asset prices and high debt levels. On the upside, a quick resolution of trade tensions, or stronger structural policy ambition around the world could improve confidence and limit the drag on investment from high uncertainty. Recent developments and the projected outlook pose considerable challenges for

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policymakers. An immediate need is to reduce policy-related uncertainty by arresting the slide towards protectionism and reinforcing the global rules-based international trade system through multilateral dialogue.

Macroeconomic policy requirements differ across countries, reflecting the diverging challenges they face. In the main advanced economies, monetary policy accommodation can be reduced gradually, albeit at a differing pace. Fiscal policy is projected to turn broadly neutral in most OECD countries in 2019-20, after the notable easing in recent years. The planned neutral fiscal stance is generally appropriate, given the economic outlook; the further easing announced in a few countries with already high public debt could lead to adverse reactions in financial markets. In emerging-market economies, careful choices are required to maintain policy credibility.

Those economies with a robust macroeconomic policy framework and flexible exchange rate may need only a modest tightening of monetary policy in line with ongoing asset repricing, and solid fiscal positions provide scope to ease policy if necessary to support demand. There is less scope for such support in emerging-market economies where there are concerns about the sustainability of fiscal or external positions.

Other priorities for policy in all countries are to enhance resilience against risks, particularly continued financial vulnerabilities from high debt, and to strengthen reform efforts to improve prospects for longer-term growth that is sustainable and provides opportunities for all. An interaction of the major downside risks would weaken global output and trade growth substantially, with the possibility that the level of global output could be over ½ per cent weaker than projected by 2020. If downside risks were to produce a sharper global downturn than currently projected, co-ordinated policy action across countries would provide the most effective counterweight. With limited scope to use monetary policy in some areas in the near term and the need to use instruments that have swift effects on growth, fiscal policy easing will be likely to have an important role in restoring growth, even if the room for manoeuvre has diminished with high public debt. Preparing for such an eventuality now by planning projects that can be rolled out rapidly would increase the effectiveness of a co-ordinated fiscal response.

Given these vulnerabilities that also persist in many economies, the academic papers appearing in this issue of the journal try to respond to some of the dilemmas of the present moment.

In the first article of this issue, entitled **Corruption and Stock Market Performance in Nigeria,** the authors – *Cordelia Onyinyechi Omodero* and professor

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Kabiru I. Dandago – say that the study examines the effect of corruption (using corruption perception index and Nigeria corruption ranking as proxies) on the stock market performance (proxied with share price index) in Nigeria. The study employed time series data spanning twenty years (1996-2016). Data availability especially on corruption indices was the major reason underlying the choice of period. The data were obtained from CBN Statistical Bulletin and Transparency International website. With the aid of SPSS version 20, the study used Multi-regression analysis and student t-test for the test of hypotheses. The study finds a significant positive correlation between corruption and stock market performance in Nigeria. The result reveals robust positive and significant relationships between Nigeria corruption ranking, corruption perception index and share price index. The result of the study explains the integration of graft into the Nigerian economic system. Therefore, adoption of a strong form of stock market efficiency by the Security and Exchange Commission (SEC) and Nigerian Stock Exchange (NSE) for actualization by all listed firms in Nigeria is recommended in the article. In addition, the authors recommend that the Federal and State governments should formulate more result-oriented policies and rules that could help combat corruption more effectively.

The paper called **Implementation of Ethics Management Nowadays in the Romanian University Environment** by *Elena Gurgu* shows that, at the present moment, the management of ethics in the academic environment represents the coordination of all elements related to the moral life of a university. The last decades have insistently imposed on public awareness the importance of taking into account the ethical dimension of the life of universities. Ethical codes, ethics committees and commissions, ethical audits, ethical education of staff, techniques to create an institutional culture of a moral nature have all become increasingly widespread. The University respects the dignity of each of its members and promotes academic integrity on ethical principles. Its members are committed to contributing to the democratic development and prosperity of the society. The University is an institution whose goals, valid for each of its members, include development and professional affirmation, the evolution of knowledge and research while respecting the rule of law and the human rights. The author thinks the values and principles that universities have to promote in particular, and whose actual achievement is sought to ensure, are: academic freedom, personal autonomy, justice and equity, merit, professionalism, honesty and intellectual integrity, transparency, respect and tolerance, responsibility, goodwill and care. Elena Gurgu also thinks that "institutionalization of ethics" in academia is a new reality for which we all must be prepared.

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The paper called **A Comparison and Integration between Private and Public Sector through Sustainable Economical Development of the Romanian Rural Areas Using Bee Algorithm**, written by *George Gruia* and *George Cristian Gruia*, is focused on presenting a comparison of the public sector with its public administration policies and private sector with its economical strategies, with the purpose of the better integration between the two, with case study on the European funds in beekeeping and how, by studying the bee behaviour, we too can develop our society to achieve better results. The scope of the article is to show an overview of the European policies into state members with focus on sustainable economic development of Romanian rural areas. This is part of the authors' research from the last 10 years, with focus on public, economic and social development and represents the initial results of their yet not published work.

The academic paper entitled **Natural Resources and Sustainable Development in a Mountain Economy,** by *Viorica Jelev*, presents the existing situation at national and world level, considering the available water resources, their vulnerability especially in the mountains areas, the impact of climate changes, and the possible conflicts regarding the intensification of water shortage in some regions of the world. I also present a case study on forests in Romania. Beginning with the general data mentioned above, we point out the specific peculiarities of the mountain area hydrology for identifying some aspects which are specific to the mountain water relationship. The analysis is necessary as no specifications regarding the mountain hilly or plain areas are made in the activity regarding waters management. Waters are managed unitary on river basins considering some general principles, unanimously recognized, well reflected into the national and international regulations. As a first stage, traditional economic activities are identified in the relationship of the mountain areas inhabitants with water but also some present approaches. The way the mountain areas inhabitants knew how to live together and capitalize water resources represents a model and impulse for returning to such sustainable solutions, but capitalizing the advantages of modern technologies. Each of these activities referring to waters which take place in the mountains area can represent ways for the research activity and future thorough studies from the technical, economic, social, cultural-traditional point of view and also for environment protection. A main preoccupation might have connection with the evolution of agricultural activities in the mountains area considering the climate changes and a possible "migration" towards higher areas of some agricultural practices specific to lower areas. The paper also shows a small example of the regaining, by the locals of a community, of an important resource for their lives from the hands of corporations: the forests defaced by HOLZINDUSTRIE SCHWEIGHOFER and stop flooding villages.

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In the paper entitled **Nigeria's Revenue Allocation and Sustainable Economic Development,** the authors, *Cordelia Onyinyechi Omodero, Joseph Uche Belonwu Azubike* and *Michael Chidiebere Ekwe*, say that sustainability of economic development in Nigeria has been a serious challenge despite the huge revenue allocated to the three tiers of the government on a monthly basis from the federation account. This recurring decimal has left the country in a pitiable condition with inadequate infrastructures to carry on the economic activities. The study examines the extent to which revenue allocation enhances economic development using time series data obtained from CBN Statistical Bulletin, which covered a period from 1981 to 2016. Ordinary Least Squares technique was employed and the findings revealed that FASG and NDSD have significant negative impact on PCI while FAFG has insignificant negative impact on PCI. On the contrast, the result shows that FALG has a robust significant positive impact on PCI. The study attributes this poor performance to misuse of resources and suggests that more stringent measures be employed by the government to fight graft in the public sector and among government officials. This will help to curb corrupt practices and ensure efficient and effective use of resources to boost economic development.

The purpose of the paper entitled **Implementation of Corporate Governance Mechanisms in Tourism,** by *Fuad Jabbarov,* is devoted to forming of effective mechanisms that regulate economic activity of subjects. The economic state affects activity of companies, especially in tourism. The aim of this paper is to show how implementation of corporate governance mechanisms provides greater transparency in the tourism sector, as well as a higher level of alignment of the domestic regulatory framework with the principles applied in the developed economies in this industry; different internal and external factors affecting the steady evolution and development of companies; currency parity and increase of bank interest rates and their influence on a tourist stream; forming of steady mechanisms by means of implementation of elements and principles of corporate management, possibilities of adaptation and implementation of mechanisms of corporate management.

The aim of the paper called **The Development of the Travel and Tourism Industry in the World,** by the author *Bogdan Sofronov,* is to see how the travel and tourism industry is changing and its development in the world. Travel and tourism industry is one of the world's greatest industrial sectors. It drives economic growth, creates jobs, improves social development and promotes peace. Hundreds of millions of people around the world are dependent on the sector for their employment. In some island economies, travel and tourism industry is not just the

biggest employer; it is effectively the only employer. The role is to contribute to the creation of sustainable economies. Travel and tourism industry is a diverse sector consisting of millions of companies and employers, from the biggest global travel brands to the smallest tour operators or hostel owners. The author believes that together, we form a formidable force with a voice to be heard at the highest levels of society and government.

As we have seen, all the articles are interesting and deserve to be appropriated by those who are interested in understanding the specific issues of the economy.

If you liked our articles please visit our website. If you want to write an article in our journal, we are inviting you to expose your ideas in new studies published by us.

Finally, hoping that you found interesting Issue 4/2018, I strongly invite you to address your comments and suggestions at ashues@spiruharet.ro and, of course, to submit your own paper via the online submission system.

Research is the breath of the future. Let's shape the world together!

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

ACADEMIA PAPERS

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CORRUPTION AND STOCK MARKET PERFORMANCE IN NIGERIA

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Abstract

The study examines the effect of corruption (using corruption perception index and Nigeria corruption ranking as proxies) on the stock market performance (proxied with share price index) in Nigeria. The study employed time series data spanning twenty years (1996-2016). Data availability especially on corruption indices was the major reason underlying the choice of period. The data were obtained from CBN Statistical Bulletin and Transparency International website. With the aid of SPSS version 20, the study used Multi-regression analysis and student t-test for the test of hypotheses. The study finds a significant positive correlation between corruption and stock market performance in Nigeria. The result reveals robust positive and significant relationships between Nigeria Corruption Ranking, Corruption perception index and Share price index. The result of the study explains the integration of graft into the Nigerian economic system. Therefore, adoption of a strong form of stock market efficiency by the Security and Exchange Commission (SEC) and Nigerian Stock Exchange (NSE) for actualization by all listed firms in Nigeria is hereby recommended. In addition, we recommend that the Federal and State governments should formulate more result-oriented policies and rules that could help combat corruption more effectively.

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Keywords: *stock market performance; corruption; share price index; corruption perception index; Nigeria Corruption Ranking.*

JEL Classification: G15

Introduction

Corruption is a cankerworm that gradually and silently depletes the fabrics of a nation's economy as well as reducing development in all sectors (EFCC, 2005). Transparency International (2005) stated that corruption is one of the fundamental challenges of the present times in the world which destabilizes good government, ultimately misrepresents good policies, causes misuse of public resources, destroys the private sector development and also hurts the poor masses. According to Mustapha (2008), corruption has eaten so deep into the fabrics of the Nigerian government, the public and private sectors, governmental and non-governmental organizations and has basically turned out to be a life style and a key means of amassing private property in Nigeria. ICPC (2006) has stated that corruption is the major cause of the underdevelopment in Nigeria. Transparency International reports from 1996 until today have shown Nigeria as one of the highest ranking countries on corruption index perception. Ribadu (2003) posits that the level of corruption in Nigeria has made the Transparency International to consistently rate Nigeria as one of the top three most corrupt countries in the world. The existence of corruption in almost every sector of the Nigerian economy has adversely affected both foreign and local investments in Nigeria. As part of the government's effort to combat this menace, the Nigerian government tried to establish anti-graft agencies such as Economic and Financial Crime Commission (EFCC) and the Independent Corrupt Practices and related offences Commission (ICPC). The major aim is to encourage private investors and make the Nigerian business environment conducive for investors [African Economic Outlook, 2011]. As part of the successes made so far in the corruption fight, the Federal Ministry of Information released the recovered billions from corrupt persons in May 29, 2015 (N78,325,354,631.82; $185,119,584.61; £3,508,355.46) and (Euro 11,250) in May 25, 2016 [Adesanya, 2016]. The truth of the matter is that stock market in Nigeria is not exempted in this struggle. Stock market is a market that deals with the exchange of securities issued by publicly quoted companies and the government owned corporations [Ashaolu & Ogunmuyiwa, 2010]. It affords businesses, government and individual investors with an opportunity to raise capital through selling of shares to the

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investors [Black and Gilson, 1998]. The market is a vital institution in an economy which critically defines and highlights the performance of an economy [Ashaolu & Ogunmuyiwa, 2010]. Therefore, as an essential pillar of a country's economy, government bodies, corporations, stockholders (both the existing and potential ones) and all stakeholders judiciously study and monitor the activities of the stock market [Nazir, Nawaz, & Gilani, 2010]. However, the investment decision of these stakeholders depends on their observation and perception of the stock market performance. Corruption led to the loss of Stock Market integrity in Nigeria as it was witnessed in the late 1990s and early 2000, when so many banks collapsed under their watch [Babalola, 2010]. During this period, the number of banks classified as distressed increased from 8 to 52 [CBN, 1997]. Prior to the introduction of N25 billion recapitalization policy for banks in Nigeria in 2004 by the then CBN governor, the CBN announced the revocation of the banking licenses of 26 banks due to their financial distress [Babalola, 2010]. Investors' confidence in financial reporting of companies were lost due to the issue of window dressing that kept increasing share prices of companies that even had financial and corporate governance challenges. Though, the introduction of corporate governance structure was supposed to serve as a deterrent to all manner of cosmetic accounting in companies, yet frequent board room squabbles, insider abuses, fraud and forgeries, weak/ineffective internal control system would not give room for the objective to be achieved [Babalola, 2010]. Therefore, it is pertinent to note that the effect of graft on stock market performance in Nigeria is even more grievous than the influence of the external factors such as inflation, exchange rate and interest rate. This is because graft is inherent and exists at all levels of system. The major objective of this paper is to investigate the effect of corruption on the stock market performance in Nigeria and to suggest remedial measures to our policy makers. The specific objective of the study is to examine the impact of corruption (using corruption perception index and country ranking as proxies) on the stock market performance (to be represented by All Share Index in Nigeria).

Research hypotheses

The following null hypotheses have been formulated to test the effect of corruption on stock market performance.

$H0_1$: Corruption Perception Index of Nigeria does not have any significant impact on the Share Price Index in Nigeria.

$H0_2$: Nigerian Corruption Ranking does not significantly influence Share Price Index in Nigeria.

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Literature Review

Conceptual Framework and Definitions

The focus of this study is to examine the effect of corruption on the stock market performance in Nigeria. Therefore, the dependent variable used as proxy for stock market performance is the Share Price Index, while the independent variables are the Corruption Perception Index and the Nigeria Corruption Ranking among other countries in the world.

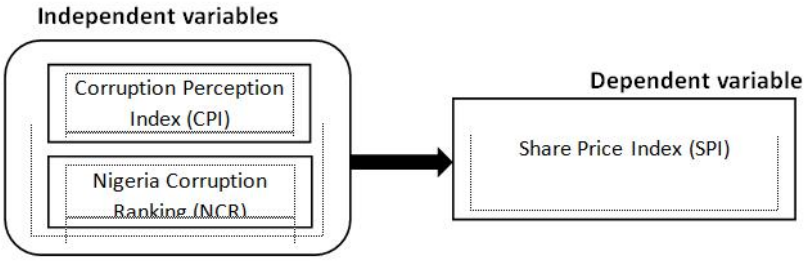

Fig. 1. Conceptual Framework on the Effect of Corruption on the Stock Market Performance

Source: Desk Research (2018)

Corruption

Corruption is the misuse of delegated authority for personal benefits [Transparency International, 2011]. It is also a deliberate way of misrepresenting facts, realities and management of situation in which someone finds himself in an effort to deceive and gain both material and non-material things [Akinlabi, Hamed, & Awoniyi, 2011]. According to Hasan & Nuri (2013), corruption is the misuse of public office for private gains. It is globally held that corruption is endemic and pervasive in nature, thereby constituting a major hindrance to economic and investment growth, also impacts negatively the public service delivery as well as increases the social inequality [Bolgorian, 2011]. Natalia (2016) posits that corruption includes bribery, extortion, and misuse of insider information and thrives where policy enforcement is lacking. Looking at different definitions of corruption and in the context of this study, corruption could be defined as any form of manipulation of corporate information and accounting data in which investors rely upon to believe in share prices and make investment decisions.

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Corruption Perception Index

Corruption is a variable that is complex to measure statistically. Therefore, Transparency International in collaboration with some organizations provided corruption indices that could help assess the level of corruption around the world. These organizations include European Bank for Reconstruction and Development (EBRD), World Bank Business Environment and Enterprise Performance Survey, Freedom House's Nations in Transit etc. [Natalia, 2016]. Transparency International (TI) Corruption perception index (CPI) is a collective pointer that positions nations in relation to the level of corruption that is observed to occur among public officials and politicians. It is a compound index portraying all corruption-related data from a variety of reputable institutions based on surveys of domestic and international business executives, financial journalists, and risk analysts who are experts and business elites. Data captured for CPI usage does not include views of the general public [Transparency International, 2011]. CPI scale measurement is between 0–100. The score scale of 0 means that the level of corruption in that country is very high while 100 is used to depict a country that is very clean. TI is an International Non-governmental Organization established in 1993 with the aim of bringing together business, civil society, and government structures to fight graft. The CPI first publication by TI was in 1995 and it covered quite a number of countries [Natalia, 2016].

Nigeria Corruption Ranking

This is the ranking position of Nigeria in terms of corruption when compared to other countries in the world.

From the table below it is worthy to note that Nigeria ranked 1st as the most corrupt country in 1996, 1997 and 2000. From 2014 to 2016, the position has remained at 136 despite all efforts of the government to minimize graft in the system.

Stock market

Stock market refers to an equity market and is one of the important areas of a market economy as it gives firms access to capital while both the existing and potential investor could also be part of a company's ownership through acquisition of shares [Osoro, 2013]. Stock Market development plays a crucial role for the global economy and finance [Hasan & Nuri, 2013]. The Nigerian Stock Exchange (NSE) is

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a primary market that allows firms and other organizations to source for capital through issue of shares or loan stocks. It is also referred to as a secondary market where existing securities (shares and loan stocks) are being traded [Akinsulire, 2006]. NSE was established in 1960 as the Lagos Stock Exchange. The name was changed from the Lagos Stock Exchange to the Nigerian Stock Exchange (NSE) in 1977. About 176 firms were listed on the NSE as at March 7, 2017 and in terms of market capitalization, NSE stands as the third largest Stock Exchange in Africa with the total market capitalization of about N8.5 trillion [NSE, 2017].

Table 1. Transparency International corruption perception index ranking of Nigeria corruption from 1996 to 2016

YEAR	*NIGERIA CORRUPTION RANKING*	*NUMBER OF COUNTRIES CAPTURED BY TI*
1996	*54*	*54*
1997	*52*	*52*
1998	*81*	*85*
1999	*98*	*99*
2000	*90*	*90*
2001	*90*	*91*
2002	*101*	*102*
2003	*132*	*133*
2004	*144*	*145*
2005	*152*	*158*
2006	*142*	*163*
2007	*147*	*179*
2008	*121*	*180*
2009	*130*	*180*
2010	*134*	*183*
2011	*143*	*182*
2012	*139*	*174*
2013	*144*	*175*
2014	*136*	*174*
2015	*136*	*167*
2016	*136*	*176*

Source: Transparency International

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Share price index

Share price is used as a yardstick to measure a firm's performance and its deviations as pointer of the economic health or otherwise of a firm hence the need to be conversant with the factors that could adversely affect share prices [Osoro, 2013]. Share price index is a way of measuring the performance of a market and is used by investors and capital providers to compare their return with that of the market [Barasa, 2014].

Stock market performance

Stock market performance is the appraisal of an efficient market. A basic feature of an efficient capital market is constant liquidity, an easy mechanism for entry and exit by investors. This requires sufficient volume and size of transactions in the market [Yartey and Adjasi, 2007].

Theoretical Review

The study has been anchored on the theories below.

A Policy-Oriented Theory of Corruption

Teveik, Albert and Charles (1986) propounded this theory in their effort to elaborate the responsibilities of the government in anti-graft fight. The theory stated that the existence of corruption in both developed or developing countries will always result in a dwindling economy. Therefore, the government's endeavour to develop policies and strategies to combat corruption and to seriously investigate its effect on all facets of the economy remains a huge benefit.

Market Efficiency Theory

Barasa (2014) described efficient market as one that is rational and provides correct pricing. Fama (2000) carried out a detailed empirical work and review on efficient market theory and came up with the definition that market efficiency is one in which prices always reflect all available information. Fama (2000) identified three sets of information which include: past prices, publicly available information and all other information which includes private information. The information available to investors could make them change their mind and investment decision on a particular security and the value. According to Akinsulire (2006), this is what is referred to as an efficient market hypothesis. The efficient market hypothesis is divided into three forms: the weak form, semi-strong form, and the strong form. The weak form of efficiency reflects all historical market data such as past prices

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and trading volumes without any prediction of future prices [Fama, 2000]. Semi strong form of efficiency reveals current share prices in addition to the past prices, all publicly available information which includes basic data regarding the firm's product line, quality of management, published accounting information, divided and even stock split announcements [Akinsulire, 2006]. The strong form of efficiency reflects share price and all past prices, publicly available information and private information [Fama, 2000].

Empirical studies

Nageri, Umar and Abdul (2013) examined the impact of corruption and economic development in Nigeria. Time series data spanning from 1996 to 2012 were obtained from the World Bank and Transparency International. The study used GDP as the dependent variable while the independent variables were the Corruption Perception Index (CPI), Corruption Rank and the Relative Corruption Rank. Ordinary least squares (OLS) technique was used for the analysis. The result revealed that corruption had a significant negative effect on economic growth and development in Nigeria. The study suggested that corrupt government officials and politicians should be brought to justice if found guilty at any point in time.

Hasan and Nuri (2013) investigated the role of corruption and banking sector development on Stock Market development using a panel data of 42 emerging economies for the period 1996 to 2011. The result revealed among others that corruption had a more devastating effect on these countries' stock market development than the positive effects of the banking sector development. In a similar study, O'Toole and Tarp (2014) tested the effect of corruption on the efficiency of capital investment using firm-level data from World Bank Enterprise Surveys which covered 90 developing and transition economies. The study's primary objective was to evaluate the extent to which bribery was reducing marginal returns on capital investments. The findings revealed that bribery decreased investment efficiency such that the negative impact was most robust on small and medium sized enterprises.

Sunkanmi and Isola (2014) studied the relationship between corruption and economic growth in Nigeria. The study made use of Ordinary Least Squares (OLS) technique and time series data spanning from 1980 to 2010 which were gathered from CBN Statistical Bulletin, Anti-graft agencies reports and other secondary sources. The dependent variables were the Foreign Direct Investment, Gross Domestic Product, government expenditure in Nigeria and globalization openness of the economy while the level of perceived corruption was the independent variable used. The study found evidence that corruption had a positive significant

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relationship with the Foreign Direct Investment (FDI), Gross Capital Formation (GCF) and government expenditure but found no significant relationship between corruption and GDP as well as openness of the economy and globalization. The result indicated that the level of corruption in the country had become an important element for economic growth. The study did not find this suitable and suggested that the anti-graft agencies in Nigeria should be more empowered to fight graft while more awareness should be created among young people on the importance of moral values.

Nwankwo (2014) employed granger causality and regression techniques to investigate the impact of corruption on the growth of Nigerian economy. The study made use of GDP as proxy for economic growth while corruption index was used as the independent variable. The result indicated a negative influence of corruption on the economic growth. The study recommended the formulation of policies that could minimize corruption and poverty hindering the growth of the Nigerian economy.

Barasa (2014) investigated the effect of selected macro-economic determinants on stock market performance in Kenya. The selected macro-economic variables were inflation rate, money supply, real GDP per capita while NSE-20 share index was used as proxy for stock market performance. The study employed descriptive research design and made use of secondary data which covered the period from 2000 to 2013. The data on NSE 20-share were obtained from Nairobi Securities Exchange, the data on consumer price index were collected from Central Bank of Kenya. The real GDP per capita data were gotten from the Kenya National Bureau of Statistics while the money supply data were gathered from the International Monetary Fund website. The data analysis was done with the aid of SPSS version 20. The result of the study revealed that CPI had an insignificant negative impact on share price index, money supply and real GDP did not have impact on share price index at all. The study suggested that the policy makers should influence macro-economic variables in the right direction, stressing that there should be enough money supply to move the stock market forward.

Kpanie, Esumanba and Sare (2014) examined the relationship between stock market performance and macroeconomic variables in Ghana. The study made use of Error Correction Model and the Augmented Dickey-Fuller Co-integration for analysis. The macroeconomic variables used for the test were money supply, Treasury bill, inflation rate, exchange rate and oil prices while the dependent variable was the Ghana All Share Index. The secondary data employed spanned from 1995 to 2011 and were obtained from the Ghana Stock Exchange and Bank of Ghana. The result of the study showed that oil prices and money supply were statistically

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significant at 1% level in explaining the influence of macroeconomic variables on the Ghana Stock Exchange. The rest of the variables showed an evidence of a long run relationship. The study suggested a more careful implementation of macroeconomic policies that will boost the performance of the stock market in Ghana.

Worlu and Omodero (2017) investigated the impact of macroeconomic variables on stock market performance in Africa using Nigeria, Ghana, Kenya and South Africa as case studies. The research design adopted was a cross sectional survey. Time series data covering the period of 2000 to 2015 were utilized and collected from the Central Banks and National Bureau of Statistics of the countries used for the study. The dependent variable used as proxy for stock market performance was the share price index while the control variables explaining the degree of impact of macroeconomic variables on stock market performance were the GDP, Inflation rate and Real Effective Exchange Rate Index. Statistical Package for Social Sciences version 20 was employed for the multi-regression analysis. The study found a very weak relationship between the explanatory variables and the share price index on almost all the countries studied. The result revealed that inflation rate had a negative impact on stock market performance in Nigeria and South Africa. It was also revealed that Exchange Rate had negative effect on stock market performance in Nigeria and Kenya. Stock market in Nigeria was adversely affected by all the macroeconomic variables used for the study. The study suggested that policy makers in the African countries should endeavour to make policies that could control these variables to avoid the negative influence on stock markets.

Critique of Literature

The studies on the impact of macroeconomic variables on stock market performance both in Nigeria and other countries showed divergent results. Barasa (2014) study in Kenya had both negative and insignificant influence on share prices. Kpanie, Esumanba and Sare's (2014) study in Ghana revealed significant relationship between share prices and macroeconomic variables. The study of Worlu and Omodero (2017) on four African countries showed evidence that macro-economic variables had negative impact on the share price index of the four African countries used as case studies. Looking at the corruption impact on the economy, Nwankwo (2014) supported the study of Nageri, Umar and Abdul (2013) but disagreed with the study of Sunkanmi and Isola (2014) which stated that corruption is relevant for economic growth even though it is a bad omen and evil at all levels. The effect of corruption on stock market efficiency evidenced by few studies was significantly negative [Hasan & Nuri, 2013; O'Toole & Tarp, 2014].

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Research Gap

The studies reviewed so far concentrated on the impact of corruption on economic growth using foreign direct investment inflows and different economic indicators while those on the stock market performance made use of macroeconomic variables such as inflation, exchange rate, money supply and GDP. Studies that evaluated the effect of corruption on stock market performance are yet very scarce. Stock market is a very vital institution in a nation's economy and it is therefore pertinent to monitor all issues and factors that influence it both positively and negatively of which corruption is one of the issues. This is the gap this current study intends to fill. The study has been planned to investigate the effect of corruption on the stock market performance in Nigeria.

Methodology

Descriptive research design has been adopted for this study. Descriptive research design gives accurate information of situations as they naturally occur [Groove, 2004]. This research design has been employed because it allows numerical collection of data for research variables which can be statistically analyzed to produce empirical evidences of a chosen research field. The statistical tool for the analysis is the multi-regression technique and student t-test for testing the hypotheses. The dependent variable selected for the study is the Nigerian All Share Price Index (SPI) and the independent variables are the Corruption Perception Index (CPI) and the Nigerian Corruption Ranking (NCR) among other countries in the world. The SPI data were collected from the CBN Statistical Bulletin (2016) while the CPI and NCR were obtained from the Transparency International website. All hypotheses were tested at 5% level of significance for acceptance (if higher) or rejection (if lower).

Model specification

The model for the study is specified as:

SPI	=	f (CPI, NCR)
Where		
SPI	=	Share Price Index.
CPI	=	Corruption Perception Index.
NCR	=	Nigeria Corruption Ranking.

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The stochastic form is stated as:

Y = b0+bX1+b2X2+μ
Where μ = random error term.

Results and Interpretations

Table 2. Model Summary Statistics

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.846[a]	0.715	0.684	0.175953866	1.076

a. Predictors: (Constant), NCR, CPI

Source: Research Findings 2018.

In the table 2 above R is 0.846 (84.6%) and R^2 is 0.715 (71.5%). This implies that there is a significant relationship between the dependent variable (Share Price Index) and the independent variables (Corruption Perception Index and Nigerian Corruption Ranking). The correlation (R) is very high, likewise the R^2 which is the coefficient of determination showing the extent to which the independent variables explain the changes in the dependent variable.

Table 3. Analysis of Variance

ANOVA						
Model		*Sum of Squares*	*Df*	*Mean Square*	*F*	*Sig.*
1	*Regression*	*1.401*	*2*	*0.701*	*22.626*	*0.000[b]*
	Residual	*0.557*	*18*	*0.031*		
	Total	*1.958*	*20*			
b. Predictors: (Constant), NCR, CPI						

Source: Research Findings 2018

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Table 3 shows that the regression model is a good fit and it is statistically significant (0.000<0.5).

Table 4. Model Coefficients

Coefficients						
Model		*Unstandardized Coefficients*		*Standardized Coefficients*	*t*	*Sig.*
		B	*Std. Error*	*Beta*		
1	*(Constant)*	*0.012*	*0.633*		*0.019*	*0.985*
	CPI	*0.692*	*0.328*	*0.354*	*2.110*	*0.049*
	NCR	*1.295*	*0.383*	*0.568*	*3.383*	*0.003*
a. Dependent Variable: SPI						

Table 4 shows that the model equation can be presented as follows:

SPI = 0.012 + 0.692CPI + 1.295NCR + μ

Source: Research Findings 2018

Test of hypotheses

The study earlier hypothesized that corruption does not have significant impact on the stock market performance in Nigeria. From the table 4 above, CPI has a positive significant impact on SPI (i.e. 0.049 < 0.05) and the NCR equally has a positive and robust significant impact on SPI (i.e. 0.003 < 0.05). Therefore the hypotheses earlier formulated are rejected.

Discussion on the findings

The findings of this current study does not agree with the empirical studies of Hasan & Nuri (2013); Nageri, Umar & Abdul (2013); Nwankwo (2014); O'Toole & Tarp (2014), but seem to be consistent with the study of Sunkanmi and Isola (2014) who found a positive significant relationship between corruption and macro-economic variables such as FDI, GCP and government expenditure. It is pertinent to point out that corruption is inherent in the Nigerian system and because it has become a way of life, almost every sector of the economy is growing with it. The stock market is where companies trade their shares to raise capital. The existence of corruption in the Nigerian stock market spells danger and may mean betrayal of trust in the Nigerian business environment. No wonder companies still collapse even when their share prices are on the rising side. Macroeconomic variables seem to have adverse effect on the stock market performance and yet the

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effect of corruption is positive and significant. This could be an area for further research.

Conclusion and Recommendation

The issue of corruption in Nigeria should bother everyone. It is a fight that must be taken seriously. It has been so integrated into the Nigerian system that all efforts to eliminate it seem to prove abortive. This study suggests that Companies should ensure there is a proper corporate governance structure in their organizations which is made up of people that believe in transparency and public accountability. The integrity of external auditors should be investigated before they are allowed to carry out any professional assignment in an organization. The anti-graft agencies should be strengthened and encouraged to do their work effectively. The government should flush out all corrupt public office holders and adopt a policy oriented theory of corruption by Teveik, Albert & Charles (1986). The Stock Market in Nigeria requires a lot of measures to ensure that all private information about companies reflect in their share prices to save investors economic loss. The authorities should lay more emphasis on the practice of strong form of market efficiency which ensures that no stone is left unturned in gathering all information capable of determining share prices of companies wishing to raise capital.

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APPENDIX 1: RESEARCH DATA

YEAR	*SPI*	*CPI*	*NCR*
1996	*5,955.14*	*0.7*	*54*
1997	*7,638.59*	*1.8*	*52*
1998	*5,961.87*	*1.9*	*81*
1999	*5,264.19*	*1.6*	*98*
2000	*6,701.17*	*1.2*	*90*
2001	*10,185.08*	*1.0*	*90*
2002	*11,631.87*	*1.6*	*101*
2003	*15,559.89*	*1.4*	*132*
2004	*24,738.65*	*1.6*	*144*
2005	*22,876.72*	*1.9*	*152*
2006	*25,343.55*	*2.2*	*142*
2007	*48,773.31*	*2.2*	*147*
2008	*50,424.71*	*2.7*	*121*
2009	*23,091.55*	*2.5*	*130*
2010	*24,775.52*	*2.4*	*134*
2011	*23,393.65*	*2.4*	*143*
2012	*23,432.62*	*2.7*	*139*
2013	*36,207.08*	*2.5*	*144*
2014	*39,409.83*	*2.7*	*136*
2015	*30,867.20*	*2.6*	*136*
2016	*26,624.08*	*2.8*	*136*

Source: CBN Statistical Bulletin and Transparency International.

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APPENDIX 2: LOG OF RESEARCH DATA

YEAR	*SPI*	*CPI*	*NCR*
	LOG	*LOG*	*LOG*
1996	*3.774892*	*1.845098*	*1.732394*
1997	*3.883013*	*2.255272*	*1.716003*
1998	*3.775383*	*2.278754*	*1.908485*
1999	*3.721332*	*2.204120*	*1.991226*
2000	*3.826151*	*2.079181*	*1.954243*
2001	*4.007964*	*2.000000*	*1.954243*
2002	*4.065650*	*2.204120*	*2.004321*
2003	*4.192007*	*2.146128*	*2.120574*
2004	*4.393376*	*2.204120*	*2.158362*
2005	*4.359394*	*2.278754*	*2.181844*
2006	*4.403867*	*2.342423*	*2.152288*
2007	*4.688182*	*2.342423*	*2.167317*
2008	*4.702643*	*2.431364*	*2.082785*
2009	*4.363453*	*2.397940*	*2.113943*
2010	*4.394023*	*2.380211*	*2.127105*
2011	*4.369098*	*2.380211*	*2.155336*
2012	*4.369821*	*2.431364*	*2.143015*
2013	*4.558794*	*2.397940*	*2.158362*
2014	*4.595605*	*2.431364*	*2.133539*
2015	*4.489497*	*2.414973*	*2.133539*
2016	*4.425275*	*2.447158*	*2.133539*

Source: CBN Statistical Bulletin and Transparency International.

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IMPLEMENTATION OF ETHICS MANAGEMENT NOWADAYS IN THE ROMANIAN UNIVERSITY ENVIRONMENT

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Abstract

The paper shows that, at the present moment, the management of ethics in the academic environment represents the coordination of all elements related to the moral life of a university. The last decades have insistently imposed on public awareness the importance of taking into account the ethical dimension of the life of universities. Ethical codes, ethics committees and commissions, ethical audits, ethical education of staff, techniques to create an institutional culture of a moral nature have all become increasingly widespread. The University respects the dignity of each of its members and promotes academic integrity on ethical principles. Its members are committed to contributing to the democratic development and prosperity of the society. The University is an institution whose goals, valid for each of its members, include development and professional affirmation, the evolution of knowledge and research while respecting the rule of law and the human rights. I think that the values and principles that universities have to promote in particular, and whose actual achievement is sought to ensure, are: academic freedom, personal autonomy, justice and equity, merit, professionalism, honesty and intellectual integrity, transparency, respect and tolerance, responsibility, goodwill and care. I also think that "institutionalization of ethics" in academia is a new reality for which we all must be prepared.

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Keywords: *ethics management; applied ethics; moral academic institution; ethical progress of universities; moral content of a university; ethical academic dimensions.*

JEL Classification: I21, I23

A Brief Introduction to the Evolution of Ethics Management in Academia

Management of ethics in the university environment as a management discipline deals with the development of those leadership tools that contribute to the ethical development of a university, as well as those methods that can be used to determine the direction in which the academia should develop. The management of ethics in the university environment presupposes the description and analysis of the current ethical situation through "ethical audit", i.e. by assessing the state of "the ethical content" of the academic environment, determining the desirable situation and deciding on the measures to be taken in perfect harmony with the other forms of management (e.g. "ethical development of the university"). Management of ethics in the university environment is the result of the increasingly visible imprinting of the academic environment with responsibility/morality, regarded as an indispensable condition of its existence. A university demonstrates moral responsibility when it subordinates its interests to the interests of its customers – the students.

In this context, *ethics management in the university environment* is represented by all the activities and measures that follow the institutional organization of ethics for the creation of honest universities.

Do not confuse *ethics management* with *ethics of management* or *management ethics*, i.e. the study and control of ethical issues raised by different forms of management – strategic management, quality management, social management, etc.

The management of ethics in the university is altogether different. This represents a new branch of management of an educational institution. It must also be distinguished from "the academic ethics" in the broad sense, that is, from the traditional analysis of ethical issues in universities to provide normative clarifications and moral guidance, using various ethical theories and analytical tools provided by the philosophy of morality.

Philosophers of morality have always been interested in the usefulness and applicability of their theories. Studying the theories of some authors such as **Kant**,

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Mill, or **Hare**, any student was able to see the emphasis they put on "apps" – procedures first of all, viewed as exercises, to show that the theory works.

Concerns about improving morality are surprisingly old, and they have always been the mark of the civilized world. In modern times, there is the temptation to neglect such civic engagements and public programs of moral improvement. We still have the illusion that ethics can be reduced to spontaneous compliance with laws and regulations.

The etymology of the *ethical* word derives from the Greek *ethos* that originally defined the customs in general, but today it is reduced only to the meaning of moral customs. *Ethos* may designate as well the moral profile of the human community, the moral of the groups.

The applied ethics deals with contextualization, problem-solving of concrete situations, thus is providing accurate moral guidance. It deals with the study of controversial issues of contemporary society, in fields such as: university ethics, pedagogical ethics, bioethics, etc. Focused on the study of deviations from the traditional principles of morality, the applied ethics aims to broaden the thematic field of ethics and limit generality, thus providing answers about the concrete life of a person or a distinct community, such as the academic environment.

In the recent years, the importance of taking into account the ethical dimension of academic life has been strongly imposed on public consciousness. Ethical codes, ethics committees, ethical audit, ethical education of staff, techniques to create an academic culture of moral nature have become more and more widespread. "Institutionalizing university ethics" is a new reality. The various "ethical contents" in the academic world have begun to force new theoretical refinements, simply generating a new branch of management – the management of university ethics.

Academic ethics is an area at the intersection between the ethics of research, the ethics management in the academic environment and the professional deontology of the researcher or professor. Although the concerns that may be circumscribed in this area are far from being a recent development (since the dawn of modernity, ethical debates about the correlative debts of teachers and students, or topics such as the moral acceptability of the use of corpses for the development of medical knowledge), the field has known a significant autonomy in the last 20-25 years, especially as a result of the need to respond theoretically to requirements arising from research and education funding bodies, as well as from the public opinion. Thus, dedicated journals have appeared or have been consolidated (the most well-

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known is probably the *Journal of Academic Ethics,* edited at Springer), and several books or compendia have been published.

According to **Ronald Jeurissen'**s opinion, *ethics management in the university environment* aims to improve decision-making processes, procedures and academic structures, so that academic activities are as much as possible linked to ethical principles. The tools used are ethical codes, ethical audit, and other strategies to lead a university on the path of morality. According to **Donald Menzel**, *ethics management in the academic environment* does not consist of controlling and penalizing the behaviour of academic staff or reflecting on the ethics of the academic workplace. It is rather the set of actions taken by deans or vice-rectors to stimulate the formation of a moral conscience and an ethical sensitivity capable of impregnating all aspects of university activity. This type of ethics management in the university environment is to promote and maintain a strong ethical culture in the workplace from the academic environment.

The experience of managing ethics in the universities world-wide is short-lived, about two to three decades, but some models of university ethics have been proposed. Some authors speak of *four stages* in the evolution of ethics management in the university environment, namely: *the initial stage*, ethical awareness, *the stage of ethical reasoning*, consisting of procedures and criteria for decision-making, *the stage of ethical action* and *the stage of ethical leadership*, promoting employment and ethical culture.

At this moment, in Romania, ethics in higher education is approached as "something to be done", being imposed by normative acts. Therefore, most Romanian universities aim at fulfilling the minimum standards imposed by specific methodologies, the effects of which are relatively low. Compliance with national standards leads to uniformity, conformity. However, we consider that a voluntary approach to ethics management in the higher education system is necessary in order to increase the competitiveness of the system. The elements of ethics management in the university environment must be acknowledged and assumed by each academic member of the academic environment.

University ethics management must offer universities the opportunity to exchange good practices and promote both traditional European values such as solidarity, cooperation, freedom, tolerance, efficiency, respect for human rights and the principles of ethics management and total quality, materialized in: orientation towards students, the internalization of student-faculty/university relationship, the quality of primary education, continuous improvement of teaching methods, system vision and data argumentation.

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Ethical Content of a Moral Academic Institution

At present, the general context in which Romanian universities are active seems to increasingly require restructuring at the level of academic management. However, the application of general prescriptions in specific sectors is not without problems. On the one hand, public or private funding of universities and, implicitly, the responsibility of spending these public or private funds generates increasing pressure to demonstrate the quality of the results obtained. The implementation of ethics management in many academic environments is a means of guiding and structuring the practices of these academic institutions towards the quality of the educational services offered. In the general spirit of ethics management in the university environment, their quality is defined operationally, most of the times, through the satisfaction of the customers (the students). On the other hand, the transposition of the client-centred paradigm has not proved to be easy because of the diversity of entities that can be considered as being "customers" of the academic services.

Sallis (2005) proposes *a classification of "university customers" into four categories*: primary customers – those who benefit directly from university services (students); secondary customers – those who have a direct interest in educating primary customers (parents, family, relatives, sponsors, etc.); tertiary customers – those who have an interest in educating the whole group of primary customers, not specific: future employers, government, society as a whole; internal customers – university staff, whose actions depend on the success of the institution (teachers, auxiliary administrative staff, secretaries, librarians, cashiers, technical and sound technicians, cleaners, guard and protection staff, etc.).

The inclusion of university staff in the category of customers is justified by the fact that their professional performance depends on the actions of the other employees. Each member of the academic community offers and receives services from others. Ignoring these mutual dependencies would generate the risk of lowering the performance of the higher education institution as a whole. In terms of communication, this implies not only their inclusion as receivers of information flows within the university, but also providing them with feedback opportunities on existing procedures, as well as on new ideas and services.

Some authors argue that, in order to increase the confidence of their own employees in the educational institution and its services, this institution has to put in place an internal marketing mechanism. This would imply, in addition to the previous recommendations, a positive and proactive attitude that accompanies the

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messages, necessary for their persuasive efficiency and, in general, to stimulate the identification of the employees with the academic institution in which they operate.

The implementation of ethics management in the university environment is hampered by the fact that the needs and perspectives of the multiple categories of actors involved in the university environment do not always coincide. On the one hand, this fragmented nature of the vision of those involved reveals the importance of communication in setting university objectives, standards and practices. On the other hand, it generates a multitude of definitions of the quality of the academic institutions products.

Barnett (2005) lists seven such perceptions: *technical* (imposing technical tools); *collegial* (the collective voice of the university community); *epistemic* (requests for "defining the territory" from communities centred around a discipline); *consumerist* (from direct beneficiaries, current or potential); *employing* (the voice of the labour market that will have to integrate the products of the university system); *professional* (requests from organizations bringing together specialists in certain professions); *inspectorial* (state's voices and of other external agencies authorized to evaluate the university environment).

The harmonization of distinct perspectives on the ethics of university products requires, on the part of these organizational environments, communication and negotiation efforts both externally and internally.

Muel Kaptein defines a moral academic institution based on his descriptive concept of "ethical content". The conceptual model of ethical content is based on the premise that there are three types of relationships that are morally relevant in any academic institution: a) the relationships between the teaching and/or the administrative staff and the university – it is called "the size of the tangled hands", suggesting the potential conflict between the interests of the employees and the interests of the academic institution in terms of the use of its assets; b) relationships between the employees themselves (teaching and administrative staff), called the "multiple hand size", suggesting the moral hazard that emerges from the university's need to use more than one employee; c) relations between university and students, called "the size of dirty hands", suggesting the academic institutions' desirable efforts to keep themselves "clean", that is, to honestly honour the promises made to the students.

The evaluation of the moral content of a university is based on a list of "qualities", "criteria" or "virtues" of the academic institution. The author, **Muel Kaptein**,

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selected seven "ethical academic qualities" that must be interpreted relative to each of the three dimensions. Qualities are provisions given by universities that stimulate teachers and administrators to express the responsibilities of the university in the three dimensions. If these qualities are not appropriately adopted in academic life, it increases the university's chance of losing its moral mission. Here is a brief description of these *seven academic institutional virtues* in **Muel Kaptein**'s view:

Clarity refers to the degree to which the university clarifies and makes its moral requirements transparent in the form of moral values and rules. When looking at the size of "embarrassed hands' (employee-university relationship), clarity is the extent to which the university is transparent about how employees can use the university's services, setting out detailed rules for doing so. Ignorance, blur and chaos favour the acceptance of small gifts, bribery, abusive use of university services, etc. A condition of a university's morality is that teachers, secretaries, librarians, etc. know what is being claimed from them (the detailed and public character of moral codes). As far as employee relations are concerned, clarity means defining accurately and fixing within the code all the responsibilities of the academic and auxiliary teachers within their mutual relationships. And in relation to the students, to establish and clarify what they expect from the university staff.

Consistency is the extent to which the moral expectations of the university are mutually consistent, unambiguous and compatible with other values. The leadership of the university (rector, vice-rectors, deans, department managers) plays a decisive role in giving consistency to the moral relationships with the students, making efforts to use the assets and services of the university with care, ensuring that the relationships between the academic and/or the auxiliary staff are functional and moral, and meeting the expectations of students.

Penalty refers to the degree to which positive or negative sanctions apply to the behaviour of the academic or auxiliary staff. Moral rules are imposed by the academic community, they are not optional, and the lack of this quality gives way to immorality.

Feasibility represents the extent to which responsibilities and expectations can be put into practice. In relation to the dimension of "multiple hands" (employee-employee relationship), the lack of this university's quality can mean an academic leadership that cannot trace feasible workloads, therefore inefficient. The university leadership does not know how to distribute time and resources and does not know enough about concrete situations. Regarding the "dirty hands" dimension, its lack means that the university can create unrealistic expectations among students.

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Supportability refers to supporting teachers and auxiliaries in the good use of university goods and services ("entangled hands"), to cultivate close cooperation with colleagues and managers (rector, dean, departments – "multiple hands"), students ("dirty hands"). It confers unity to all those who have interests at the university level.

Visibility refers to the extent to which the effects of the actions of teachers and auxiliary staff are visible. The visibility of immoral behaviour must be present both on a hierarchical line, but also between teachers or auxiliary staff.

Criticability refers to the extent to which critical discussions on immoral behaviour, dilemmas and moral problems faced by the teaching staff or auxiliary staff are possible or encouraged in the university.

Good ethics management in the university environment must ensure the presence of these qualities to guarantee the organization of the *three fundamental ethical academic dimensions* in a responsible way. It is therefore about the clarity and precision of writing the code of academic ethics, ensuring the consistency of the code of university ethics with the other regulations and values (consistency of the approach), about the fact that the violation of the academic ethics code is being sanctioned, about ensuring that the provisions of the ethical code are achievable that the university, through its leadership, should support the realization of the ethical program and that the consequences of unethical conduct will be made public and critically discussed at university level – all of these in the relationship between the staff and the university leadership, as well as in the relations between employees or those between the staff and the students.

The Evaluation of Ethical Qualities at the Academic Level in Romania

The evaluation of ethical qualities at the academic level can be done through interviews, document consultation, etc. The academic ethical audit of a university consists precisely in the evaluation of its moral content and possibly in suggesting solutions for its moral development.

C. McNamara characterizes *a "moral university"* as one that respects at least the following *four principles*: 1) interacts naturally with students and other varied beneficiaries (employers, parents, relatives, sponsors), and the basic rules of the university make out of the good of beneficiaries part of the good of its own academic institution; 2) the members of the educational institution are extremely sensitive to the issue of impartiality: their basic rules stipulate that the interests of

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others matter as much as their own interests; deception and exploitation of students are not allowed; 3) responsibility is regarded as being rather individual than collective. No teaching staff or auxiliary staff will be able to hide behind the academic institution they represent. Members of the university must be individuals who assume their personal responsibility for the actions of the educational institution they represent. The rules of the educational institution establish that teachers and auxiliary staff are responsible for themselves; 4) universities regard their activities in terms of objectives. The objective is an operating mode that is highly valued by university members and links them to the external environment. Obviously, all these are related to an advanced stage of the evolution of the ethical management in the academic environment.

C. McNamara, in his ethics management guide in the university environment, believes that a mature distribution of roles and responsibilities in a university that takes ethical management into the academic environment seriously would require such institutional changes at the academic level: a) the University Rectorship and the University Senate must actually support ethical programs. If the management of a university does not believe in them, there is little chance of success; b) the management of a university should establish an ethics committee at the level of the central governing bodies, having the role of supervising the conduct of the ethics management program at the academic level; c) the university leadership should have an ethical management board set up to implement and manage "ethical programs at university level", including policies and procedures of a moral nature, and to solve moral dilemmas and conflicts that may suffocate the atmosphere in a university; d) the academic management must order the establishment of the director of ethical issues at the academic level position, a person who combines managerial knowledge and experience with that in the field of practical applied ethics management. One single person must be responsible for the management of ethics at the university level, which becomes the subject of a new profession; e) the university leadership should set up an "ombudsman" position – a person responsible for the institutionalization of moral values at the workplace, in the academic world, but also with the resolution of moral litigation, by the wise interpretation of policies and procedures, and by close contact with teachers and auxiliary staff, but also with students.

According to **Trevino** and **Weaver**, *the ethical platform of an university* consists of at least the following elements: a) the creation and development of ethical codes at

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university level – which articulate the university's firm expectations of morality; b) organizing and leading ethics committees to deal with: development of ethical policies, evaluation of actions and decisions of the university and teaching or administrative staff, investigation and sanctioning of deviations from the rules; c) establishment of ethical communication systems (e.g.: ethical hotlines) as means available to the teaching or auxiliary staff to report abuses or to ask for counselling; d) the existence of a director with ethical issues or an "ombudsman", which must coordinate ethical education policies, investigate rumours, settle conflicts; e) organizing ethical trainings, such as those aimed at forming the virtues of the teaching profession or administrative staff; f) conducting disciplinary activities in the case of unethical behaviours; g) creating an institutional culture of respect for the specific values of the university to which the person belongs.

Conclusions

In Romania, there are, however, few universities who seriously apply ethics management programs in the academic environment. These programs would, in fact, be rather complicated, involving awkward tasks that are redundant in the eyes of ordinary academic leadership.

Generally speaking, the effectiveness of ethics management in the academic environment depends on the university's ability to exploit all types of information, namely all communication channels, both formal and informal, thus building an open university ethic culture. This is fundamental in the university environment, where the construction of an "ethical learning community" calls for the presence of efficient information networks – supported both by structural platforms and by individual efforts.

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A COMPARISON AND INTEGRATION BETWEEN PRIVATE AND PUBLIC SECTOR THROUGH SUSTAINABLE ECONOMICAL DEVELOPMENT OF THE ROMANIAN RURAL AREAS USING BEE ALGORITHM

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Abstract

The article is focused on presenting a comparison of the public sector with its public administration policies and private sector with its economical strategies, with the purpose of the better integration between the two, with case study on the European funds in beekeeping and how, by studying the bee behaviour, we too can develop our society to achieve better results. The scope of the article is to show an overview of the European policies into state members with focus on sustainable economic development of Romanian rural areas. This is part of the authors' research from the last 10 years, with focus on public, economic and social development and represents the initial results of their yet not published work.

Keywords: *development; sustainability; Romanian; bee; rural; private sector.*

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JEL Classification: L32, L38, L98, M16, M21, R58, R13, O18, O35, O38

Introduction

The present article is focusing on showing how we can improve our society in the urban and rural areas specifically if we learn from the bee's way of living and their tasks within a hive. In other words, we are focusing on a comparison between the public sector, with the rural areas specifically, but not limited to, with the administration policies, and the private sector, with enterprises where all the tasks are done just in time according to the bee algorithm, with the purpose of increasing productivity and competitiveness of the final goods and services. We have conducted an empirical study with a focus on the beekeeping sector which was funded through European programs of development for state member countries, in our case Romania.

We consider this area of great interest for the development of rural areas and increase and sustainable growth of wealth and social development because by simply observing nature and the bee colonies, one can learn and apply the knowledge, through comparison and synthesis to their daily activities. This activity thus becomes an easily accessible tool for improving one's life, no matter of their working conditions and place, whether it is in the public or private sector. Everything started from a small project developed during the author's spare time and slowly it became a larger project where social and economic inputs were added to get an output which can be used as a model for public administration and privately-owned companies. The idea behind this model is the answer to the following questions, where by "company" we consider a state or privately owned company:

1. How can a company improve its processes with the available resources and decrease its indirect costs?
2. How can the company increase its work productivity and its outputs with better quality?
3. How can we develop and sustain this long term development in the rural areas specifically, without any additional training of the people and with minimum costs?

Starting from these Research Questions and from the bee colony's life, with the help of the mathematical models, a new path was found in the development of companies in Romania, with applicability into all the other EU state members, with an adjustment into the implementation methodology based on the specifics of the society and population's social status. By comparing the bee algorithm, where each

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worker is considered a bee and the task to be completed is considered the "honey", we can extrapolate from the productivity of bees into a colony to the specifics of the processes within the public state apparatus and within the private sector. A specific task which a worker, employee or public servant must complete is made of several sub-routines and if we analyze the big picture we can divide and optimize these processes so as to increase the quality of the output, without increasing the resources (input). This analogy is part of our hypothetical model which is in the initial stages of development and a reason for which, in this paper, we will present only the overview of the problem and the initial part of our research.

Literature Review

In the specific literature we find the bee algorithm, which is the mathematical algorithm developed from the observation of the bees' life and which is used within several mathematical models to find optimum. Bees, like ants and other insects, are social insects and have an instinct ability known as swarm intelligence, which enables them to solve complex problems of the group, beyond the capability of individual members, by functioning collectively and interacting with each other amongst members of the group [Nakrani & Tovey, 2004; Teodorovic & Dell'orco, 2005]. For the honeybees, this intelligence is crucial due to the complexity of finding flowers and collecting nectar and pollen, in a relatively short period of time, related to the life of a honeybee.

The honeybee algorithm has been used in other scheduling problems like Job Shop Scheduling [Chong, 2006], but it wasn't used for parallel machine scheduling with the quality approach.

Rebai (2012) as well introduced a function for total costs, but nothing is mentioned about the quality of the work. Other authors such as Swink (2006) work under the assumption that the time–cost trade-offs for project activities are linear, an assumption we are considering as well in this article. An analogy is made between the working bees from a hive, which have to get out of the hive and search for new flowers, and parallel machine scheduling, by one of the authors in his Ph.D. dissertation thesis [Gruia, 2014].

Romanian Rural Environment: Short General Presentation

In terms of economic development, Romania is in a modest position in the EU, the share in European GDP in 2012 being only 1%. Even though GDP per capita has seen an upward trend after 2010, however, compared to the EU average in terms of

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Standard Purchasing Power Parity (PPS) per capita, it represents only 49%. In this context, investment and competitiveness in Romania are still elements that need to be improved to accelerate economic growth and ensure income convergence with those in the EU. The agricultural sector and the rural economy in general continue to have substantial growth potential, still underutilized. Agriculture generated 30,897.7 million lei Gross Value Added (GVA), representing 6.0% of the total GVA. The evolution of the GVA distribution by sectors of activity reveals a continuous decrease in the share of agriculture in favour of the secondary and tertiary sectors.

Labour productivity in 2012 in agriculture was 2,464 Euro/occupied people, almost 5 times lower than the national average (12,527 Euro/occupied person), while in the secondary sector (industry and construction) and tertiary, the registered values were 1.5 and 1.3 times higher respectively. Rural SMEs involved in non-agricultural activities (industry, services and rural tourism) have a low share. The analysis of micro-enterprises in rural areas highlights their low capacity to respond to the need to provide jobs for the rural population.

The development of small-scale businesses is recognized as the most important source of employment and income generation in rural areas, both for the economies of developed and developing countries. Of the active non-agricultural SMEs at national level, only 18.1% were active in rural areas in 2001. In 2011, the SME density per 1,000 inhabitants at national level was 23.66, well above that recorded average in rural areas, of 9.64 SMEs per 1,000 inhabitants. SMEs' access to finance remains a major problem. From the point of view of territoriality, financial services are generally less accessible to rural businesses and the agricultural sector, with high credit costs (high interest rates on commercial banks for lending, fees and commissions for various services provided by banks). Reducing the number of service workshops and craft cooperatives has led to a severe compression of the rural social economy.

At the same time, the agricultural cooperative sector is underdeveloped, and the tendency is to reduce. In 2005, the number of co-operative units was 108, and in 2010 it decreased to 68 units. Unlike European holdings, Romanian holdings also operate in the productive sphere and not in the field of processing or marketing. Also, as far as practicing traditional crafts (handicrafts, crafts) by craftsmen working on their own or organized in craft associations and cooperatives, in 2010, from 2017 holdings, 42.5% were holdings of craftsmen.

The level of education of the rural population has improved, but at a slow pace. In this respect, the following are relevant:

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– Regarding the school drop-out rate in rural areas, it reduced moderately at all levels of education, but it still remains higher in relation to the urban environment, especially in secondary level education (15.2% in rural areas compared to 5.9 % in urban area in school year 2011/2012);

– The number of specialized agricultural high schools registered a downward trend in the last decade, together with the decrease in the number of graduates (from 2,511 in 2005 to 2,328 in 2011);

– The low attractiveness of the agricultural sector and also the decrease in the number of graduates of the agricultural schools are factors that have contributed to the decrease of the training level of the managers of agricultural holdings;

– Continuous formation and training is at an early stage of the event, which places Romania at a lower level in the EU (1.3% of the rural population in 2010 and 1.6% in 2011 compared to the EU-27 with 9.1% in 2010 and 8.9% in 2011).

At national level, there is a pronounced stream of urbanization of the active population. The economic development of the secondary and tertiary sectors has attracted the active rural population to urban areas in the last decade and in 2012 the urban active population was 11.7% higher than in rural areas, which reveals the need for the development of non-agricultural activities in rural areas. Although the active population in rural areas has a slight downward trend of 1% over the period 2005-2012, against the backdrop of the decline and aging of the rural population, there is still a large available labour force that is currently involved in subsistence and semi-subsistence farming.

In Romania, the employed population is diminishing at both national and rural levels. At the national level, in 2012, the employment rate was 59.5%, lower than the European average by 4.7%. In rural areas, there is a drop in the employment rate from 61.6% in 2005 to 60.7% in 2012. An analysis of the employed population by sectors of activity of the national economy, during the reference period 2005-2012, indicates (-2.6% in agriculture and -4.4% in industry and construction) an increase of 14.5% in the tertiary sector. There are significant disparities in the territorial profile of the occupied population: there are rural localities where the industry or the tertiary sector has minimum values and agriculture accounts for over 80% of the total employment. This is supported by the high employment rate in agriculture of 60.3% compared to the non-agricultural sectors by 40.2% and the industry and services by 40.6%.

Analyzing the structure of the occupied population in terms of professional status, we notice that in 2012, self-employed workers and non-paid family workers

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from rural areas accounted for 89% of the total population with this professional status.

Also, in the context of the rural economy, their share is 42.6% of the total rural population in 2012, which is associated with subsistence agriculture and lack of alternatives to entrepreneurship. If we relate to the residence environment, we notice that at the level of 2012, the rural employment rate was 51.9%, being 1.5% higher than in urban areas, which instead of reflecting the existence of better employment opportunities, it rather indicates insufficient and lack of employment in this area.

In Romania there are great differences in wealth, opportunity, education, skills, health and in many areas they have intensified over the last decade. In 2011, 40.3% of the population was at risk of poverty and social exclusion, 16.1 higher than in the EU. These differences are of a profoundly territorial nature, with pronounced variations between regions, as well as between urban and rural areas, the share of people at risk of poverty or social exclusion in the rural area accounting for 54.2%. In rural areas, incomes are relatively low, compared to urban areas in 2011, and were 503 euro per rural household compared to 621 euro per urban household. At the same time, the share of income both in cash and in products in agriculture accounts for 42% of total gross income per household in the rural area, while wages are currently around 26%.

Rural areas in Romania are affected by the lack or deficiency of infrastructure, which has a negative impact on economic development and quality of life. The county and communal roads have a length of 67,298 km (10.6% of the modernized national infrastructure) of which 48% are paved and 29% of them are often impractical in rainy periods. Although the length of water distribution and sewerage networks has increased, access to them remains low, only 13.6% of rural localities are connected to the drinking water supply network at the level of 2012.

Successful implementation of the National Rural Development Plan (NRDP 2014-2020) will not depend only on the existence of financial support, but will also depend on the existence of good ideas for new projects that promote the development of rural businesses and rural communities. The National Rural Development Network (NRDN) was established through NRDP 2007-2013, which contributed to the promotion and connection of local actors. The need to reactivate and strengthen a rural community's development network to facilitate the exchange of knowledge, experiences and reanimation of local community actors is essential for an active rural area. And all these development programs cannot be done without the help of the EU

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and their European Funds for development of EU states which in our specific case is called nationally as the National Beekeeping Program, where beekeepers are helped to acquire medicine, bees, hives, etc. in order for our local Carpathian race of bees to be protected and beekeepers to be able to sustain themselves from this occupation.

Sustainable Economic Development Using Newly Developed Bee Mathematical Model

Based on the doctoral thesis of one of the authors, we also consider, in this article, working and sharing tasks on identical parallel machines as an option for increasing productivity. And this division can be applied easily into manufacturing companies, as well as into public administrations, where several offices are open for delivery or "manufacturing" of the same task and they are working in the same time on "parallel lines", which have a starting point or input; in this case being the citizen who wants an official document and, after being processed by the public servant, the input becomes an output, i.e. the document is officially stamped and delivered to our customer – the citizen.

That is why the applicability of our model is wide and diverse and we can consider each and every task through analogy with the honeybee's production of honey and how, by using their swarm intelligence, they are creating such a complex product, the honey, from several thousand flowers. Even if we can apply the model in all sectors, we shall not forget about the quality of the work, which is actually a necessary condition of our model and also decisive in the productivity increase and sustainability of economic development of the Romanian areas, specifically the rural ones.

The honeybee algorithm has been used in other scheduling problems such as Job Shop Scheduling, but we are not aware of it being used for identical parallel machine scheduling.

An analogy is made between the working bees of a hive, which have to get out of the hive and search for new flowers and parallel machine scheduling. Let H be the set of honeybees searching for flowers and F the set of possible flowers and food sources where a bee can start and finish her job of foraging nectar.

Before defining the mathematical model, some restrictions are applied due to the analogy with the honeybees, which will apply in the article as follows:

- Each working bee has a random defined loading capacity lc_i of pollen and nectar (further referred as "food");
- Each flower in the flower patch should be visited by the working honeybee only once and upon returning to the hive the bee will carry a certain amount of

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food between 0,01 and 1, where 1 is the maximum loading capacity of the bee equal to the maximum amount of available food in the visited flower;

- A flower patch consists of a random number of flowers from minimum 1 to a maximum of the number of all the given flowers;
- The colony is divided into scouts (which is a defined number of 10% from the total number of bees), which randomly search for food, working bees (80% of the population), which wait in the hive for the scouts to return and after getting to the flower, they also become scouts for the flower patch where they were sent initially by the scouts; and onlookers (10% of the population), which stay in the hive and perform maintenance and "final" operations to the final product (honey);
- The scouts, after finding a flower, return to the hive with foraged nectar and pollen and, using the waggle dance, recruit the working bees until all the flower patches are discovered. After that they transform into working bees and according to their visited flowers remain to harvest the flower patch which is the richest in food;
- After unloading the food in the hive, a recovery time *tr* is considered as a sum of: the prepare time *tp*, the bee prepares itself for the second flight (fixed input costs are related with this) and the waggle dance time *td*, in which it shows its findings to the other colleagues, for other bees to follow and forage the flower patch as soon as possible, where $tr = tp + td$;
- A bee can fly only on a maximum 3 km radius around the hive, with an average speed of 30 km/h, that is a forage trip can last at most $(720 + t_f)$ seconds, where t_f is the foraging time;
- Each flower within the visited flower patch is assessed by the onlooker bees with a certain priority or weight w_k according to the duration of the waggle dance of the working bee returned to the hive;
- The jobs are done without pre-emption or re-assignment.

We will further consider only the case of the scouts with working bees in their search for food, because after the flowers are found the foraging operations can be automated and standardized by the other working bees, a schedule not being needed any more to be changed after each operation, but only once at the beginning of the work.

We can characterize each bee by a flying time, defined as eq. (7) and a weight w_k as eq. (5). Each flower is foraged by a certain bee within a certain period of time, i.e. a processing time t_f, which is the same time for all the bees in this particular case, a tardy weight tw_k, an early weight ew_k and an optimistic due date

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d_k^o, as well as a pessimistic due date d_k^p and a minimal flying cost fc_i (the amount of pollen and nectar foraged is lower than the actual amount brought in the hive because a part is consumed by the bee according to eq. (14)).

Rebai (2012) introduces a function for total costs, but nothing is mentioned about the quality of the work. We will further consider a similar cost function, but in a different environment. According to our developed MAKEMAX model, we want to improve the quality of the product within the earliest processing time, i.e. the optimistic due date, but due to different factors we have another pessimistic due date, which we want to minimize. From the nectar and pollen foraged, honeybees produce the final product, the honey, and assuming that the available resources are of the best quality in different amounts, and that each bee is "trained" to produce the honey at the beekeeper's quality requirements, we want to measure the quality of the work of the honeybees, which should be at the highest levels and thus we start to measure it from the time $t = 0$, which is the beginning of the working day, for a 12 hours working shift.

We introduce a Bee Preventive Quality Assurance System (BPQAS), so that counteractive measures can be taken in due time in order to solve possible problems and to find the optimal combination from a number of simulation cycles of minimum costs, minimum completion time of the jobs and a maximum quality level of the work and indirectly of the product.

Generally the costs are divided in direct and indirect costs. We further consider in this article the costs related to the individuals' work (honeybees) and we will work under the assumption that the time–cost trade-offs for project activities are linear [Swink, 2006].

When BPQAS is put to work, within an optimistic d_k^o and pessimistic due date d_k^p, the operational cost associated is minimum and is the same as the flying cost fc_i. On the other hand, if the BPQAS is put to work before the optimistic due date d_k^o (which is the smallest amount of time in which the job is fulfilled), we will have a new total cost as follows: $tc_i = fc_i + TR(d_k^o - d_s)$, where d_s is the point ever since we have started implementing the BPQAS.

An explication for this expression can be given, that the bee begins to consume honey before arriving to the flowers, i.e. the worker produces a cost to the company before beginning the work in the so called "dead time" of his work shift.

If the foraging time is greater than the pessimistic due date, the total costs are increasing according to the following relationship: $tc_i = fc_i + TR(d_f - d_k^p)$, where d_f is the actual finish time of the forage and TR is the time rate of the job with the unit RON/s.

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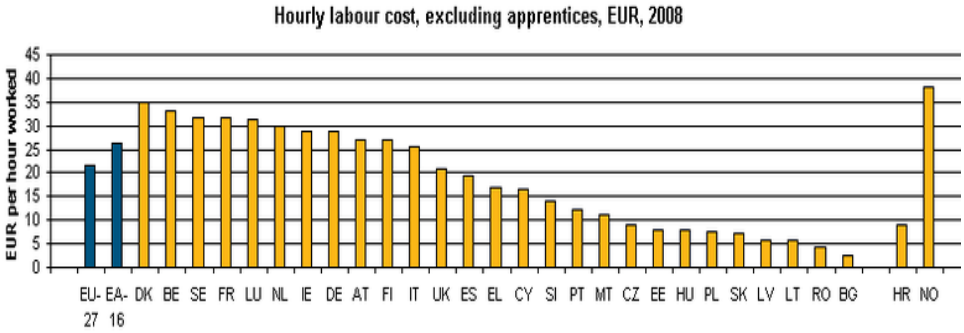
The time rate of a job in the manufacturing industry is taken from the European Union statistics before the economic crisis (Eurostat – Tables 1 and 2) for countries such as Romania and Czech Republic, according to the manufacturing enterprise where we have implemented the algorithm with its Quality Scheduling Index. Due to this fact, one can see the wide applicability of our model in any European country or other country according to the hourly labour cost from that country or region.

Table 1. Labour Cost Structural Statistics



Source: European Commission Eurostat, [online], http://epp.eurostat.ec.europa.eu/ statistics_ explained/index.php/Labour_cost_structural_statistics, accessed 25.07.2013.

Definition 1 – A foraging operation is equivalent to a manufacturing operation and is considered complete when the input (nectar and pollen) is transformed to output (honey).

In order to be able to measure the efficiency of the honeybee's work we introduce the following performance coefficient of the i^{th} bee:

$$k_i = \frac{quality\ of\ the\ i-th\ bee}{(processing\ time + recovery\ time) of\ the\ i-th\ bee}$$

where processing time is the time taken for flying away from the hive to the flower, foraging the pollen and nectar and returning to the hive, and together with the recovery time forms the makespan for the manufacturing of the final product, i.e. honey. In this manner we want to obtain big values of the coefficient which can be done in three ways:

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–By increasing the quality of the work (assuming that the available nectar and pollen are of the best quality, i.e. the raw input materials are according to the standards);

Table 2. Hourly Labour Cost, Excluding Apprentices, By Enterprise Size Class

	10 to 49	50 to 249	250 to 499	500 to 999	1000 and more	small vs big enterprises	
						absolute difference	difference in %
EU-27	18.17	19.94	21.26	22.03	24.82	6.65	37%
EA-16	20.72	24.15	26.78	27.79	30.27	9.55	46%
BE	28.45	31.23	34.56	34.44	36.74	8.29	29%
BG	1.90	2.40	2.88	3.49	4.10	2.2	116%
CZ	7.62	8.34	9.41	9.48	10.77	3.15	41%
DK	33.52	36.23	37.53	37.85	34.20	0.68	2%
DE	22.02	24.86	28.53	30.24	35.11	13.09	59%
EE	7.21	8.09	8.95	7.53	8.29	1.08	15%
IE	22.82	25.94	29.55	32.86	35.97	13.15	58%
EL	15.26	15.34	16.38	16.40	20.76	5.5	36%
ES	15.36	18.59	21.28	22.66	23.5	8.14	53%
FR	27.21	30.36	32.07	33.70	34.33	7.12	26%
IT	26.38	25.52	24.26	24.09	26.23	-0.15	-1%
CY	11.58	15.26	16.66	15.39	27.54	15.96	138%
LV	4.48	5.32	6.56	7.90	7.19	2.71	60%
LT	4.93	5.85	6.45	7.04	6.72	1.79	36%
LU	25.87	30.1	33.52	34.20	38.81	12.94	50%
HU	5.54	7.49	8.76	9.22	9.88	4.34	78%
MT	9.32	10.13	11.52	11.16	14.31	4.99	54%
NL	26.28	28.78	31.32	31.47	31.73	5.45	21%
AT	22.66	25.69	28.84	30.66	30.7	8.04	35%
PL	7.36	7.44	6.98	7.36	8.45	1.09	15%
PT	9.12	12.67	13.89	13.96	15.07	5.95	65%
RO	2.61	3.51	4.07	4.33	5.54	2.93	112%
SI	:c	13.84	:c	:c	14.76	:	:
SK	6.62	6.97	7.2	7.46	8.76	2.14	32%
FI	23.15	26.85	28.92	28.57	28.38	5.23	23%
SE	29.24	32.52	34.09	33.79	31.66	2.42	8%
UK	18.21	20.96	23.06	23.18	21.40	3.19	18%
HR	12.31	8.70	8.35	8.93	10.19	-2.12	-17%
NO	32.83	37.89	38.87	39.88	43.56	10.73	33%

Data refer to enterprises with 10 employees or more and to NACE Rev. 2 aggregate B to S excluding O.
: data not available
:c confidential data

Source: European Commission Eurostat [online], http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Labour_cost_structural_statistics, accessed 25.07.2013.

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– By decreasing the makespan, i.e. the completion time of the last job in the schedule, but which must correspond to the working conditions and standards (the recovery time cannot be reduced to zero);

– By increasing the quality with the additional decreasing of the processing time.

In this article we focus on the third way of increasing the value of the k_i coefficient and use the symbols below with their unit of measurement:

tc_i	total costs	(RON)
fc_i	fixed costs	(RON)
C_i	completion time	(s)
ew_{ki}	early weight	(-)
tw_{ki}	tardy weight	(-)
w_{ki}	weight within optimistic and pessimistic due date	(-)
lc_i	loading capacity of the bee	(-)
Pf_i	profitability index of the bee	(s^{-1}.RON^{-1})
E_{ki}	earliness of the job	(s)
T_{ki}	tardiness of the job	(s)
d_k^o	optimistic due date	(s)
d_k^p	pessimistic due date	(s)
d_s	start time of the job	(s)
d_f	finish time of the job	(s)
t_d	waggle dance time	(s)
t_f	foraging time	(s)
t_p	prepare time for new job	(s)
f_i	flying time	(s)
q_i	quality of the work of the bee defined as a quadratic function of x_i	(s^{-2})
x_i	variable of the quality	(s^{-1})
TR	time rate of the job	(RON . s^{-1})
y_{ik}	binary variable	(-)
z_{ik}	binary variable	(-)

Our model is a system of equations where we should increase quality of the work, decrease costs and decrease total makespan of the colony and this can be translated as a minimizing criterion of a ratio, which we denote as a *Quality Scheduling Index, QSI*:

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$$QSI = \frac{\sum_{i=1}^{h}\sum_{k=1}^{f}(ew_{ki}E_{ki}y_{ik} + tw_{ki}T_{ki}z_{ik} + w_{ki}C_i)}{\sum_{i=1}^{h}\sum_{k=1}^{f}\frac{q_i}{tc_i * (E_{ki} + T_{ki} + C_i)}} = min$$

Subject to:

$$E_{ki} = \begin{cases} d_k^o - d_f, d_k^o > d_f \\ 0, \ otherwise \end{cases} \quad (1)$$

$$T_{ki} = \begin{cases} d_f - d_k^p, \ d_f > d_k^p \\ 0, \ otherwise \end{cases} \quad (2)$$

$$ew_{ki} = \begin{cases} (priority \ according \ to \ rule \ X) + 1, \ C_i < d_k^o - d_s \\ 0, C_i \in [d_k^o; d_k^p] \end{cases} \quad (3)$$

$$tw_{ki} = \begin{cases} (priority \ according \ to \ rule \ X) - 1, \ C_i > d_k^p - d_s \\ 0, \ C_i \in [d_k^o; d_k^p] \end{cases} \quad (4)$$

$$w_{ki} = \begin{cases} priority \ according \ to \ rule \ X, C_i \in [d_k^o; d_k^p] \\ 0, \ otherwise \end{cases} \quad (5)$$

$$C_i = f_i + t_p + t_d, where \ C_i \in [d_s; d_f], \quad t_p \in \left[\frac{f_i}{4}; \frac{f_i}{3}\right], \quad t_d = \frac{f_i}{10}, t_f \in [d_s; d_f] \quad (6)$$

$$f_i \in [t_f, 720 + t_f] \quad (7)$$

$$y_{ik} + z_{ik} = 1, \forall \ i = 1,2, \dots, h \ and \ k = 1,2, \dots, f, i \neq k \quad (8)$$

Taking into consideration the experience from the workers production lines, we define the quality as a quadratic function, with the variable x_i, taking the following form:

$$q_i = x_i^2 + x_i + 1 \text{ , where } x_i = \sum_{k=1}^{f} priority_k \ lc_i \ \frac{1}{C_i} \quad (9)$$

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and $i \in \{1, 2, \dots, h\}$ *is the set of honeybees and* $j \in \{1, 2, \dots, f\}$ *is the set of available flowers on a radius of 3km around the hive*

The loading capacity of the i[th] bee is defined as $lc_i \in (0; 1]$ (10)

The overall quality of the work of the honeybees should not exceed 3.4 defects per million opportunities, according to the 6σ level. Thus, after computing the minimum of the stated above function, different quality levels with corresponding total costs and makespan are analyzed using graphical representation and using regression and correlation analysis, we find the trend of our data with the purpose of seeing how the distribution looks like within the upper and lower limits, which in our case are the optimistic, respectively the pessimistic due dates of the foraging jobs.

The priority of each flower is function of the waggle dance, which at its turn is a function of the dancing time on the dance floor. But also prioritizing the flowers which are to be foraged increases the chance of profitability of the individual and of the colony. In this consideration, according to the priority from the waggle dance, each bee assesses the flower visited before the dance and after looking at the new source of food, showed by its colleagues. Thus, the weight of a foraging job is divided into normal, early and tardy weight, which are assessed together and correspondingly a new set of priority is set for the bee, before engaging in another foraging expedition.

We use two binary variables y_i and z_i:

$$y_{ik} = \begin{cases} 1, for\ E_k > 0 \\ 0, otherwise \end{cases} \quad (11)$$

$$z_{ik} = \begin{cases} 1, T_k > 0 \\ 0, otherwise \end{cases} \quad (12)$$

$$\begin{cases} tc_i = fc_i + TR(d_k^o - d_s), for\ t_f \in [d_s; d_k^o] \\ tc_i = fc_i, \qquad\qquad for\ t_f \in [d_k^o; d_k^p] \\ tc_i = fc_i + TR(d_f - d_k^p), for\ t_f \in [d_k^p; d_f] \end{cases} \quad (13)$$

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$$fc_i = 1\%\ lc_i \tag{14}$$

Equations (1) and (2) define the earliness and tardiness jobs, as a function of the finishing time and the optimistic, respectively pessimistic due date, which are defined as two distinctive intervals in time.

Taking into consideration that the total costs decrease until the optimistic due date, remain constant until the pessimistic due date and then increase if the finishing time is bigger than the pessimistic due date, we assign tardy weights and early weight in such a way that we want to postpone as much as possible the finalization of a job with earliness, but on the other hand to speed up the finalization of the job with tardiness, as shown by eq. (3) and (4).

The ***Rule X*** is given by the Corollary 1, stated below. Thus eq. (3), (4) and (5) must comply with Corollary 1, i.e. if $ew_k = tw_k = w_k$, the jobs will be scheduled as follows: $w_k > tw_k > ew_k$.

Equation (14) states the fixed costs as a fixed percentage of the loading capacity of the bee. According to Chong (2006), a forager is more likely to randomly observe and follow a bee's waggle dance on the dance floor if the profitability rating is low as compared to the colony's profitability.

Table 3. Priority for the Forager Bee

Profitability rating	Probability of following the waggle dance	Priority for the forager bee
$Pf_i < 0.9Pf_{colony}$	0.60	4th
$0.9Pf_{colony} \leq Pf_i < 0.95Pf_{colony}$	0.20	3rd
$0.95Pf_{colony} \leq Pf_i < 1.15Pf_{colony}$	0.02	2nd
$1.15Pf_{colony} \leq Pf_i$	0.00	1st

Source: Adapted from Nakrani & Tovey, 2004

The bee can choose only from a list of 4 possible flower patches according to the initial memorized source food, the bee itself found, and after following the waggle dances of its colleagues, other bee workers. In the case in which the probability of following the waggle dance is equal to zero, the bee doesn't stay to dance another round and continues with the foraging of the initial food source, which it found.

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However, in our case, we aim at introducing and maintaining the quality of the produced product, thus we define the profitability index for a bee as follows:

$$Pf_i = \frac{1}{tc_i * C_i}$$

and the profitability index of the colony as:

$$Pf_{colony} = \frac{1}{h}\sum_{i=1}^{h} Pf_i,$$

where C_i is the completion time of one bee measured between two consecutive flights, assuming that every time it performs the waggle dance.

It was considered the case when the working bees are working in a single 12 hours shift and accordingly the minimum for flying time is 1 second and maximum for completion time is 43,200 seconds.

Lemma 1: For a given number of m jobs which are to be sorted, according to n vector defined constraints, there exists a schedule where the 1st job has the nth constraint the same or belonging to the same set of vectors n or combination of them, with the rest of the (m-1) jobs; the 2nd job has the (n-1) constraint, the same or belonging to the same set of vectors with the rest of the (m-2) jobs, etc.

Proof: The proof is rather trivial, and we will try to show it in a simple example. There are given m = 4 jobs and n = 3 constraints, i.e. total costs, completion time and quality of the job. Then, for random values of these constraints between 1 and 10, we can choose a way of job sequencing according to our constraints as follows:

1st job – TC = 4, C = 2, Q = 7;
2nd job – TC = 3, C = 4, Q = 5;
3rd job – TC = 7, C = 3, Q = 8;
4th job – TC = 1, C = 1, Q = 10.

The flowchart of my algorithm is presented below in Figure 1.

If we sort after the first constraint, minimum total costs, we have the following sequence:

$$4 \rightarrow 2 \rightarrow 1 \rightarrow 3$$

If we sort after the minimum completion time, we have:

$$4 \rightarrow 1 \rightarrow 3 \rightarrow 2$$

If we sort after the maximum quality level of the jobs, we have:

$$4 \rightarrow 3 \rightarrow 1 \rightarrow 2$$

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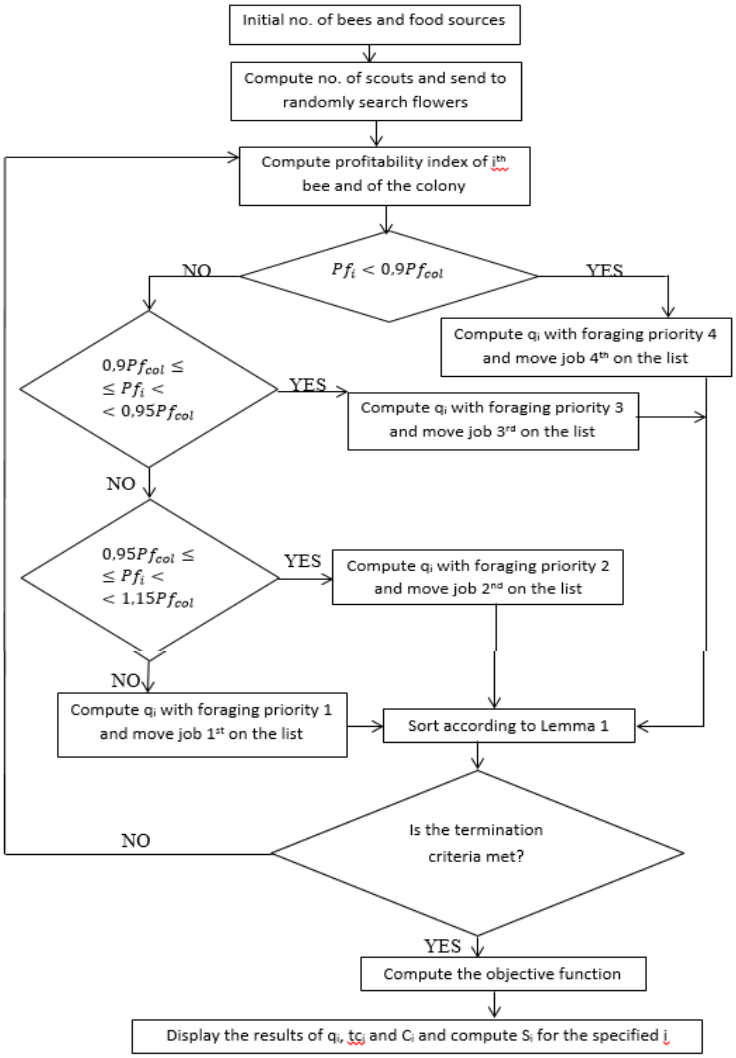

Fig. 1. Flowchart of Bee Algorithm

Source: Gruia, George Cristian, *Design of Experiments in Scheduling Scenarios for Workload Distribution and Qualitative Usage of Time*, Ph.D. diss., Czech Technical University in Prague, 2014.

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We can see that the 4th job should be done first, then we can see that, in 2 out of 3 existent cases, 1st initial job should be done 3rd and 2nd initial job should be done last. Finally the 3rd initial job can be successfully made 2nd and the sequence after our rule X will be:

$$4 \rightarrow 3 \rightarrow 1 \rightarrow 2$$

In case we will have different values on each of the columns of the three lines after we've sorted the values after minimum total costs, minimum completion time and maximum quality, the rule for assigning will be according to the maximum value of the following ratio of our vector constraints $\frac{q_i}{tc_i \cdot c_i}$ for each i^{th} bee.

Corollary 1: If the weight of a job J_i with finishing time between the optimistic and pessimistic due date is the same as the early weight or tardy weight of different previous or later job, priority will have the job J_i, followed by the job with tardiness and finally the one with earliness.

Conclusions

In the article presented above, the authors have showed initial results of their research where, if we manage to schedule jobs or tasks from public administration apparatus and/or privately held companies according to the bee's algorithm, where the inputs are the workers and available resources (here presented as flowers and bees) and if we consider that all the workers know exactly what is their purpose and role within the company, then the output (honey) will be done in a Just In Time manner, where quality of their work and time spent on every operation plays a strategic and critical role, which differentiate sustainable increase in productivity from losers on the market and in the face of the citizens (for public administration apparatus).

The article was developed starting from the analogy between bees and how one can easily observe and learn firsthand from the bees and by dividing their work and daily activities together with team work, with a focus on quality, the rural community can develop, based on the presented mathematical model, a methodology with the scope of improving an area's productivity and sustainability of the economic development of those areas. We wanted to focus on Romanian rural economic development, however the applicability of the model can easily be broadened on urban areas also, where the private sector has strong interests and last, but not least, we can implement it at a European level through some European directives and norms. We wanted to show that starting from nature observations people can easily

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learn and apply the knowledge in their daily activities and the same as the bees to be able to create complex products (honey) with so little available resources and all thanks to the optimization of work and quality of the time spent in doing our business.

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NATURAL RESOURCES AND SUSTAINABLE DEVELOPMENT IN A MOUNTAIN ECONOMY

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Abstract

This paper presents the existing situation at national and world level, considering the available water resources, their vulnerability especially in the mountains areas, the impact of climate changes, and the possible conflicts regarding the intensification of water shortage in some regions of the world. I also present a case study on forests in Romania. Beginning with the general data mentioned above, we point out the specific peculiarities of the mountain area hydrology for identifying some aspects which are specific to the mountain water relationship. The analysis is necessary as no specifications regarding the mountain hilly or plain areas are made in the activity regarding waters management. Waters are managed unitary on river basins considering some general principles, unanimously recognized, well reflected into the national and international regulations. As a first stage, traditional economic activities are identified in the relationship of the mountain areas inhabitants with water but also some present approaches. The way the mountain areas inhabitants knew how to live together and capitalize water resources represents a model and impulse for returning to such sustainable solutions, but capitalizing the advantages of modern technologies. Each of these activities referring to waters which take place in the mountains area can represent ways for the research activity and future thorough studies from the technical, economic, social, cultural-traditional point of view and also for environment protection. A main preoccupation might have connection with the evolution of agricultural activities in the mountains area considering the climate

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changes and a possible "migration" towards higher areas of some agricultural practices specific to lower areas. The paper also shows a small example of the regaining, by the locals of a community, of an important resource for their lives from the hands of corporations: the forests defaced by HOLZINDUSTRIE SCHWEIGHOFER and stop flooding villages.

Keywords: *management; water resources; vulnerability; mountains area; climate changes; spoil forest.*

JEL Classification: A12, N50, Q01

Introduction

Water is a liquid substance, finite, vulnerable, renewable, a natural resource which conditions and limits the economic and social development of the world, a raw material for productive activities, source of energy and transport way, determining factor in maintaining the ecologic balance, indispensable to the life on Earth. According to the Directive 2000/60 of the European Union in the field of water policy: *Water is not a commercial product like any other but, rather, a heritage which must be protected, defended and treated as such.*

A correct management of water is highly important considering that the theoretic water resources of inner rivers of Romania are relatively reduced being only of about 1770 m^3 water per year and inhabitant while in other European countries these reserves are on an average of 2.5 times larger.

Considered as the white gold, water became everywhere in the world an important factor for economic development and growth and generally speaking of civilization. In comparison with the other natural resources, water has certain peculiarities, specific restrictions and multiple functions: a) it is a special means of production; b) from a free good (like air) it became an economic good obtaining the specific of production – commodity: c) it is a highly renewable resource, namely that it can be totally or partially recovered in certain conditions in the process of utilization; d) water cannot be replaced, being at the same time resource and environmental factor, indispensable to life on Earth; e) its behaviour is special, unfavourable, both when it is missing (droughts) and when it is in excess (floods).

The paper contains two parts:

1. Water-Statistical data;
2. Forests, a strategic natural resource, with a little case study.

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Materials and Methods

In this paper we aimed to identify some data and information concerning the utilization and exploitation of water resources, especially in the mountain area, in order to highlight its specific features, based on the analysis of a relevant reference material. Statistical data on existing water resources at the national and international level, as well as some forecasts which put in evidence a possible water crisis around 2025 were studied.

Water Statistical Data

The mountains of Romania are a defined geographic, economic and social entity with relief, climate, natural and social-cultural heritage, a recognized identity in Europe and in the world.

Mountain areas are environmentally fragile areas that require support for specific protection, development and management, determined by the right to difference, recognized at European and world level, being a common heritage of value that must be recognized and preserved.

The main resources of Romania's mountains are represented by the forest and biodiversity fund, the fodder flora of the natural meadows, the mineral waters, the landscapes and the local anthropogenic factor, bearing the economic and cultural traditions, which determines the revaluation of the resources.

The mountainous area of Romania, representing the area delineated in accordance with the provisions of Government Decision no. 949/2002 for the approval of the delimitation criteria for the mountain area, constitutes a territory of national, economic, social and natural interest, benefiting from a distinct regulation regarding the ways of development and protection, the valorisation of resources, the stabilization of the population and the increase of economic power at local and national level, in the conditions of preserving the ecological balance and protection of the mountain natural environment, based on the international regulations on sustainable mountain development.

According to the law, the mountain policy aims at sustainable valorisation of mountain resources, landscape conservation and biodiversity, as well as the development of specific activities in this area, aiming, among other things, at achieving the following objectives:

a) Protection and conservation of natural resources;

b) Protection and conservation of protected natural areas;

c) Valorisation of available natural resources, within the limits of natural biological regeneration potential;

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c) Application of agro-pedo-ameliorative measures to stop the degradation of agricultural and forest lands.

Among the principles underpinning mountain policy, we mention:

1) Optimal valorisation of specific agricultural, fishery, forestry, energetic, industrial, handicraft, tourism and cultural resources existing on the territory of a locality or on a certain area constituted as a natural entity in the mountain area;

2) Diversification of economic and production activities in the mountain area without deterioration of the ecological balance or degradation of the natural environment;

3) Recognizing the objective existence of special natural conditions and the rights of the communities in the mountain area;

4) Development and improvement of the quality of life in the mountain area. Water and forests are strategic elements for any country.

Water is a liquid substance, finite, vulnerable, renewable, a natural resource which conditions and limits the economic and social development of the world, a raw material for productive activities, source of energy and transport way, determining factor in maintaining the ecologic balance, indispensable to the life on Earth. According to the Directive 2000/60 of the European Union in the field of water policy: *Water is not a commercial product like any other but, rather, a heritage which must be protected, defended and treated as such.*

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Considered as the white gold, water became everywhere in the world an important factor for economic development and growth and generally speaking of civilization. In comparison with the other natural resources, water has certain peculiarities, specific restrictions and multiple functions: a) it is a special means of production; b) from a free good (like air) it became an economic good obtaining the specific of production – commodity: c) it is a highly renewable resource, namely that it can be totally or partially recovered in certain conditions in the process of utilization; d) water cannot be replaced, being at the same time resource and environmental factor, indispensable to life on Earth; e) its behaviour is special, unfavourable, both when it is missing (droughts) and when it is in excess (floods).

From the surface area of the Earth, 510 million km^2 (70.8%) is covered by water and 149 million km^2 (29.2%) is covered by land [Jelev & Vasiliu, 2008a, b]. The

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average length of time of water storage in various natural surface or underground reservoirs is shown in Table 1 [Pidwirny, 2006]. A molecule of deep groundwater requires a renewable cycle of approximately 10 thousand years. If this deep water will be polluted, it takes 10,000 years or more to naturally return to the initial quality.

Table 1. The Average Length of Time of Water Storage in Various Reservoirs

Reservoir	Average Residence Time
Oceans	3,200 years
Glaciers	20 to 100 years
Seasonal Snow Cover	2 to 6 months
Soil Moisture	1 to 2 months
Groundwater: Shallow	100 to 200 years
Groundwater: Deep	10,000 years
Lakes	50 to 100 years
Rivers	2 to 6 months
Atmosphere	9 days

Source: Pidwirny, M. (2006). *The Hydrologic Cycle. Fundamentals of Physical Geography, 2nd Edition*. Date Viewed http://www.physicalgeography.net/fundamentals/8b.html.

On the next place are situated the oceans with a water *residence time* of 3,200 years and shallow groundwater with the residence and renewal time of 100-200 years. Regarding the total amount of water on Earth, it is estimated to 1,400 million km^3, distributed as follows:

- Total volume of fresh water: 37.8 million km^3 (2.7%);
- Total volume of seawater: 1,362.2 mil. km^3 (97.3%).

Paradoxically, although 70.8% of the planet is covered by water, only 0.46% of the fresh water on Earth can be directly used [Jelev & Vasiliu, 2008a, b], the remaining 99.54% is not accessible to human use because it is represented by:

- Atmospheric water vapours (0.04%);
- Glaciers and ice caps (77.19%);

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- Lakes and swamps (0.35%);
- Ground waters and soil moisture (22.41%);
- Water courses (0.01%).

Available freshwater represents only about 0.0125% of all water on Earth.

Vulnerabilities Regarding Global Water Resources

The 20th century can be characterized by an amazing development of technology and industries and over fulfilment of the terrestrial space and a significant increase of population at the world level. The reverse of the medal refers to the high prejudices determined to the environment: global warming, melting glaciers, the thinning of ozone layer and, additionally, the exhaustion of natural water resources.

The consumption of water resources increased for at least six times. The following 15 years, the Earth will have 50% more inhabitants and waste waters reaching unbelievable values. Still, 1.1 billion people (1 of 5) have no access to the drinking water, 2.6 billion people live without proper hygiene conditions, 3.900 children die daily because they consume infested water, and 88% of the diseases existing at present are provoked by the lack of hygiene and the consumption of polluted water.

Victor Danilov-Danilyan, member of the Russian Academy of Sciences, considers that by 2020-2025 the crisis of water will touch the whole world. First of all Africa, Middle East, South and South East of Asia will be hit by this crisis. Two of the most populated countries, China and India, will also suffer by the lack of water in spite of the natural reserves of drinking water they have at present. It is very probable that soon countries such as Brazil, Russia, Canada and Australia, which have large quantities of water, should conclude agreements with the potentially affected countries in order to share these reserves.

Figure 1 presents with the red colour the areas of the world affected in future by the lack of water, with the yellow colour – the areas with deficiencies considering the economic potential of water and with the blue colour – the areas that will not be confronted with the lack of water (IWMI, 2000). The colour white represents the areas where estimations have not been done. In order to counteract the global warming, some measures can be taken, such as:

- To settle controlled flooding areas and strengthening dikes;
- Protective hydro-engineering works against floods and some urban stocking systems in case of abundant rain falls;
- To consolidate harbour infrastructure and defending works in the area of the Black Sea Coast.

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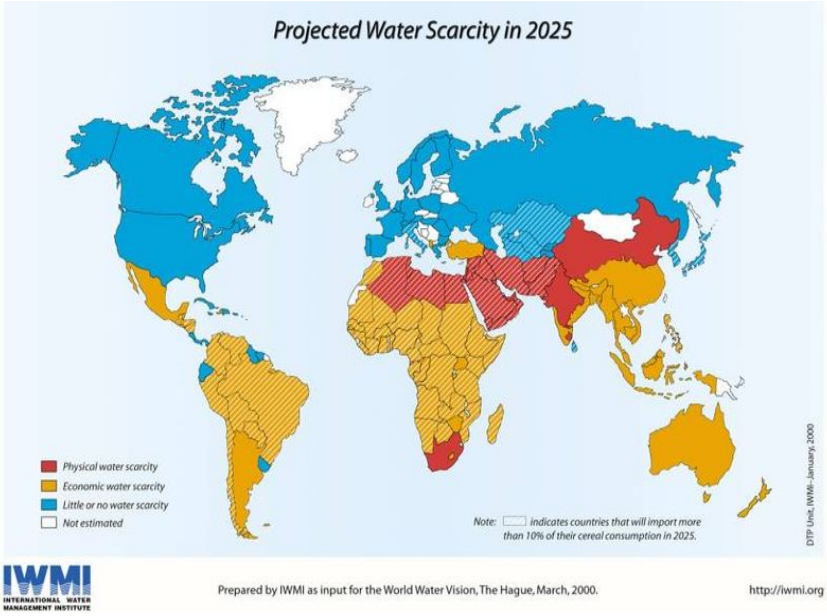

Fig. 1. Areas that Will Face Physical and Economic Water Scarcity in 2025
Source: IWMI, 2000. *Projected Water Scarcity in 2025*. International Water Management Institute Study.

Realizing such complex and multiple economic, social, environmental, tourist and aesthetic functions, water resources are crucial to our model of growth and development, including at present, when our country is a Member State of the European Union. This is the reason why water resources of the country should be analyzed considering their contradictory behaviour produced by the regime of precipitations, hydrographic network distribution, the vagaries of rivers, natural lakes and groundwater layer. The evolution of water management in Romania was influenced by the hydrologic torrential regime of inland rivers characterized by a very high variability in time and space of 1:200 between the minimum and maximum water flow in case of rivers reaching 1/1,000 and even 1/2,000. The total theoretic resource of Romania's water is 134.6 billions m^3, where 40 billion m^3 represent inland rivers, 85 billion m^3 from the Danube (Romania's side) and 9.6 billion m^3 from underground area (Table 2). Total resource utilized is about 38.35 billion m^3/year.

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Referring to the present day population of the country, it results a specific usable resource in natural regime of 2,660 m^3/inhabitant and year considering also the share of the Danube and a specific theoretic resource of about 1,770 m^3/inhabitant and year, this considering only the share of inland rivers or 5,956 m^3/inhabitant and year including the Danube and the underground waters in comparison with: 566,666 m^3/year/ inhabitant – Island; 102,262 m^3/year/inhabitant – Canada; 82,554 m^3/year/inhabitant – Norway; 68,395 m^3/year/inhabitant – Peru; 46,100 m^3/year/ inhabitant – Venezuela; 44,166 m^3/year/inhabitant – Brazil; 10,291 m^3/year/inhabitant – The USA; 31,410 m^3/year/inhabitant – Russia; 23,187 m^3/year/inhabitant – Croatia; 20,957 m^3/year/ inhabitant – Finland; 19,857 m^3/year/inhabitant – Serbia and Montenegro; 16,294 m^3/year/inhabitant – Slovenia; 11,881 m^3/year/inhabitant – Hungary; 10,256 m^3/year/inhabitant – Austria. According to these data, our country is in the category of countries with relatively low water resources in line with other countries.

Table 2. Potential Water Resources Technically Used for 2010

Billions m^3

Source	Theoretic resource	Utilizable resource	Water requirements
The Danube (the section of)	85.00	20.00	3.43
Inland rivers	40.00	13.68	3.38
Underground	9.60	4.67	0.67
Total	134.60	38.35	7.48

Source: (ANAR, 2013)

Romania has about 4,864 water ways with a total length of about 78,000 km. The characteristics of the main rivers are presented in table 3. Considering their quality, waters are classified in the following categories: class I – very good, class II – good, class III – moderate state, class IV – low state, class V – bad state. For example, in 2012, Romania's surface waters, according to the total length of supervised rivers of 31,621 km, were ranged into the following quality classes: 59.1% class I and II (good and very good), 40.7% class III (moderate condition) and only 0.2% were considered waters of low or bad condition (table 4). For a total supervised length less than 21,161 km in 2011, the classification was of 66.86%

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class I and II (good and very good), 32.54% class III (moderate condition) and only 6% low and bad condition waters (INS 2012).

Table 3. The Characteristics of the Main Rivers

Source	Length		Catchment area		Annual medium flow
	Total	In Romania	In Romania	% of total area	
	Km		Km^2	%	m^3/s
The Danube	2 857	1 075	237 104	29	5 700,00
Tisa	962	61	3 237	2	
Someş	427	376	15 740	99	125,00
Crişul	1 212	171	14 860	54	24,90
Mureş	789	766	27 890	94	178,00
Bega	252	178	2 362	66	17,50
Siret	698	571	42 890	96	269,00
Prut	917	742	10 990	39	94,70

Source: „Romanian Waters" National Administration – A.N.A.R.

The main source of Romania's water is represented by the inland rivers. As we showed before, a basic characteristic of this resource category is the very high variability in time and space. Regarding the mountains area, this totalizes half of the drainage volume. There are areas in the world, for example Central Asia, where nearly 80% of water resources are concentrated in the mountains. The specific average flow can vary from one 1/s and km^2 in low areas up to 40 l/s and km^2 in high areas.

Another characteristic is the very strong variability in time, so that in spring, important high floods take place, followed by long periods of drought. Underground water resources consist of water stocks existing in the phreatic aquifers layers and in the very deep layers. The distribution of underground runoff/drainage varies for the large tectonic units on the territory of the country such as:

- 0.5-1 l/s and km^2 in North Dobrogea;
- 0.5-2 l/s and km^2 in Moldavian Plateau;
- 0.1-3 l/s and km^2 in the Depression of Transylvania and Panonic Depression;
- 0.1-5 l/s and km^2 in North Dobrogea and the Danube Platform;
- 5-20 l/s and km^2 in the Carpathians area especially in the Southern Carpathians and in the karsts area of the Jiu and Cerna basin.

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Table 4. The Quality of Surface Waters in 2012

Hydrographic basins	Total length per monitored body of water	from which			
		Class I and II Good and very good condition	Class III Moderate condition	Class IV Low condition	Class V Bad condition
Total	**31 621**	**18 691**	**12 877**	**11**	**42**
Tisa	1 093	1 001	92	-	-
Someş	2 696	1 413	1 262	-	21
Crişuri	2 196	1 544	652	-	-
Mureş-Aranca	4 557	2 866	1 691	-	-
Banat Area*)	2 330	1 747	583	-	-
Jiu	1 312	915	397	-	-
Olt	3 279	2 081	1 198	-	-
Vedea	920	94	794	11	21
Argeş	2 141	1 034	1 107	-	-
Ialomiţa	1 392	413	979	-	-
Siret	5 614	3 861	1 753	-	-

Source: „Romanian Waters" National Administration – A.N.A.R.
*) Bega, Caras, Timiş, Cerna, Nera

Considering the quality from the preliminary analysis of "at risk" water bodies in our country, on the whole, the conclusion is that from 2,356 permanent fresh water bodies, especially the ones in the mountains areas, 57% are not deteriorated by major anthropic influences being in a very good and good ecological status. Regarding rainfalls, there are important differences among regions from 1,200-1,400 mm per year in the high mountains regions and 400-500 mm in the main agricultural areas in the south half of the country. In the mountains area, owing to the lithological constitution, the permeability is low and the underground water is at small depth situated in the slope deposits or at the foot of the mountains. Sometimes, during the seepage period, waters can mineralize, coming to the surface as mineral waters, for example in Dâmboviţa district (Vulcana, Pucioasa, Pietroşiţa, Bezdead, Ochiuri) representing an inestimable patrimony.

Considering the high importance of water for the mountains area, in the Strategy for the sustainable development of the mountains area, at chapter 1, entitled *Principles on the sustainable development of the mountains area,* it is stipulated at

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point 4, that for a sustainable development of the mountains area, considering the European pattern, it is necessary to estimate correspondingly the agricultural policy and sustainable development, making reference among other basic principles to the conservation of natural resources such as: soil, water, air and to the biologic diversity and productivity of these natural resources.

Among the specific objectives of the Strategy of sustainable development of the mountains area, it is stipulated at point c): *The improvement of the administration of water and soil resources by farmers including in the areas altered by severe erosion processes of soil or confronted with the loss of nutrients.*

Otherwise, all aspects connected to the water management present peculiarities in relationship with the mountains area. Among them, we mention the following:

- Rainfalls and increased humidity.
- Heavy rain and flash floods.
- The presence of alpine lakes, mineral water springs and protected natural areas.
- Special importance for water drainage formation and prevention, for downstream floods, from the alpine meadows area of juniper trees and mountain forests.
- Supplementary difficulties caused for different activities due to the slopes and intense phenomena of erosion induced by irrational deforestation.
- The decrease of glaciers volume and surface or the snow layer as a result of climate changes with an impact on the seepage in the mountains and downstream area.
- High difficulties regarding the centralized water supplying and sewerage system in the conditions of mountains and a higher degree of dwellings dissemination.
- Favourable conditions for large and small size hydrotechnical works including hydropower stations, hydroelectric pumping stations, micro-hydropower stations.
- Reduced siltation phenomena of storage reservoir.
- Traditional utilization of the energetic potential of water by water mills, so called *pive* in Romanian popular language, windlasses, saw mills, gold stamp mills etc.
- Source of water for developing economic activities specific to the mountain area: mining, pisciculture and sportive fishing.
- Utilities to transport materials on water ways.
- High potential for tourism.
- Biodiversity, special natural and landscape conditions for setting up an important number of protected areas.

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The sensitivity of the mountains water at the long distance trans-boundary air pollution determines the utilization of alpine lakes in monitoring this anthropic phenomenon considering that after many years ago the unjustified presence of some polluting factors in the upstream basin of the Pad River in Italy, placed in high altitude area, deprived of terrestrial sources of pollution.

Results and Discussions

Considering the bibliographic analysis carried out, we will present and comment some results regarding water's role, the main areas of its use as well as the peculiarities connected to its utilization in the mountain areas.

The Importance of Water

Water plays an important role in the geochemical, climatic, biologic and geophysical natural processes and also in the terrestrial crust. As a civilization and cultural element, water plays a determining part in human's life and also in economy, being utilized in:

- water supply for population, industry and agriculture;
- as means of transportation;
- as source of energy;
- as means for health protection;
- for reducing the risk of drought and floods.

We will try to point out some peculiarities regarding water utilization for different activities especially in the mountains area such as: mining industry, mineral waters exploitation, water supply and sewage in mountain settlements, transportation, especially rafting, hydraulic energy and hydraulic wheels, favourable conditions for some hydraulic machines utilization without electric power consumption, torrential correction works, building of hydropower stations, dams and storage reservoir, etc.

Mining industry

The mining activities in the mountains area belong for many times to the traditional activities considering the long periods they have developed. For example at Roşia Montană such activities have been developed since the Roman Empire. A special problem regarding the mining activity is the pollution of surface and underground waters as a consequence of the draining off some mine waters even after the respective mining activities finished. Thus, from the old mining galleries (about 140 km), 20 litres of acid waters drain each second into Roşia brook and here pollution propagates upstream for tens of kilometres into the Abrud and Arieş rivers.

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The negative impact of mining over waters is expressed by frequent, sometimes permanent overtaking of maximum admissible concentrations in the surface waters. All these things strictly impose the carrying out legislation and an adequate institutional framework in order to ensure the administration of these mines even after they are closed, with an annual allotment of the necessary funds

Mineral Waters – An Inestimable Patrimony of Romanian People

A remarkable natural wealth of the mountains area is represented by the mineral waters (fig. 2). Romania is one of the richest countries in hydromineral resources having over 60% of the mineral waters resources of Europe. The mineral waters resources of Romania have remarkable quality springs with large flows.

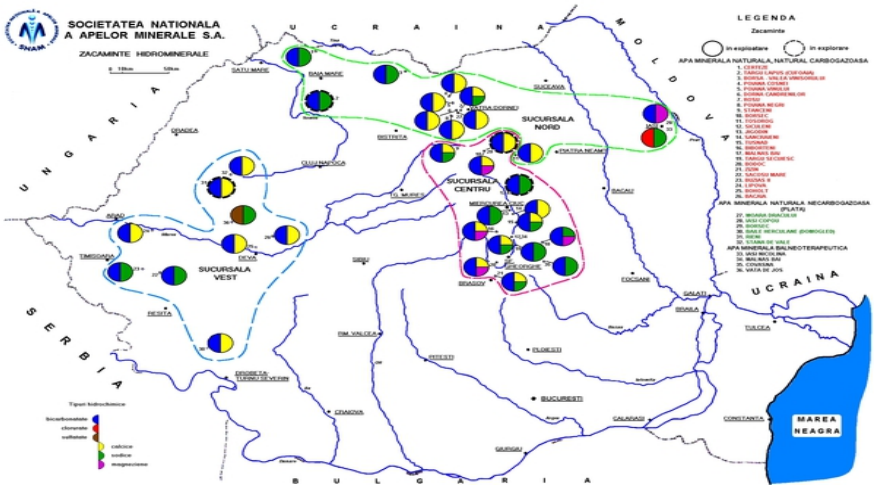

Fig. 2. Map with the Main Distribution of Mineral Water Springs
Source: SNAM, 2014

The market of mineral waters in Romania can be considered a dynamic market in development with annual rhythms of over 22% with fluent production which overtake (exceed) 558 millions litres annually. The potential market for the natural mineral water as a food product consists of the whole population of Romania, where about 23 millions of persons who transit the country (foreign tourists) are added. The estimation of annual mineral water request is about 558 million litres, pessimistically speaking, and a rate of turnover of about $ 108,493,222.

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Transportation – Rafting

Rafting along the Mureş River is attested by documents since Dacian-Roman period. In Moldavia it was mentioned for the first time since Stefan the Great times, in a document for customs exemption for various goods, some of them being for rafts. The document signed by the King on 13 March 1466 was given to the inhabitants of the village Negoieşti. Within centuries, rafting was an important activity for the inhabitants of the mountain area and in our country it was practiced for larger or shorter periods of time, with different intensities on rivers such as: the Olt, Siret, Moldova, Prut, Someş, Vaser, Gurghiu as on. Rafting largest period of time on the Bistriţa River, along the Siret River up to Galati, we can consider without making a mistake, that rafting on the Bistriţa River is the admiral ship for rafting in Romania [Cojocaru-Tuiac, 2014].

In time, this activity has been updated, especially after the introduction of the steel blend. Hydrotechnical arrangements and regularization and the river bed calibration works have been done especially for increasing rafting efficiency. All these activities permitted an increase of the wood quantity transported by a raft, its volume increasing from 30 m^3 to 300 m^3. Annually, in the peak period, 2 million m^3 of wood were transported along the Bistriţa River.

Since the hydroenergetic arrangement of rivers, especially for the Bistriţa River, this activity has diminished constantly until it completely disappeared. Beginning with 30 June 1960 when the Bistriţa was blocked by the hydropower station at Bicaz, this activity sporadically took place upstream the large storage reservoir. 1969 was the last year of rafting activities [Cojocaru-Tuiac, 2014].

Pisciculture and Sportive Fishing

In 2002 there were 25 ha of salmon farms, in 2012 their area increased to 69.23 ha and 85 registered units. Still considering the lack of funds, both salmon farms and the cyprinid ones work at reduced capacity (about 60% in the salmon farms). The major problems are regarding water, drought, upstream water consumption, the pollution in the forestry exploitation with the Forest Code provisions violation, gravel pits construction without authorization or micro-hydropower stations.

Hydraulic Energy – Hydraulic Wheels

Hydraulic wheels were the most ingenious way of traditional capitalization of water hydraulic energy. A hydraulic wheel utilizes rivers energy to directly produce a mechanical work.

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Water Mills

The well-known hydraulic wheels made by popular craftsmen are water mills. They can be of different types:

- mills with hydraulic wheels with upper supply;
- mills with supply;
- water mills with turbine.

In the area of the mountains it is possible to construct large hydropower plants of high power, considering the extremely high hydropower potential of the rivers in the mountains. As a rule, such hydroengineering works have multiple functions: to produce electric power, water supplying for population and industry, irrigations, floods protection etc.

Forests, a Strategic Natural Resource

Forest is an intrinsic part of the human life environment that also has an important role to play in creating and preserving it. Together with other types of terrestrial ecosystems, the forest enters into the composition of the terrestrial living environment, in which man lives and develops. The presence and appearance of the forest is a hallmark of many climate zones, and its massive deforestation can lead to radical changes in microclimate and relief, the thermal and hydrological characteristics of the soils, the soils, and a marked change in the environment as a whole. This is related to the great role the forest has in the development of the relief, the formation of the properties of the layer of air near the soil and the soil itself as well as in their preservation over long periods of time.

Case Study: The Spaces Developed by Holzindustrie Schweighofer

In the era of globalization without frontiers and without the slightest economic and political morality, more than ever, the culture of economic patriotism and national dignity, as well as a culture of natural rebellion (Psalm 4, 4) and civic justice within the limits of domination and common sense (Romans 14: 17). In this context, we are irremediably wrong if we do not sufficiently wrestle and do not react as it is to get our country back!

If the identity of a nation in permanent evolution and construction "is not inherited but conquered by every generation," as the great anthropologist Claude Levi Straus said, the more anthropic and material substance of a nation must be defended and regained by each generation separately.

A concrete example of natural reaction gave Avram Iancu of Alba, when in January 2017, only 150 people succeeded to drive Holzindustrie Schweighofer out of

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their commune, revolted by the way the forests behind their homes are exploited, thus undermining their existence.

The fundamental connection of the locals to the mountain and to the earth in general was so strong, as well as the reasons why they reacted with so much vehemence that the corporatists withdrew without hesitation and the state authorities gave up "the right policy" and have not reacted in force, as called for by the new laws in such situations, which, unfortunately, protects corporate citizens from their own citizens who defend themselves at home...! Thus the locals took their fate in their own hands and decided their own economic destiny for survival. And this reaction can be a temporary solution of "mountain economy" in the current context, until Romania returns to its historical and natural origin.

Deforestation has a negative influence on leakage on the slopes, therefore, after rain torrents, whole villages, bridges and roads are immersed in water. Forests can break the torrents, stopping their destructive force and may have a major role in the hydrological cycle. The precipitation water is accumulated somewhat in the forested areas; otherwise the place is dry, without any vegetation. Where there is no forest, the wind will no longer resist it and will carry rainfall on a much larger surface. Solar radiation is reflected more strongly in regions without forests, that's why in the plain the summers are harder to bear than in hilly and mountain regions. Defects contribute 34.5% to soil degradation. Relief in the slope and lack of vegetation favour drought and floods.

Conclusions

In older literature, strategic reserves represent those reserves that are constituted at the level of a country in order to ensure the smooth running of economic and social activities in special situations (natural calamities, cataclysms, ecological catastrophes, etc.), as well as in crisis situations or war. I am not referring to these exceptional situations, but to the natural reserves of the country that are currently lacking, their rational use or irrational plunder is contributing to the medium and long term development of a country. Equally important is the connection with the National Security, which should contain a special chapter dedicated to the country's strategic natural reserves.

This work highlights a number of peculiarities of mountain aquatic ecosystems and how to support natural resources illegally exploited by foreign corporations.

As a consequence, vulnerability specific to water systems to climate change, pollution, high exploitation is significantly marked in the mountain area.

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Man who has lived in the mountains for centuries has always known to consider nature as a real friend and determined the crystalline waters "to work". Mountain water has had also an important part in the mountain economy in many fields of activity. Many of the hydraulic traditional machines, creations of some anonymous popular craftsmen, are the forerunners of the modern hydraulic machines, an example of the waters renewable energy capitalization. These machines have the name of some western inventors, though, in order to respect the historic truth, they should be mentioned in the present day scientific works.

The way the mountains people knew how to live and capitalize water resources may represent an impulse for returning to such sustainable solutions, capitalizing at a higher level the advantages of modern technologies utilizing directly the hydraulic engines instead of the electric ones for various mechanic activities.

Each of water utilization proficiencies, mentioned in the paper, can represent directions for future research and profound studies from the technical, economic, social, cultural-traditional and surrounding environment protection.

The lack of morality in the economic field, as well as the lack of reaction of those who find abuses of any kind and bear them with stoicism is the expression of a moral deficit of the society as a whole and a lack of personal belief which has disastrous community effects. Hence, the need for mechanisms able to ensure the social morality and, as well, for a controlling court in this respect.

The crisis we are going through is not exclusive a crisis of the economic-political-administrative system, but it is also an anthropological and spiritual crisis that further increases the radius of the vicious circle of waste, fear, consumerism, selfishness and hedonism to the extreme.

I think the time has come to question the people who have scattered or buried our national fortune and take our fate in our own hands, as suggested by the German Chancellor, not long ago.

Politics but also the Church can help the economic development of a society or a country, because financial investments also imply an ethical investment in the Christian sense, as this bioethical investment is the moral guarantor of a healthy and sustainable local economy.

The policy on strategic natural reserves must be closely linked to joint projects with the EU, the common vision on the exploitation of natural resources in all countries, not just in Romania.

To sum up, here is a short, straight and secure way towards a genuine and responsible mountain and national economy, where no multinational corporation will dare to treat us as slaves, but only as equal and worthy partners to defend national and planetary natural resources.

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DOCTORAL AND POSTDOCTORAL PAPERS

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NIGERIA'S REVENUE ALLOCATION AND SUSTAINABLE ECONOMIC DEVELOPMENT

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Abstract

Sustainability of economic development in Nigeria has been a serious challenge despite the huge revenue allocated to the three tiers of the government on a monthly basis from the federation account. This recurring decimal has left the country in a pitiable condition with inadequate infrastructures to carry on the economic activities. The study examines the extent to which revenue allocation enhances economic development using time series data obtained from CBN Statistical Bulletin, which covered a period from 1981 to 2016. Ordinary Least Squares technique was employed and the findings revealed that FASG and NDSD have significant negative impact on PCI while FAFG has insignificant negative impact on PCI. On the contrast, the result shows that FALG has a robust significant positive impact on PCI. The study attributes this poor performance to misuse of resources and suggests that more stringent measures be employed by the government to fight graft in the public sector and among government officials. This will help to curb corrupt practices and ensure efficient and effective use of resources to boost economic development.

Keywords: *revenue allocation; economic development; federation account; resources; Nigeria.*

JEL Classification: Q01

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Introduction

Revenue allocation has been referred to as the criteria, process and method of sharing a federation's financial resources among the various tiers of government in the federation in such a peaceful way that guarantees development, progress and enhances unity [NRMAFC, 1992]. Onu (1994) defined revenue allocation as the mechanism for the sharing of the country's financial resources among the different tiers of government in the federation, with the overall objective of enhancing economic growth and development, minimizing inter-governmental friction and promoting national unity. According to Ikeji (2011), revenue allocation has been described as a method(s) of sharing the centrally generated revenue among the different tiers of government and how the amount allocated to a particular tier is shared among its components. From the various definitions, it is pertinent to establish that revenue allocation is the distribution of a country's revenue among the various levels of government in such a manner that guarantees economic development. The definitions of NRMAFC (1992) and Onu (1994) have better described the focus of this study, which seeks to evaluate the impact of federation account allocation and internally generated revenue on economic development in Nigeria.

It is important to note that revenue allocation to the three tiers of the government is major for the economic development, which is also known as fiscal federalism [Ekpo, 2004]. Economic growth theories maintain that revenue allocation is meant to enhance economic development [Domar, 1946; Harrod, 1939; Romar, 1994; Solow, 1956; Swan, 1956]. Therefore, the revenue allocated to the Nigerian federating units is to carry out their various constitutional expenditure responsibilities that enhance economic development in the country [Dagwom, 2013]. However, this major aim of revenue allocation has not been achieved over the years. For several decades now, sustainable economic development has eluded the country due to mismanagement of revenue intended to be used to develop the country. The revenues allocated to the three tiers of the government for all these years have ended up in private pockets, thereby leaving the country underdeveloped. From 1981 to 2016 the study examined, revenue allocations to the federal government, state government, local government and Niger Delta States Derivation have been accounted to be N72,120.01B, N20,270.72B, N10,357.03B, N12,415.84B respectively (CBN Statistical Bulletin, 2016). These figures are not commensurate with the poor level of economic development witnessed in the country. The ugly situation has led to arms carrying and destruction of oil pipelines by the youths in the Niger Delta region of the country. There is lack of infrastructures and roads to boost business activities in all

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parts of the country, yet so much money is allocated to the three tiers of the government on a monthly basis both for recurrent and capital expenditure.

Objective of the Study

The major objective of this study is to determine the impact of revenue allocation on economic development in Nigeria. The study specifically seeks to:

1. Examine the impact of revenue allocation to federal government (FAFG) on per capita income (PCI).
2. Investigate the influence of revenue allocation to state government (FASG) on per capita income (PCI).
3. Evaluate the effect of revenue allocation to local government councils (FALG) on per capita income (PCI).
4. Establish the impact of Niger Delta States Derivation (NDSD) allowance on PCI.

Study Hypotheses

To pursue the above study objectives, the following null hypotheses were formulated:

Ho_1: FAFG does not have significant impact on PCI.
$Ho_{2:}$ FASG does not significantly influence PCI.
Ho_3: FALG does not affect PCI significantly.
$Ho_{4:}$ NDSD does not have significant impact on PCI.

Literature review

Conceptual Review

Revenue Allocation in Nigeria

Revenues that flow into the federation account can be classified into oil and non-oil revenue. Under the oil revenue, we have: oil pipeline license fees; royalty on extraction of oil; rent of oil well and grounds; sale of petroleum and gas; penalty for gas flaring. The non-oil revenue includes: personal income tax; companies income tax; capital gains tax; withholding tax and all four forms of indirect taxes [ATSWA, 2009]. The statutory revenue allocation formula is the recognized and acceptable yardstick by which all revenue accruing to the federation account is to be distributed among the federal, state and local government councils and any other beneficiary as may be specified by law. This varies from time to time based on the terms and procedures as may be prescribed by law [ATSWA, 2009]. There are two major types

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of revenue allocation formulas in Nigeria. The two are basic, the vertical allocation and horizontal allocation [Micaiah, 2015].

Vertical allocation formula (VAF). Vertical allocation refers to the sharing of the federation's revenue among the three tiers of government that make up the federation. Through vertical allocation method, the allocation that goes to the federal, state and local government is determined. VAF shows the percentage allocation to the three tiers of government. This formula is applied vertically to the total volume of disbursable revenue in the Federation account at a particular point in time.

Horizontal allocation formula (HAF). Horizontal allocation provides a platform for sharing revenue among states and how the states distribute the revenue among the various local governments, communities and towns within the states. The formula is applicable to states and local governments only [Micaiah, 2015]. According to Bashir (2008), it is possible to conclude that horizontal allocation formula is for intra-tier sharing amongst the 36 states and the 774 local governments in Nigeria.

Revenue Allocation Principles

At this juncture, it is expedient to review the underlying principles of revenue allocation in Nigeria. Although, Nnamocha (2002) has asked: at what stage in the revenue allocation system is a principle used or asked for and why? These are questions and issues begging for an answer. However, the following principles have been identified by [Nnamocha, 2002; Ihe & Umeaka, 2006]:

1. Tax effort. By giving more allocations to states that make more effort to collect taxes due to them, this principle is thus used to motivate states to exploit their tax potential and capacities.
2. Population. This principle allows allocation of more resources to states/LGAs that are heavily populated than others. The argument here is that states with high population will also be enriched with human and natural resources and so deserves less allocation [Odigwe & Aibieyi, 2015].
3. Even development. To ensure even development and uniform progress, poorer states are given more revenue. This helps to spread economic growth and development. The principle also helps to reduce inequalities and imbalances.
4. Derivation. This principle states that regions/states that produce higher revenue to the federal government should receive a commensurate allocation. That is, the allocation of resources to them should be higher too. It was first recommended by

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the various revenue allocation commissions set up in the past. Orluwene (2008) has also suggested that revenue sharing should be principally based on derivation. This basis will prompt all states to go back to their roots. That is, agricultural and cash crops growing for export. Then the dependence on oil revenue will be curtailed.

5. National interest. Allocation should be based on things that are of high social importance such as education and security which unite the country.

6. Equality of states. The principle advocates sharing of revenue equally among states despite the economic endowments in each state of the federation. This is because each state is expected and required to carry out certain level of responsibilities.

7. Principle of need. The level of need of every state should determine the revenue allocation to the state. This is supported by the recommendation of Hicks-Phillipson Commission (1951) and Raisman Commission (1957). For instance, some newly created states require more funds than the existing ones. This has been argued by Odigwe and Aibieyi (2015). Their reason is that no particular state has the most crucial need and so the principle of need is not beneficial if it is not based on population census.

8. Equality of access to development opportunities. This principle believes that allocation of revenue should be more in favour of those that are below certain level of development. This will enable them have to equal access to development and growth.

9. Independent revenue effort. This principle stresses on more allocation to states that are able to collect revenues due to them.

10. Continuity of government action. Subsequent revenue allocation is not expected to fall below the previous allocation. This is why revenue should be shared in such a manner that the central government will not have the problem of given less than the previous allocation.

11. Absorptive capacity. Revenue allocation is based on the ability of the states to make proper use of the revenue allocated to them. States that are economically advanced will not find it difficult to properly absorb any increase in revenue without wastages or fraud.

12. Land Area. The proportion of land occupied by the states also determines the revenue allocation. This principle does not make any economic impact especially in those areas that have Sahara deserts, where nobody lives. Most states like Lagos and Rivers State are heavily populated and should not be assessed by this principle, but rather the population due to migration of people from the rural area to the urban cities in search of jobs.

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13. Principle of school enrolment. The principle suggests that the number of pupils in school in the state/LGA should be considered in resource allocation. This principle also has some issues, although education is a vital part of economic development. However, there are places where people refuse to be enrolled in schools, but prefer commercial trading, animal rearing and other forms of craft. In that case, school enrolment basis will not be fair to them.

14. Pupil of school age not in school. This principle stipulates that higher allocation should be given to the states with more pupils of school age that are not in school so as to enable such state/LGA to send them to school.

15. National minimum standard. Revenue allocation should be done with the primary aim of maintaining national minimum standard in all the states in the federation of Nigeria. This principle is in line with the recommendation of Dina Commission (1969). States that do not have certain levels of education and perhaps health services are to be allocated more revenue to meet up with the national minimum standard.

Revenue Allocation Commissions/Committees in Nigeria

There are recommendations and efforts from various revenue allocation commissions/committees established in Nigeria in the past and present to harmonize allocation issues, yet the fight for resource control is still not resolved.

1. Phillipson Commission (1946). This commission recommended the use of derivation and even development as criteria for the distribution of revenue. By derivation, the commission means each unit of government would receive from the central budget the same portion it has.

2. Hicks-Phillipson Commission (1951). This commission recommended need, derivation, independent revenue or fiscal autonomy and national interests as the criteria for revenue sharing.

3. Chicks commission (1953). The commission recommended derivation.

4. Raisman Commission (1957). It recommended need, balanced development and minimum responsibility. Percentage division of 40% to the north, 31% to the east, 24% to the west and 5% to Southern Cameroon.

5. The Binns Commission (1964). This commission rejected the principles of need and derivation. In their place, it proposed regional financial comparability and percentage division of 42% to the north, 30% to the east, 20% to the west and 80% to the mid-west.

6. Dina Commission (1969). It recommended national minimum standards, balanced development in the allocation of the state's joint account and basic need.

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7. Aboyade Technical Committee (1977). The committee recommended revenue sharing among the three tiers of government in the following order: Federal (53%), States (30%), Local Governments (10%) and Special Fund (7%). The committee also recommended the sharing among states to be based on the following principles: national minimum standard for national integration (22%), equality of access to development opportunities (25%), absorption capacity (20%), fiscal efficiency (15%) and independent revenue effort (18%).

8. Okigbo Committee (1980). This committee suggested that the revenue sharing percentages for the three tiers of government should be as follows: Federal (53%), States (30%), Local Governments (10%) and Special Fund (7%). Percentages to the state are based on the following principles: population (4%), equality (4%), social development (15%) and internal revenue effort (5%).

9. Danjuma Commission (1988). The commission recommended percentages be as follows: Federal (50%), States (30%), Local Government (15%) and (5%) for Special Fund.

10. RMAFC (1989). The establishment of Revenue Mobilization Allocation and Fiscal Commission was the way the federal government tried to resolve all revenue allocation issues. RMAFC is empowered by the Constitution to disburse revenue from the federation account, review the allocation formula as need arises, act on advisory capacity to the federal, state and local governments on how to generate and efficiently utilize revenue, determine suitable remuneration for political office holders and also perform other functions that may be required by law from the commission [Arowolo, 2011].

Per Capita Income

Olaoye and Adedeji (2017) described per capita income as the amount of money earned per person in a country. It measures the standard of living and quality of life of an individual person in a country. Per capita income is the total national income (GDP) divided by the number of people in the nation [Farlex, 2018]. It measures the income earned per person in a given area (city, region, county, etc.) in a specified year. It is calculated for a country by dividing the country's total national income (GDP) by its total population. It includes children and non-working population which serves as an indicator of a country's living standards (Business Dictionary, 2017). According to World Bank (2017) Per Capita, GDP is gross domestic product divided by midyear population (that is population as of 1 July for the same year). It means GDP per person. It is an important indicator of economic performance and shows the

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average living standard and economic wellbeing of a country [Focus Economics, 2017]. A rise in per capita GDP signals growth in the economy and tends to reflect an increase in productivity. A higher per capita GDP is equal to a higher standard of living [Investopedia, 2017]. Gross National Income (GNI) per capita is a GNI divided by midyear population. GNI is the sum of value added by all resident producers plus any product taxes (less subsidies) not included in the valuation of output plus net receipts of primary income (compensation of employees and property income) from abroad [World Bank, 2017]. Therefore, it is believed that economic growth of a nation should be truly reflected in the increase in per capita income of individual persons in the country [Olaoye and Adedeji, 2017].

Theoretical Review

This study reveals an endogenous economic growth theory studied by – the author – Roma (1994). The theory advocates all government policies that encourage economic development and growth which include revenue allocation to the various levels of the government. In Nigeria, revenue allocation is in the way and manner in which fiscal decentralization is practiced to boost economic growth and development across the 36 states of the federation including the Federal Capital Territory, Abuja.

The revenue distribution is usually aimed at making resources available to the different levels of the government to pursue expenditure responsibilities within their jurisdiction which will result to a collective and sustainable economic development within the country as a whole.

Empirical review

Faridi (2011) carried out a study on the contribution of fiscal decentralization to economic growth in Pakistan. The study covered the period of 1972 to 2009 and the ordinary least squares estimation was employed for the analysis. At the time of the study, other factors to measure economic growth in Pakistan were not substantial except fiscal decentralization indicators of revenue and expenditure functions. The dependent variable was the Gross Domestic Product while the independent variables used were the revenues and expenditures of the government. All variables were expressed in million rupees. The data sources include Pakistan Economic Survey (various issues), hand book of statistics on Pakistan economy (2005) and fifty years of Pakistan Statistics. The result of the study indicated that both revenue and expenditures of government as measure of fiscal decentralization had positive association with the economic growth. The paper also found a positive and

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significant impact of fiscal decentralization on economic growth. Based on the empirical result, the study suggested that provincial and local level governments should be given more autonomy and authority in fiscal matters in Pakistan.

Usman (2011) researched on revenue allocation formula and its impact on economic growth process in Nigeria. He focused on the effect of revenue allocation formula adopted on economic growth and development in Nigeria for the period spanning from 1960-2010. The dependent variable used is the real gross domestic population growth rate while the independent variables are the growth rate of share of federal, state, local governments and inflation rate. The statistical tools employed were ordinary least squares method and correlation coefficient to estimate its properties and measure the goodness of fit of the regression line. However, the result showed that the share of local and federal governments from the federation account contributed to the economic growth process in Nigeria, while the share of state governments from the federation account did not perform as expected.

Dagwom (2013) investigated revenue allocation and economic development in Nigeria: an empirical study. The study specifically examined the impact of revenue allocation to the three tiers of government on the real gross domestic product in Nigeria using time series data covering the period of 1993 to 2012. The dependent variable used for the study was the Real GDP, while the independent variables include revenue allocation from the federation account to the Federal Government, State Government and Local Government Councils. Stationarity test of the variables was conducted using Augmented Dickey Fuller unit root test while Johansen Co-integration test was used to test long run relationship. The regression result revealed that revenue allocation to the federal government has a 0.06% impact on economic growth while the revenue allocation to the local governments increases economic growth by 0.34% which is far higher than that of the federal government. The result of the revenue allocation to the state government showed negative effect of -0.13% on economic growth.

Ojide and Ogbodo (2015) carried out a study on the federation account allocation in Nigeria: implication for growth. The paper considered whether there is statistical growth evidence of federal government's allocation share (FGAS), state governments' allocation share (SGAS) and state governments' internally generated revenue in Nigeria. The time series data employed covered the period of 1970 – 2009. Distributed lag model was used to analyze the relationship between allocations (federal and state governments) and economic growth. The gross domestic product is expressed as a function of the revenue allocation to federal, state and state internally

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generated revenue. The regression result showed that the federal government allocation share and the state governments' internally generated revenue (0.55% and 0.17% respectively) have positive and significant association with the economic growth, while the state governments' allocation share has a negative and significant relationship with the growth (-0.64%). The result of this study suggests that state governments' allocation share has a negative impact on the economic growth.

Ohiomu and Oluyemi (2017) researched the fiscal federalism and economic growth nexus: empirical evidence from Nigeria. The study made use of Co-integration diagnostics tests and Error Correction Model (ECM) on E-Views 8. Time series data used were gathered from CBN statistical bulletin and spanned from 1984 – 2015. The dependent variable identified in this study was the Real Gross Domestic Product, while the revenue allocation to the federal, state and local governments served as the explanatory variables. The result of the study revealed that revenue allocation to state government increases economic growth by 0.26% which shows a positive effect on economic growth. In other words revenue allocation to state governments contributed to economic growth in Nigeria. Revenue allocation to federal government showed a minute increase of 0.001% to the economic growth despite the share given to it for national projects and general economic development. The result on the allocation to the local government revealed a negative effect of -0.03%. The study suggested a review of the current revenue sharing formula which should be centered on responsibilities of each tier of the government.

Gap in Literature

The current study covered a period from 1981 to 2016 and included, among the independent variables, the derivation allowance which is given to Niger Delta States as a way of complying with the derivation principle and compensating the states as contained in section 162(2) of the 1999 Constitution of the Federal Republic of Nigerian. The study adopted per capita income (PCI) as an economic indicator to measure sustainable economic development as against the usual real gross domestic product (RGDP) used by other scholars mentioned above.

Methodology

The study made use of ex-post facto and descriptive research designs. The reasons underlying the adoption of these two research designs are that the research data are all historical in nature which implies that they were already in existence as at the time of this study (ex-post facto). The descriptive research design availed the

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opportunity to numerically collect the data and statistically analyzed them to arrive at the results which serve as empirical evidences in this field of study. All data on PCI (dependent variable), FAFG, FASG and FALG (independent variables) were gathered from the CBN Statistical Bulletin, 2016 edition. The study made use of Augmented Dickey Fuller Unit root testing to establish stationarity of data to avoid spurious regression result. Ordinary Least Squares (OLS) method was used to perform the multi-regression analysis with the aid of e-views version 9.

The model adopted for the study is specified below:

$$Y_3 = \propto + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \mu i \quad (9)$$

Where:

Y_3 = PCI
X = determinant of economic development
X1 = FAFG
X2 = FASG
X3 = FALG
X4 = NDSD
β = determines the relationship between the independent variable X and the dependent or gradient/slope of the regression measuring the amount of the change in Y associated with a unit change in X.
μi = normally distributed error term.

Data Analysis and Interpretation of Results

Dependent Variable: Per Capita Income (PCI).
Independent Variables: FAFG, FASG, FALG and NDSD.

The descriptive statistics of the model on table 1 shows that the standard deviation of the distribution in PCI and FAFG is a lower spread and are below the mean, while the rest of the variables have a wider spread which is above the mean. The implication is that, the higher the dispersion or variability, the greater the magnitude of the deviation from the mean value. Standard deviation is only a mathematical tool that helps determine how far the values of data are spread above and below the mean. The skewness in FAFG is negative, but the other variables are moderately and positively skewed. The implication is that the negative skewness in FAFG might give room for extremely negative occurrence of economic situations. The distribution in

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NDSD is the only one that is greater than 3, which suggests more values than the normal distribution and could lead to extreme positive or negative economic outcomes.

Table 1. FAA and PCI Descriptive Statistics

	PCI AT 1ST DIFFERENCE	LOGFAFG AT 1ST DIFFERENCE	FASG AT 2ND DIFFERENCE	FALG AT LEVEL	NDSD AT 2ND DIFFERENCE
Mean	250951.6	5.925880	563.0756	287.6953	344.8844
Median	213241.5	5.953927	84.86500	37.23500	22.50000
Maximum	385227.6	8.928023	2122.920	1125.080	1638.000
Minimum	173011.9	2.282382	2.720000	0.000000	0.000000
Std. Dev.	71878.01	2.390014	707.0765	372.0361	501.4575
Skewness	0.728329	-0.219547	0.956978	0.968926	1.453453
Kurtosis	1.929100	1.525501	2.503586	2.523030	3.984054
Jarque-Bera	4.903022	3.550428	5.864482	5.974160	14.12770
Probability	0.086163	0.169447	0.053278	0.050435	0.000855
Sum	9034257.	213.3317	20270.72	10357.03	12415.84
Sum Sq. Dev.	1.81E+11	199.9258	17498500	4844380.	8801086.
Observations	36	36	36	36	36

Source: Researcher's Computation, 2018.

From table 2 above, the correlation (R) of 96.14% (Square root of R-squared) is an indication that PCI and the predictor variables have a strong positive relationship. R-squared of 92.43% signifies the magnitude to which the predictor variables could explain the changes in the PCI. To that effect, it is notable that up to 7.57% could not be accounted for by the factors captured in the model. The Durbin-Watson of 1.44 is within the acceptable limit based on the rule of thumb.

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The regression result on table 1 reveals that F-statistics is 94.63019 with the p-value of 0.0000 < 0.05 and is statistically significant and robust. This implies that the revenue allocation to the three tiers of the government and the derivation allowance collectively and jointly impact on PCI positively and significantly.

Table 2. FAA and PCI Regression Result

Dependent Variable: PCIAT1STDIFFRNCE				
Method: Least Squares				
Date: 06/20/18 Time: 13:07				
Sample: 1981 2016				
Included observations: 36				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGFAFGAT1STDIFFERENCE	-5563.493	2767.586	-2.010233	0.0532
FASGAT2NDDIFFERENCE	-108.2019	50.91706	-2.125062	0.0417
FALGATLEVEL	478.5012	100.8886	4.742867	0.0000
NDSDAT2NDDIFFERENCE	-48.96020	20.85055	-2.348149	0.0254
C	224069.1	12736.78	17.59228	0.0000
R-squared	0.924302	Mean dependent var		250951.6
Adjusted R-squared	0.914534	S.D. dependent var		71878.01
S.E. of regression	21013.20	Akaike info criterion		22.87194
Sum squared resid	1.37E+10	Schwarz criterion		23.09187
Log likelihood	-406.6948	Hannan-Quinn criter.		22.94870
F-statistic	94.63019	Durbin-Watson stat		1.442820
Prob (F-statistic)	0.000000			

Source: Researcher's Computation, 2018.

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Test of Hypothesis

The earlier study hypothesized that revenue allocation to the three tiers of the government and the derivation allowance to the Niger Delta States do not have significant impact on PCI. The t-statistics for all the independent variables provide evidence that the FASG and NDSD have significant negative impact on PCI, while FAFG has insignificant negative impact on PCI. Therefore, the Ho_1, Ho_2, and Ho_4 have been accepted and the alternative rejected. On the contrast, the result shows that FALG has a robust significant positive impact on PCI. Thus, Ho_3 has been rejected and the alternative which stated otherwise accepted. This result is in agreement with the findings of Dagwom (2013), Ojide & Ogbodo (2015), Usman (2011), but conflicts with Ohiomu & Oluyemi (2017) who found that FALG had negative influence on the economy.

Conclusion and Recommendation

From the regression result of this study, the revenue allocation to federal and state reflected insignificant and significant negative impact on per capita income respectively. The derivation allowance to the Niger Delta States equally has significant negative impact on per capita income. Revenue allocation to the local government showed significant positive impact confirming the fact that government at the local levels are better positioned to meet the needs of the people since it is closer to the people than the federal government. Therefore, the study recommends more revenue allocation to the local government councils since they are closer to the people and are in the best position to boost economic through attending the infrastructural needs that are glaring to them. The study is also suggesting more stringent measures in dealing with corrupt practices in the government system, which will guarantee efficient and effective use of resources to achieve the economic goals.

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IMPLEMENTATION OF CORPORATE GOVERNANCE MECHANISMS IN TOURISM

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Abstract

The article is devoted to forming of effective mechanisms that regulate economic activity of subjects. The economic state affects activity of companies, especially in tourism. The aim of this paper is to show how implementation of corporate governance mechanisms provides greater transparency in the tourism sector, as well as a higher level of alignment of the domestic regulatory framework with the principles applied in the developed economies in this industry; different internal and external factors affecting the steady evolution and development of companies; currency parity and increase of bank interest rates and their influence on a tourist stream; forming of steady mechanisms by means of implementation of elements and principles of corporate management, possibilities of adaptation and implementation of mechanisms of corporate management.

Keywords: *corporate governance; consumer basket; economic condition; currency parity; diversification; rate of bank in interest.*

JEL Classification: G3

Introduction

Governance raises questions about who decides, when, on what. Governance is also related to the institutional capacity to change properly and in timely fashion to the institutional needs. [Bălăceanu, Tilea, & Predonu, 2010]

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Corporate governance is concerned with the mechanism or organization employed to safeguard the rights of shareholders. The need for corporate governance stems from the problem of agency issue. In a corporate system managers have more power and information than isolated shareholders.

Corporate governance refers to the processes that govern and direct firm managers to come to decisions that are in line with the shareholders' objective of wealth maximization. [Akbar, 2015]

Corporate governance is the set of policies, processes, laws, customs, and institutions which is affecting the way a corporation is administered, directed or controlled. In other case, corporate governance also includes the relationships among the different stakeholders involved and the aims the corporation is governed for. [http://www.iodonline.com/Articles/Corporate%20Governance%20and%20Sustainability%20Concepts%20Sreeti%20Raut.pdf]

Functioning of corporate governance is analyzed and explained with a use of various theories e.g. agency dilemma or the principal–agent problem and transaction costs theory. It is a fact that, as a rule, the mechanism of corporate governance is generally implemented due to the importance of minimizing the undesirable effects of agency problem. [http://www.ef.umb.sk/konferencie/vdrsp/zb/pdf/Mazurkiewicz.pdf]

It is a fact that, for a sustainable economic growth, the local and regional authorities should identify funding sources to facilitate and encourage long-term investment according to local and regional particularities and considering the challenges faced by business or institutional operators. [Gabroveanu (Vlădoi), & Ștefănescu, 2017]

However, the objective of this study is to develop a conceptual model by including the factors of corporate governance in the context of tourism, as well as executives of the firms and other stakeholders. The implementation of these kinds of regulatory measures along with the conventional tools will strengthen the corporate governance system which in turn will increase the firm performance in the tourism sector. [Implementing the White Paper on Corporate Governance in Asia, 2006]

Generally, whenever a party has a discretionary possibility to make decisions which affect the interests of other stakeholders, potential conflicts of their interests (the so-called agency problems) arise due to a possibility of that party giving priority to their personal interests over those common. Within the corporate governance context, corporate governance standards may represent a significant factor of growth

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and development of a company, precisely because their implementation should ensure optimum exercise and protection of interests of all stakeholders in its operation.

Research Methodology

This paper represents a descriptive and analytical case study of the implementation of corporate governance in tourism sector within a real-life context [Creswell, 2014]. The main aim of the theoretical research is to describe or capture lived experiences in the various context. [Yin, 2002; Creswell, 2014] The analytical component of this study involves in-depth study and testing of available information in an attempt to clarify and explain complex phenomena, namely corporate governance in the context of tourism. The descriptive part of this research is focused on discovering new meaning, clarifying what exists, determining the frequency with which something occurs, as well as categorizing information [Selltiz et al., 1976; Burns and Grove, 2005], in order to maintain consistency, for a better comparison, with a critical and independent approach to the subject matter preferable.

Theoretical and Comparative Approaches to the Implementation of Corporate Governance Mechanisms in Tourism

Before the start of the research, it would be better to pay attention to four considerations to keep in mind when building effective governance structures as in the figure 1.

Modern market trends in the world, in the process of constant volatility of market conditions, supply and demand, contribute to the development of certain mechanisms to counter the recession. In recent decades, due to the growing demand for tourism services, the states create opportunities for the functioning of enterprises operating in this economic sphere. Solving problems related to the external nature of the impact on economic processes becomes most relevant. The development of an effective mechanism that promotes optimization of structural changes becomes a priority in public policy. In this regard, state agencies work out and devise strategic development plans. In most cases, they are characterized by diversification in state economic policy. [http://siteresources.worldbank.org/EXTPREMNET/Resources/489960-1338997241035/Growth_Commission_Working_Paper_21_Export_Diversification_Economic_Growth.pdf]

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Fig. 1. Consideration when Building an Effective Governance Structure

In connection with these factors, innovation, tourism and the development of intellectual potential are considered to be the top priority sectors of the state investment. Each of them is individually considered to be differentiated and the most priority in the development system, and long-term investments. However, the constant transformation of economic activity forces us to correct the strategic orientation of state policy. Market volatility and budget deficits do not provide an opportunity to implement state priorities in the necessary and time-bound periods. The implementation of large-scale projects with the prospect of a 20-year payback period and future revenues minimizes the risk of investment. [https://www.leg.state.nv.us/Division/Research/Publications/Bkground/BP83-09.pdf]

Despite such a tendency of the state investment policy on financial investments, there are risks that are not anticipated at the time of the project's creation. In this case, we are talking about currency and inflation risks. Indicators and regulators of the

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country's economic development are GDP indicators, the number of consumption, employment, trade turnover and industry. At an even level of economic development, there is no imbalance in currency parity and inflation. Otherwise, a different kind of imbalance in the correlation between the level of inflation and the negative exchange rate difference in the currency occurs naturally. [European Journal of Sustainable Development, 2017] The reasons that caused this imbalance can be the external trade balance, a decrease in the speed of money supply turnover, monopolization and low solvency of the population. Due to the above reasons, the current economic imbalance negatively affects the economic indicators. There is a whole complex of questions about the need to regulate and adjust economic processes.

Let's consider the reasons that caused the imbalance separately in order to draw the necessary conclusions. The external trade balance is the main indicator of the ratio of local currency to freely convertible currency (FCC). The ratio of the exchange rate also has various cause-and-effect factors. The stability of the currency parity of the Azerbaijani Manat (AZN) was provided by high prices for energy resources. After the fall in oil prices, the local currency devalued against others. Based on the theory of currency parity, the model proposed by Mundell and Fleming is interpreted as an increase in domestic consumption, as well as the creation of the final product and its exports despite the negative importance of the ratio of currencies in the international trade balance, the main article of which is the export of raw materials. The second reason is a decrease in the speed of money supply turnover, which is connected, first of all, with the indices of industrial development. [Viner, 1971] Low indices of industrial development in Azerbaijan cannot affect the stability of the Azerbaijani Manat (AZN). The consequence of this factor is the monopolistic development of the industry, which does not take into account the price range and the premium in the formation of the final price or the value of the commodity oriented to the local market. Lack of competition in the local market leads to an excess of goods, the implementation of which creates certain problems, so companies are trying to sell it in foreign markets at a low price, but for a hard currency. And, the last reason is the low solvency of the population, caused by a number of factors. First, the level of the consumer basket, which must correspond to the existing prices on the market and is constantly indexed to ensure economic circulation. Secondly, the level of employment of the population and the poverty line. In connection with the suspension of various economic projects and high seasonal workers, the consumption index is constantly

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decreasing. The average salary in Azerbaijan varies between 350-524.7 Manats (AZN) according to official statistics, and the minimum wage level is set at 130 Manats (AZN). [http://www.stat.gov.az/source/tourism/#] With this proportion and taking into account the fact that in the consumer basket the bulk of money is spent on food and public utilities and accounts for about 75% of the total amount of consumption, commodity turnover cannot show good results.

Due to this scenario and the increase in the unemployment rate, a natural factor is a violation of the economic cycle. In the banking sector, due to these reasons, there is an increase in unpaid consumer loans. Deferred payments and high bank interest create a situation in which retail indicators demonstrate regression. In this case, we are talking about the consumption figures of the local population. Correction and high indicators are explainable from the point of view of the high tourist flow, which, in the economic state and analysis, should not be taken into account. In fact, the economic situation should stimulate industries such as tourism and innovation, but in this sector there are short-term trends caused by spontaneous tourist inflow through state regulation and providing a simplified visa regime for tourists. The tourist infrastructure, which provides a stable influx of tourists, is not effective due to a number of reasons. The fixed level of tourist flow is growing in an unnatural way. The basis of the tourist flow is the implementation of the state program for the diversification of economic development. Hotels that form the basis of tourism infrastructure cannot form and devise a development strategy.

The price range of hotels varies from 80 to 150 AZN (Manat), which naturally affects the number of rooms. Over the past five years, the increased tourist flow was formed by international events. In the last year, the influx of tourists increased due to the countries of the Persian Gulf and Iran. It should be noted that the increase in tourist flow is of a short-term nature and, if the necessary measures are not taken, it will be very difficult to increase this flow in the future. The modern infrastructure of tourism, established in Azerbaijan, cannot function in full force.

There are errors in the approaches and management of modern hotel complexes. International network representations of leading hotels in the world are represented mainly not in the form of direct management, but through a franchise. Compliance with the necessary measures and standards required by the franchise agreement does not provide a basis for management effectiveness. [https://www.sec.gov/Archives/edgar/data/853665/000092290705000240/form10kexhf_032905.htm] Hotel managers make many mistakes and are not focused on satisfying domestic demand. Analyzing

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the statistical data, I came to the conclusion that the number of tourists leaving Azerbaijan is greater than the number of visitors.

This analysis makes it possible to conclude that the price policy does not allow citizens of the country to spend their holidays in the country. Basically, a large tourist flow is directed to Georgia and Turkey. This situation creates an opportunity for the formation of mechanisms for the management and regulation of business in this area.

In order to improve the effectiveness of management structures and mechanisms, there is an urgent need to recruit and train professional staff. To this end, the preferential relationship in the choice of the formation of personnel policy should be the organization's own mechanisms in the absence of personnel training. Despite the increase in costs associated with staff training, companies receive benefits in the event of a shortage of specialized training centres.

Such a problem exists in Azerbaijan, and the leakage of personnel capacity is carried out from most hotel complexes, except for the Hyatt Regency, which has its own training centre. Its former employees are the basis of the staff potential of other hotels. The lack of professional staff and the satisfaction of the demand for human resources provide an opportunity for business interaction between a specialized educational institution – in this case the Azerbaijan University of Tourism and Management – and the commercial structures, i.e. tourist enterprises. In spite of partial satisfaction of market demand, the objective is the lack of laboratories in the training of personnel. In particular, the lack of specialized classes in the restaurant business, training bartenders, waiters and other professions requires additional costs. In addition to this reason, there are others related primarily to the availability of intellectual potential. In this connection, the process of reforming the education system and building the personnel capacity for training personnel is actualized. The use of different teaching methods by alternating theoretical skills with practical application is a fundamental requirement of the market and its demand. In this case, the level of intellectual development is formed directly by specialized institutions, capable of satisfying various market demands. From the point of view of economic expediency, delegation of authority to these structures is most beneficial, since the level of expenses incurred cannot be correlated with the own expenses of the organization itself.

Priorities for the development of the innovative industry are beneficial both to the state and business structures. The search and creation of various technologies in a

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market competition is the most optimal method capable of strengthening leadership positions. The prerogative of public policy in this area is the fundamental areas of research. Budget expenditures will quickly accumulate through the implementation of these technologies by business. Business structures need the creation of research departments to develop new types of goods that can compete in the world market. The creation of new products will strengthen not only market positions, but also create prerequisites for sustainable development. The lack of a strategy to create innovative products will not provide an opportunity to consolidate not only the market position, but also significantly increase the company's expenses for the formation and consolidation of the brand. Market levers of pressure on competitors will face different barriers and resistance to expand the market share from the sustainable brand companies. In this regard, the formation of innovation is an important factor in the company's advantages in the market.

Recently, the most optimal management methods in the sphere of tourism are the implemented mechanisms of corporate governance. They are the most stable forms for changing market conditions due to the volatility of the market itself. However, it should be noted that the adaptation of methods and mechanisms of corporate governance involves a number of problems. [https://www.oecd.org/daf/ca/Corporate-Governance-Principles-ENG.pdf] The functioning of these mechanisms requires the adaptation of the principles and forms of corporate governance. The interconnection of these principles does not allow for their implementation separately. Given the monopolization of the market, their actual applicability of principles meets deformed perception.

However, the owners of companies miss the benefits of the use of corporate governance mechanisms in the operating environment of the organization. In order to eliminate equivocation, it is not necessary to duplicate the same corporate governance departments of different models. For example, the main governing body of corporate governance in the Anglo-American model is the Board of Directors, and in the German model – the Supervisory Board, whose functional purpose is identical. In some cases, local companies adapt both departments to management, which naturally creates an equivocation of the management of the organization. [Jensen & Meckling, 1976]

Conclusion

At the end of this study, it seems clear that corporate governance mechanisms primarily support the process of efficient, equal and transparent exercise of the

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fundamental rights of shareholders such as right to govern or direct a company, right to a share in the distribution of net profit and right to a share in liquidation assets.

The development of importance and promotion of corporate governance coincides with the development of tourism market economy and financial markets. Comparative analysis showed that corporate governance helps reduce various types of risk that may affect the functioning of a company.

Research confirmed that adaptation of corporate governance mechanisms does not depend on the size and segment of the functioning of companies. The implementation of administrative structures can be carried out even in small and medium-sized tourist enterprises. This significantly increases management efficiency and increases the company's profits. In this case, it should be noted that, as a result, the company receives a double benefit: on the one hand, it is the strengthening of the financial situation and economic benefits, on the other, an effective management organization.

With the purpose to improve the efficiency of tourism organizations, structural changes, in particular the reorganization of management structures, need to be carried out. Despite resistance to organizational changes by personnel, the inventory of these processes will lead to a comprehensive increase in the effectiveness of the organization itself. Summarizing the above, I recommend the following measures:

- ✓ Reorganize management in companies;
- ✓ Implement the principles of corporate governance in order to improve the efficiency of the production process;
- ✓ Adapt corporate governance mechanisms to reduce risk and increase profits;
- ✓ Improve the quality of enterprises;
- ✓ Introduce corporate cultures and values in the organization.

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THE DEVELOPMENT OF THE TRAVEL AND TOURISM INDUSTRY IN THE WORLD

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Abstract

The purpose of this paper is to see how the travel and tourism industry is changing and its development in the world.

Travel and tourism industry is one of the world's greatest industrial sectors. It drives economic growth, creates jobs, improves social development and promotes peace.

Hundreds of millions of people around the world are dependent on the sector for their employment. In some island economies, travel and tourism industry is not just the biggest employer; it is effectively the only employer. The role is to contribute to the creation of sustainable economies.

Travel and tourism industry is a diverse sector consisting of millions of companies and employers, from the biggest global travel brands to the smallest tour operators or hostel owners. Together, we form a formidable force with a voice to be heard at the highest levels of society and government.

Keywords: *development; travel; tourism; tourism industry; international tourism.*

JEL Classification: Z30, Z32

Introduction

From an economic and social point of view, the development of travel and tourism industry is reflected in an increasing demand of the population for an ever-increasing

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range of consumer goods and services, a demand that stimulates the manufacturing and service sectors, leading to an increase in economic activity and consumption, independent of the normal evolution of market trends. As a consequence, this increase in tourism consumption, caused by massive seasonal movements of the population towards certain destinations of tourist interest and increasing the number of visitors, is favourable to the complex development of the economy of some tourist areas and of the economic ensemble of the countries which are developing their tourism industry.

In other words, in line with the increase in the demand for tourist services, a distinct offer of services has gradually developed, whose volume and structures imposed the organization and continuous improvement of an economic and organizational program able to guide the services provided by tourists. According to the steps, a tourist travels from the permanent residence to the destination and back, e.g. there is a complex of activities designed to meet the various consumption needs.

The growing volume and complexity of tourism services have generated the development of a real tourist industry that justifies treating the phenomenon of tourism as a distinct branch of the growing economy in the world. By its nature, the tourism phenomenon is a particularly complex, with profound social, political, cultural and economic implications. Unlike other service sectors, the tourism industry remains a consequence whose development at each stage can only be ensured in close correlation with the levels of development of other branches of the world economy.

Literature Review

My research paper entitled: *The development of the travel and tourism industry in the world*, is written after I've documented on the basis of the following published articles:

1. "Development of Tourism Industry and National Economic Security" written by Kusubakti Andajani, Yuni Pratiwi, Sri Yati, and Sri Indrawati, published in *Journal of Business and Management Sciences*.

2. "A Review of Green Development in the Tourism Industry" written by Tang Chengcai, Zheng Qianqian, Qin Nana, Sun Yan, Wang Shushu and Feng Ling, published in *Journal of Resources and Ecology*.

3. "The Role of Development of Transport Tourism in Economic Growth" written by Flora Alasgarova, published in *Annals of Spiru Haret University. Economic Series*.

4. "Importance of Training and Development in Tourism Industry" written by Sandeep Malik, published in *International Refereed Journal of Reviews and Research*.

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The Development of the Travel and Tourism Industry

The travel and tourism industry is one of the largest and fastest growing sectors in the world, with economic growth in 2017 (4.6%) outpacing that of the global economy (3%) for the seventh year in a row, as well as all other major industrial sectors. This means that travel and tourism industry GDP growth was 50% higher than that of the global economy. In the same year, it employed 313 million people across the world, equivalent to 1 in 10 jobs, and generated 10.4% of global gross domestic product (GDP). [ICAO, 2018]

In 2017, there were 1.322 billion international tourist arrivals – an increase of 7% compared to the previous year, and the strongest growth rate for seven years. [ICAO, 2018]

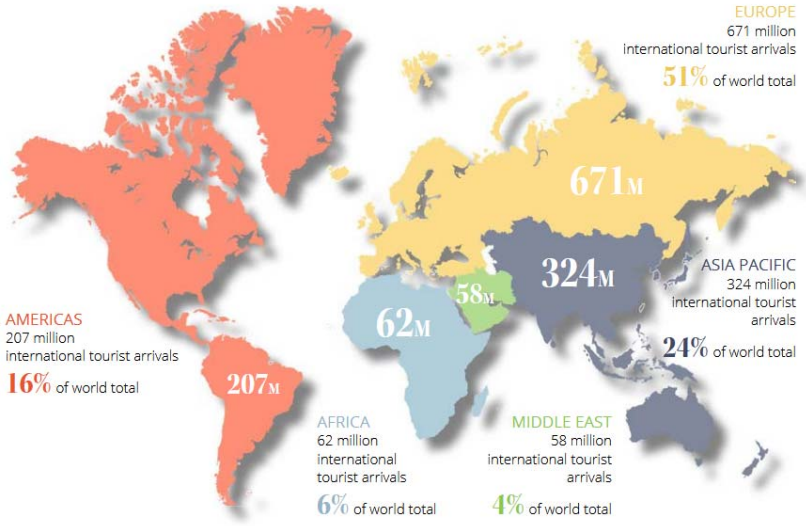

Fig. 1. International Tourist Arrivals in 2017

Source: ICAO (2018), "Travel and Tourism a Force for Good in the World," accessed November 7, 2018, https://www.icao.int/Meetings/iwaf2018/Documents/Travel%20and%20Tourism.pdf

By 2030, it is estimated that there will be 1.8 international tourist arrivals – which means an average of 5 million people crossing international borders every single day. [ICAO, 2018]

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As powerful as the travel and tourism sector is in terms of its reach and economic impact, it is unique in the diversity of its composition. Stakeholders in travel and tourism range from global hotel chains, cruise lines and seaports, and airports and airlines turning over billions of dollars every year, to individuals running a bed and breakfast, teaching a cooking class or leading a tour through their local community. Thinking of the industry in such a way allows us to picture not only the vast economic impact that it has at the global level, but also to consider the life-transforming effects it can have on real people in destinations across the world. [ICAO, 2018]

Looking to the next decade, 100 million new jobs could be created in the travel and tourism sector by 2028 – 64.5 million of these will be in the Asia Pacific region, with 35 million in China and 10 million in India. [ICAO, 2018]

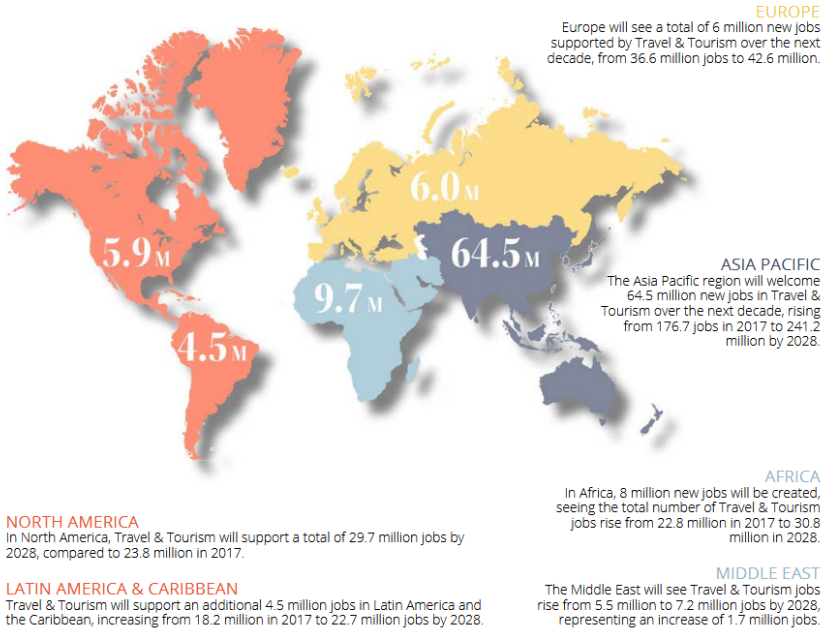

Fig. 2. Regional Breakdown of Total Job Creation (Millions) from 2017 to 2028
Source: ICAO (2018), "Travel and Tourism a Force for Good in the World," accessed November 7, 2018, https://www.icao.int/Meetings/iwaf2018/Documents/Travel%20and%20Tourism.pdf

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The travel and tourism sector accounted for 10.4% of global GDP and 313 million jobs, or 1 in 10 jobs globally in 2017. With 4.6% GDP growth in 2017 – the highest rate since 2011 – the travel and tourism sector outperformed all other major global economic sectors, with manufacturing coming in second place with 4.2%, and financial services lagging behind with 2.5% industry sector growth. [ICAO, 2018]

With the right regulatory and policy environment, including support from governments, travel and tourism industry has the potential to create tens of millions of new jobs by 2028. [ICAO, 2018]

The travel and tourism industry grew faster in 2017 than every other major economic sector, including financial services. [ICAO, 2018]

The USA received the greatest direct and total contribution to GDP from travel and tourism industry with $509.4 billion and $1501.9 billion respectively in 2017. China is forecast to overtake in both categories by 2028. [ICAO, 2018]

According to aviation, a new record was established – 4.1 billion passengers were carried by the aviation industry on scheduled services in 2017, indicating a 7.1% increase over 2016. This figure is expected to almost double by 2036, with 7.8 billion people predicted to be travelling by air each year, 55% of international tourists travel to their destination by aircraft. [ICAO, 2018]

Cruise travel is on the rise, with 27.2 million passengers expected to set sail in 2018. In 2017, 25.8 million passengers cruised, representing 4.5% growth on 2016. [ICAO, 2018]

Overall growth in the cruise industry (64%) has exceeded that of the general global tourism sector (45%) over the past 10 years. [ICAO, 2018]

In 2017, the hotels and resorts industry generated $878 billion in revenue and employed 4.3 million people. [ICAO, 2018]

The travel and tourism industry directly contributed $2.6 trillion – equivalent to the size of the UK economy – to global GDP in 2017, or 3.2% of global GDP. [ICAO, 2018]

In 2017, travel and tourism industry's total (including direct, indirect and induced impacts) contribution to global GDP was $8.3 trillion, equivalent to 10.4%. [ICAO, 2018]

International tourism receipts calculated as expenditure by international visitors on accommodation, food and drink, entertainment, shopping and other services and goods, amounted to $1.22 trillion in 2017. [ICAO, 2018]

Travel and tourism industry is a major contributor to international trade in services, with global visitor exports, the amount brought as a contribution by visitors to the country they visit generating a record $1.5 trillion in 2017. This is equivalent

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to an average of $4 billion a day, almost 7% of total exports and 30% of total world services exports. Global visitor exports should grow by 3.9% in 2018, and by 4.1% per year from 2018 to 2028, totalling $2.3 trillion in 2028, and making up 6.9% of total exports. [ICAO, 2018]

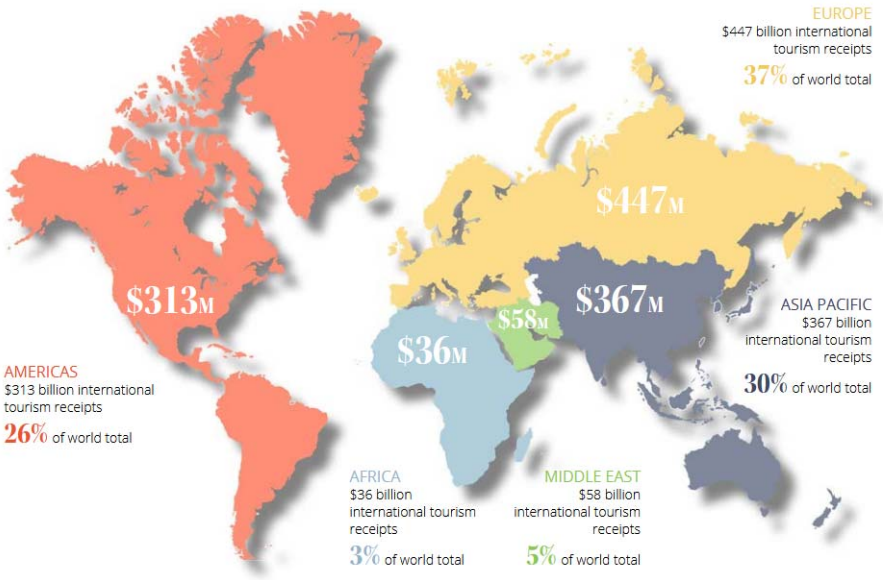

Fig. 3. International Tourism Receipts in 2017
Source: ICAO (2018), "Travel and Tourism a Force for Good in the World," accessed November 7, 2018, https://www.icao.int/Meetings/iwaf2018/Documents/Travel%20and%20Tourism.pdf

The travel and tourism industry yields significant economic and social benefits around the world, and possesses the power to change people's lives for the better by driving economic growth and development, reducing poverty through the provision of livelihoods, and fostering tolerance and peace through intercultural exchange and understanding. The sector has demonstrated strong and continued growth in the number of people travelling internationally each year, as well as its economic impact over the last six decades. Future predictions suggest that the sector will continue to grow in size and significance, amplifying its opportunity and responsibility to act as a force for good in the world. [ICAO, 2018]

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While strong, sustained and diversified growth in travel and tourism industry is positive, high growth rates require all stakeholders at destinations to consider how to grow tourism responsibly and sustainably. Successful sustainable tourism strategies should move from promotion to broader destination planning and management, and look to the long-term to ensure quality engagement, preservation of natural and cultural resources, and the spread of tourism benefits to all. [ICAO, 2018]

The travel and tourism sector requires the hotels and resorts industry to provide accommodation for people visiting new destinations, and the revenue his generates contributes to the sector as a whole. In 2017, the industry generated $878 billion globally in revenue, and employed 4.3 million people across 739,000 businesses. Over the past five years (to 2017), they estimate that the industry has grown by 3.2% per year, thanks to improved global economic conditions and the resulting boost to consumer confidence and increased travel. [ICAO, 2018]

It is estimated that the hotel industry is comprised of 17.2 million rooms, and that branded hotels have 53% of the market. The leading branded hotel companies, including IHG, Marriott, Hilton, Wyndham and Accor Hotels account for nearly one quarter of the total open branded rooms [ICAO, 2018]

In line with the travel and tourism sector as a whole, the hotels and resorts industry expects growth in the future thanks to improving global economic conditions resulting in higher GDP and more disposable income, as well as demographic shifts such as the growth of the middle class and an ageing population that has the desire and means to travel. [ICAO, 2018]

Travel and tourism industry and its related industries clearly contribute to the economic and social development of a nation, by driving economic growth, creating jobs and wealth, fostering trade and encouraging investment. The emergence of a tourism sector within a country offers the opportunity to acquire business or language skills thanks to newly realised entrepreneurial and other professional opportunities, resulting in human capital development, and upward social mobility. [ICAO, 2018]

The travel and tourism industry investment in 2017 was $882 billion, or 4.5% of total investment. It should rise by 4.8% in 2018, and by 4.3% over the next ten years, reaching $1,408.3 billion in 2028 (5.1% of total). [World Travel and Tourism Council, 2018]

As the world becomes more connected and more focused on travel and tourism industry, innovative business models become crucial to the development of tourism. At the same time, particular attention must be paid to the challenges and threats that characterize the development and growth of the tourism industry.

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New Technology Trends in the Travel and Tourism Industry

The advent of technology is fostering a change in the travel and tourism industry regarding how companies interact with customers. Consequently, travel companies are adopting various technologies to improve operational efficiencies and meet customers' expectations. [Global Data, 2018]

The trends to watch out for in the travel and tourism industry in 2018 are [Global Data, 2018]:

– Augmented and Virtual Reality (AR and VR): The past few years have seen an increase in AR or VR popularity among travel and tourism companies, and the trend is set to continue. These technologies are being used either for content marketing or to enhance the customers' experiences. For example, airlines have started using VR technology to show travellers the cabins in advance, in order to increase ticket or ancillary services sales.

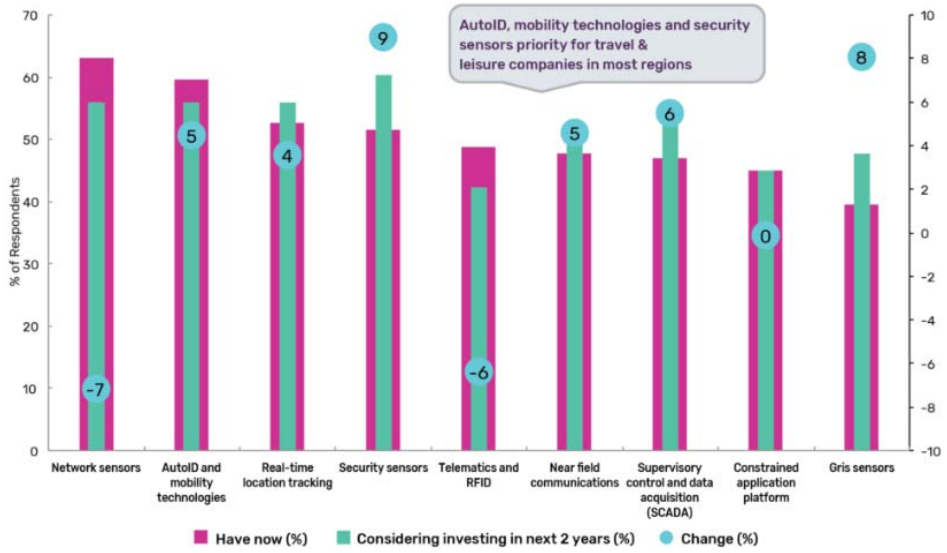

Fig. 4. Internet of Things Solutions

Source: Global Data (2018), "Top 6 Technology Trends to Watch out for in the Travel and Tourism Industry in 2018," accessed November 8, 2018, https://www.globaldata.com/top-6-technology-trends-watch-travel-tourism-industry-2018/

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– Artificial Intelligence (AI): AI is behind many evolving technologies and innovations in the travel and tourism sector. The ways in which it helps the industry can be classified into three major categories: Machine Learning, ChatBots or TravelBots, and Robots. Thanks to AI, operations which usually require human intervention and a lot of time to learn new skills can be automated, thus speeding up processes, while improving quality and performance, and decreasing costs.

– Internet of Things (IoT): IoT has a lot of potential to shape the future of the travel and tourism industry, and companies have started to realize that. An example of an industry player using IoT to reduce anxiety and stress levels associated with lost bags is Lufthansa. Passengers can track their baggage via a link found on their mobile boarding pass in the Lufthansa app.

– Voice Technology: Voice technology is another digital novelty that is beginning to disrupt the travel and tourism sector, as more and more customers switch from typed-in search to voice interactions. More and more hotels have started experimenting with voice-activated devices.

– Wi-Fi connectivity: When travelling, people want to always be connected, either to get destination ideas, options regarding places to visit or eat, find directions to points of interest, or share their experience with friends via social media or other connectivity platforms. As a result, investing in network services helps companies offer a more seamless and highly personalized experience to customers, boosts operational efficiency, real-time decision making, strengthens the physical (via CCTV) and the cybersecurity, along with data privacy.

– Wearable devices: Despite a sluggish start, travel and tourism companies are gradually using this technology to offer customers a more personalized and united experience. For instance, the Walt Disney Company deployed a wearable, customizable, RFID-equipped MagicBand, which connects to the theme park infrastructure, to reduce waiting times and track guests' locations and activities.

Another is Blockchain, specifically crypto-currencies. This nascent technology, which allows for decentralized and secure storage and sharing of information, has the potential to increase trust while minimizing friction and corruption. [World Economic Forum, 2018]

The Importance of Visitors for Travel and Tourism Industry

The importance of visitors is a value factor for travel and tourism industry, as the number has increased in 2017, Bangkok was visited by 20 million tourist followed by London with 19.80 million and Paris with 17.50 million.

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Table 1. Most Visited Destination in the World

Destination in the world		Tourist number in 2017	Growth forecast for 2018
1.	Bangkok	20 million	9.8%
2.	London	19.80 million	3.1%
3.	Paris	17.50 million	2.9%
4.	Dubai	15.90 million	5.5%
5.	Singapore	13.90 million	4.0%
6.	New York	13.50 million	4.1%
7.	Kuala Lumpur	12.50 million	7.5%
8.	Tokyo	11.90 million	1.6%
9.	Istanbul	10.50 million	19.5%
10.	Seoul	9.50 million	6.0%

Source: personal contribution

In 2018, the number is estimated to grow with 19.5% in Istanbul followed by Bangkok with 9.8% and Kuala Lumpur with 7.5%.

In other words, there are so many interesting and beautiful places to discover in the world. Some countries have a larger tourism industry than others, but just about all of them have something to offer.

In 2018, the following countries are among the most visited in the world:

1. France with 82.6 million visitors. The most visited places in France are following:

– Eiffel tower in Paris – the most visited city in France;
– St Tropez summer holiday destination;
– Chamonix ski resort;
– Palace of Versailles;
– Mont Saint-Michel.

2. The United States with 75.6 million visitors. Most visited places in the USA are:

– Manhattan in NYC;
– Grand Canyon;

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– Yellowstone National Park with its geysers;
– Golden Gate Bridge in San Francisco;
– Niagara Falls at the borders with Canada.

3. Spain with 75.6 million visitors. Most visited places in Spain are:
– Sagrada Familia in Barcelona;
– Alhambra;
– Mezquita of Cordoba;
– El Escorial;
– Ibiza Island.

4. China with 59.3 million visitors. Most visited places in China are:
– The Great Wall of China in Beijing;
– The Terracotta Army in Xi'an;
– The Forbidden City in Beijing;
– The Li River in Guilin;
– The Yellow Mountains in Huangshan.

5. Italy with 52.4 million visitors. Most visited places in Italy are:
– Grand Canal in Venice;
– Coliseum in Rome;
– Florence Cathedral;
– Piazza del Campo in Siena;
– Pompeii.

6. United Kingdom with 35.8 million visitors. Most visited places in the UK are:
– London;
– Scottish Highlands;
– Stonehenge;
– Edinburgh;
– York.

7. Germany with 35.6 million visitors. Most visited places in Germany are:
– Berlin's Brandenburg Gate;
– Cologne Cathedral;
– The Black Forest;
– Neuschwanstein Castle;
– Miniatur Wunderland.

8. Mexico with 35.0 million visitors. Most visited places in Mexico are:
– Teotihuacán and its huge pyramids;

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– Chichen Itza – the largest of the Maya cities in the Yucatan Peninsula;
– Tulum – for those looking for ideal beach holidays;
– Copper Canyon – a network of canyons;
– Palenque – an archaeological site.

9. Thailand with 32.6 million visitors. Most visited places in Thailand are:
– Ko Phi Phi;
– Phang Nga Bay;
– Grand Palace, Bangkok;
– Rai Leh;
– Mu Ko Chang National Park.

10. Turkey with 30 million visitors. Most visited places in Turkey are:
– Istanbul;
– Antalya;
– Cappadocia;
– Bodrum;
– Side.

Table 2. Most Visited Countries in the World

1.	France	82.6 million visitors
2.	The United States	75.6 million visitors
3.	Spain	75.2 million visitors
4.	China	59.3 million visitors
5.	Italy	52.4 million visitors
6.	United Kingdom	35.8 million visitors
7.	Germany	35.6 million visitors
8.	Mexico	35.0 million visitors
9.	Thailand	32.6 million visitors
10.	Turkey	30 million visitors

Source: personal contribution

Other countries with many visitors in 2018 are Greece with 24.8 millions, Japan with 24.0 millions, Canada with 20.0 millions or Singapore with 12.9 millions.

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Competition model in a tourism destination is determined by seven factors: co-location, associationism, competition, cooperation, strategic management, co-entrepreneurship, and co-production. [Channoi & Clemes, 2018]

The tourism offer is very important for the business tourism sector, along with the existence of adequate venues, facilities and support services. [Marques, 2017]

Tourism is very closely linked to culture and civilization, among them establishing an interdependent relationship. [Jelev, 2016]

The economic climate along with the economic policies that are applied to the destination could directly or indirectly encourage the development of the tourism sector and thus increase tourism income. [Antonakakis & Dragouni, 2018]

Tourism offers a combination of products and services which need to be customized based on the preferences of different market segments. [Mehran & Olya, 2018]

Various big data have been applied to tourism research, making a great improvement. [Li & Xu, 2018]

Innovation is a critical factor in the success of destinations competing for tourists against other destinations. [Zach & Hill, 2017]

Tourism has long been claimed as a crucial force shaping globalization, while in turn the developments of the tourism sector are under the influences of growing interdependence across the world. [Song & Li, 2018]

Travel safety is a critical issue to most tourists, while the peacefulness level of travellers' country of origin is an important key factor for understanding different travel behaviours and safety perceptions held when going on an international trip, namely, regarding involvement, risk and safety/insecurity perceptions. [Seabra & Kastenholz, 2018]

The biggest risks in the travel and tourism industry at global level are related to geopolitics, terrorism, uncontrolled spread of epidemics, data sharing and security. These risks can have severe repercussions on the tourism industry, whose development depends directly on providing a safe travel experience. Security-related events have had a strong impact on the affected tourist destinations and have been particularly affected by the decrease in the number of tourists and the drastic decrease in revenues from this economic activity. Thus, it focuses on identifying innovations, technological and infrastructure development at local, regional, national level to facilitate travel conditions with improved security measures.

Conclusions

In conclusion, the travel and tourism industry is very important for most countries in the world, having a prime place in the economy due to the high income it brings.

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Tourism development policies in the world are increasingly important for developing countries. Not only have they introduced a new sector into the country's economy, but they have achieved macroeconomic objectives. That is why most countries concentrate their efforts on attracting foreign tourists, in order to increase the country's foreign reserves.

Tourism has a special importance in meeting the material and spiritual needs of the people. It contributes to restoring the body through rest, recreation, movement, balneo-medical treatments, manifests itself as a means of educating people, it favours the exchange of ideas, the knowledge of tourists and the local population.

Tourism also has influences on the environment and its components, both positive and negative, and tourists must learn to protect the environment. At the same time, it acts in the direction of enhancing ties between nations, knowing people and peoples and helping maintain peace in the world.

More and more tourists begin to look for vacations as more than just a break in the office. A journey means opening the mind and gaining new experiences. That's why the number of tourists who want to travel to exotic places is simply growing, just different from what they are accustomed to seeing in the areas where they live and want to see more.

In this case, the new trends in the travel and tourism industry are:

– Responsible and sustainable tourism;
– Wellness tourism;
– Millennial travellers;
– Family holidays;
– Adventure holidays;
– Food tourism;
– To travel single.

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