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## **FREQUENCY**

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## **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.

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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.

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## FOREWORD

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In their article called *The New Economy Drivers and Disrupters Report. Tracking the Forces Threatening the World’s Hottest Economies* published in *Bloomberg Businessweek* in October 29, 2019, authors Tom Orlik, Scott Johnson and Alex Tanzi say that “twenty years ago, China’s economy was a tenth the size of the United States. In 2019, it is two-thirds as big. In 2039, on the current trajectory, it will be more than 10% bigger. India will have leapfrogged Japan and Germany to claim the No. 3 spot in the global rankings. Vietnam will be closing in on the top 20.

Disruptive forces are sweeping the global economy. Populist regimes are throwing out the policy rulebook. Protectionism is deadening the trade flows that drove China’s rise. Automation and the digital economy are boosting productivity for some, eroding old sources of advantage for others. The threat of climate change looms.

The path to prosperity followed by such success stories as Korea and Japan is increasingly hard to follow.

From Beijing to Brasilia, getting the right mix of smart investment, skilled workforce, innovation capacity and effective governance in place is already tough to do. Combating disruptive forces – which, from protectionism to climate change, threaten an outsize impact on low- and middle-income economies – adds to the challenge.”

The same Report says that “the origins of many of the changes sweeping the global economy can be traced to two sources: trade and technology.

Trade is a driver of prosperity. Trade without agreement on the rules of the game, and without compensation for losers, has resulted in a protectionist backlash that is anything but. Bloomberg Economics estimates that the cost of the U.S.-China trade war could reach \$1.2 trillion by 2021, with the impact spread across the Asian supply chain. Brexit and U.S. threats of tariffs on auto imports add to the price tag.

Automation is delivering advances in productivity and profits at the expense of increased job insecurity. McKinsey Global Institute estimate that by 2030, some 14% of the global workforce – 375 million workers – may have to find new occupations.

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Rapid progress in artificial intelligence and machine learning, increasing the range of tasks that can be automated while reducing the cost, could push that number even higher”.

The *Bloomberg Businessweek* article says also that “driven by rapid reductions in the cost of the communication, the digital economy holds out the promise of dramatic increases in productivity. Globally, close to four billion people are connected to the internet. In high-income markets, four out of five are online. In developing economies, internet use is at 45% and rising rapidly. The economic impact is far-reaching. Digital platforms such as China’s Taobao connect entrepreneurs to new customers, empowering both sides of the transaction with a high degree of transparency. A massive increase in data flows is driving what international economist Richard Baldwin calls the “third unbundling,” with the potential for more services to be outsourced across borders, as with manufacturing”.

Regarding climate calamity, the same article written by Tom Orlik, Scott Johnson and Alex Tanzi say that “inward-looking leaders are ill-placed to confront an additional systemic risk: climate change. The consequence of temperatures 1°C above pre-industrial levels are already evident. Extreme weather events, from floods in Thailand to category-five storms battering the U.S., are wreaking havoc on housing, infrastructure and supply chains. Insurance losses have risen fivefold since the 1980s.

As temperatures continue to move higher, the economic impacts will be wide-ranging. Uncertainty about climate risks and the impact of mitigation measures creates a disincentive for businesses to invest. Higher temperatures reduce labour productivity. The need for climate adaptation diverts resources away from more productive uses. And while the transition to a low-carbon economy brings new opportunities, a trade-off between emissions and growth may be tough to avoid.”

Larry Elliott, the Economics editor from *The Guardian* wrote an article on 25<sup>th</sup> of September 2019 about the ***Global Recession That Is a Serious Danger in 2020***. “Weaker growth in both advanced and developing countries means the possibility of a global recession in 2020 and is a clear and present danger, the UN has warned. In a flagship report, the UN’s trade and development body, *UNCTAD*, said 2019 will endure the weakest expansion in a decade and there was a risk of the slowdown turning into outright contraction next year.

The UN also said that warning lights were flashing around trade wars, currency gyrations, the possibility of a no-deal Brexit and movements in long-term interest rates but there was little sign that policymakers were prepared for the coming storm”.

The annual trade and development report said finance ministries and central banks should end their “obsession with stock prices, quarterly earnings and investor confidence” and instead focus on job creation, boosting wages and increasing public investment.”

The UNCTAD report claims that: “A spluttering north, a general slowdown in the south and rising levels of debt everywhere are hanging over the global economy: these combined with increased market volatility, a fractured multilateral system and mounting uncertainty, are framing the immediate policy challenge.” It said the global economy remained fragile even though the financial crisis ended a decade ago, and called for a fundamental rethink of a “business as usual” model that had saddled the developing world with record levels of debt.

The Report also said: “The macro-economic policy stance adopted to date has been lopsided and insufficiently co-ordinated to give a sustained boost to aggregate demand, with adjustments left to the vagaries of the market through a mixture of cost-cutting and liberalisation measures. Ephemeral growth spurts and financial volatility have been the predictable results.”

Global growth will fall from 3% in 2018 to 2.3% this year – its weakest since the 1.7% contraction in 2009, according to the report. Several big emerging countries were already in recession and some advanced economies, including Germany and the UK, were dangerously close to one.

Central banks, including the US Federal Reserve and the European Central Bank, have recently announced interest cuts in an attempt to stimulate activity but the UN report was pessimistic about the chances of success.

“The slowdown in growth in all the major developed economies, including the US, confirms that relying on easy monetary policy and asset price rises to stimulate demand produces, at best, ephemeral growth, while tax cuts for corporations and wealthy individuals fail to trigger productive investment.”

Unconventional monetary measures – such as negative interest rates and creating money through quantitative easing – remained the go-to policies for addressing weaknesses in the global economy even though they have had a weak record since the financial crisis.

Trade growth was expected to slow sharply this year as a result of a slump in global demand and the protectionist measures announced by Donald Trump. The UN stressed the need to look beyond the short-term threat of recession to deeper and long-running threats. “Beyond the immediate risks that could stall the global economy are a series of macrostructural challenges that predate the global financial crisis and have gone largely unattended since then,” the report said.

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It added that four issues stood out due to their high degree of interdependence: the smaller share of the economy's proceeds going to labour; the erosion of public spending; the weakening of investment; and the unsustainable increases in carbon dioxide in the atmosphere.

It continued: "Climate protection requires a massive new wave of investment, reinventing energy and other carbon-emitting sectors. New low-carbon technologies must be created, installed and maintained on a global scale."

The report also highlighted increased green investment, which it said would be a significant source of income and jobs. "Recent discussions call this strategy the *Green New Deal*, recalling the 1930s New Deal, which tackled unemployment and low wages, the predatory nature of finance, infrastructure gaps and regional inequalities, in the context of recovering from the Great Depression."

On the 16<sup>th</sup> of October 2019, Moody's chief economist also says that 'awfully high' risks of a global recession in the next 12-18 months. Avoiding a recession requires many factors to "stick to script" at the same time, says Mark Zandi, chief economist of Moody's Analytics. "That includes U.S. President Donald Trump not escalating the tariff war with China, the U.K. finding a resolution to Brexit and central banks continuing their monetary stimulus", he says.

The International Monetary Fund, in its *World Economic Outlook* report released on October 2019, cut its forecast for global growth once again.

"I think high, uncomfortably high," he told CNBC's "Squawk Box Asia" when asked about the chances of a global economic recession.

Other economists appeared less worried about a recession, but shared Zandi's sentiment that growth would continue to weaken. Eswar Prasad, a professor at Cornell University, said consumer spending has helped support growth in several economies – even as momentum falters in other sectors. But that's not sustainable, he added. "Consumers and households cannot be counted on to keep growth going. So, really, the key is to come up with a set of policies that are going to spur a revival of business and consumer confidence, and end up boosting investments," he told CNBC's "Street Signs Asia" on October 2019.

On October 2019, the International Monetary Fund made a downward revision to global growth. In its *World Economic Outlook* report, the IMF forecast that the global economy will grow 3% this year and 3.4% in 2020. That's lower than the 3.2% and 3.5% – for 2019 and 2020, respectively – that the fund projected in July. The fund blamed the "subdued growth" partly on rising trade barriers and heightened geopolitical tensions, and called for a "balanced" way to fend off those risks.

“Monetary policy cannot be the only game in town and should be coupled with fiscal support where fiscal space is available and where policy is not already too expansionary,” the IMF said.

Zandi agreed that governments should increase spending to support the economy, but said many major economies would not go down that route.

He explained that with the two major political factions in the U.S. battling an impeachment inquiry into Trump, it doesn’t seem likely that Congress would pass any plans to cut taxes. In Europe, Germany may have fiscal space to spend but the government could find it hard to do so legislatively, he said. “This doesn’t lend confidence. The central banks are running out of room, we need fiscal policymakers to step up but I don’t think, at this point, it’s clear where the political will for doing that is going to come from,” he said.

That being said about the current state and prospects of the world economy, the authors of our journal seem to be seeing some of these major changes in the world economy and trying to raise some questions, find solutions or warn through the topics of their current articles.

In the article called *The Influence of Cloud Technology in Transforming Accounting Practices*, the authors, Maria ANDRONIE and Luminița IONESCU, are discussing about *cloud technology* which is one of the most important developments in information technology in the past decade, with significant consequences over the financial reporting for businesses and individuals, as well. It is considered to be indispensable to accountants in the near future and will improve the accuracy of financial information and the business strategy. The most recent developments tend to confirm that cloud computing or cloud technology in accountancy has been transformative in how accountants work on daily basis with their clients and how they communicate the fiscal information to the tax authorities. The aim of the paper was to present some particular aspects of cloud technology in accounting, and how cloud accounting platform could provide an accurate and comprehensive dataset in financial reporting.

The authors Velimir DEDIĆ, Svetlana ANĐELIĆ, Marko RANKOVIĆ, Branislav MITIĆ in their article named *E-education in Academic Environment* examined the major features of e-learning systems used by higher education institutions. Short historical overview provided the necessary perspectives and introduced the subjects of distance learning and e-learning. Major system features were further analysed and concepts of content personalization and system standardization were given as technical constructs. Elements of further possibilities were displayed at the conclusion of the paper.



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The two authors, Festus OSAYANDE and Ugo Chuks OKOLIE that wrote the interesting study called *Person-job fit and employee engagement in Edo State secretariat, Benin city* say that, in the last four decades, person-job fit, person-organization fit, job related attitudes and behaviours have remained topics of considerable interest in the fields of human resource management, organizational behaviour and industrial psychology. Person-job fit, which is the match between the individual's knowledge, skills and abilities and the demands of the job, positively contributes to organizational attitudes and behaviour such as job satisfaction, job performance, employee's commitment, display of organizational citizenship behaviour and employee's engagement. The study therefore seeks to explore the nitty-gritty of person-job fit and its effect on employee engagement in Edo State Secretariat, Benin City using survey research method. Non-probabilistic sampling techniques comprising of purposeful and convenience techniques were used to elicit information via questionnaire from 250 respondents. Data collected were analysed using descriptive statistics, correlation and linear regression analysis with the aid of Statistical Package for Social Science (SPSS) version 17. The results of the study showed that there is significant relationship between person-job fit and employee engagement. As predicted, the study also revealed that person-job fit exerts a positive and statistically significant effect on employee engagement. Thus, the study recommends among others that management should emphasize the suitability between job characteristics and employees ability to perform the job. This will go a long way to help employees recognize the similarity among them and thus exchange positive and supportive attitudes and behaviours.

In the fourth article called *Does Taxation Has Impact on Investment? An Empirical Response from Co-Integration Analysis*, the author Tajudeen Adejare ADEGBITE is telling us that the study examined the effect of taxation on investment in Nigeria from 1970 to 2018. Relevant secondary data were obtained from Central Bank of Nigeria (CBN) Statistical Bulletins and Federal Inland Revenue Services Bulletin from 1970 to 2018. Regression analysis technique, Units root test, Johansen co-integration, Vector Error-Correction Model, and Granger causality tests were employed to determine the long run relationship and causality links among the variables. Results showed that PPT and Value added tax had positive significant impact on INV both in the short run and in the long run, while Company income tax, and Custom and Excise duties impacted INV negatively. It is concluded that all components of taxes had positive significant impact on investment in Nigeria except corporate income tax. Corporate income tax had negative significant impact on investment both in the short run and in the long run.

In the article called *Inventory Control Management and Revenue Generating Capabilities of Oil and Gas Drilling Firms in Nigeria*, the authors, Fineboy Ikechi JOSEPH, Cordelia Onyinyechi OMODERO, Uzochi Chinkata OKEZIE, are talking about the critical role of effective inventory control that has been much emphasized in the oil and gas industry which is subdivided into upstream and downstream sectors with drilling activities falling within the upstream subsector. In light of this development, the study investigates effective inventory control and effective drilling activities of oil and gas drilling firms as well as its relationship with revenue generating capabilities of oil drilling firms in Nigeria. Simple random sampling technique was adopted. Presentation and analyses of primary data collected with questionnaires and testing of the hypotheses were done using percentage and Spearman's Rank correlation coefficient. The results from the tests with the use of SPSS show positive and significant correlation between ineffective inventory management and downtime in the operations of oil and gas drilling with a correlation value of 0.682 with  $p\text{-value} = 0.001 < 0.05$ , which implies that there is 68% relationship between ineffective management and downtime drilling. There is a significant correlation between incessant downtime in operations of oil and gas drilling firms and their income level owing to poorly managed inventory control with a correlation coefficient value of 0.788 with  $p\text{-value} = 0.000 < 0.05$ , which implies that there is 79% relationship between income (profit) level and downtime in drilling operations. Incessant downtime in drilling operations of oil and gas firms as a result of poor inventory control management has significant difference with termination of contract of oil drilling firms with the result of the F-cal value as 344.632 while F tabulated value as 3.901 leading to rejection of hull hypothesis. Based on the findings, it was recommended that oil drilling firms should strengthen their inventory management system for effective and timely work delivery in order to avert downtime, loss of income and termination of contracts. Finally, members of staff of oil and gas drilling firms in inventory units should be trained and retrained on regular basis to embrace technological changes in inventory management to improve their performances which would in turn strengthen the inventory management of such firms.

The next article is written by a master degree student called Ioan Aurelian STĂNESCU and it is about *The Strategy of Promoting and Selling Medicines on the Romanian Market*. The author has been choosing this subject as it is a core part of the pharmaceutical companies' business strategy for promoting medicines. Regarding the importance of the research theme and the business environment, it is crucial that anyone connected to this business should realize the importance of

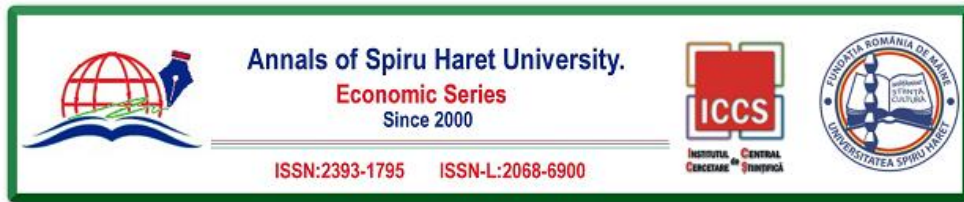
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organization, details, good deployment and impact of each event. In this respect, marketing can be seen as a true system of economic activities related to the programming of products and services that have the role of satisfying the requirements of current and potential consumers considerably, but is also linked to prices, promotion and distribution products or services.

Taking into consideration the importance that marketing has within the pharmaceutical field and the huge budgets that medical and pharmaceutical companies spend for the events organized in this domain, the author considered that a company which is able to have a new approach and a new vision for the organization of events and sharing medical education to doctors and medical information to patients will have a bigger success.

The article called *The Role of Customer Satisfaction in Increasing Sales in the Service Sector* is written by a the master degree author named *Nicat HACIYEV*. The paper's aim is to explain the role of customer satisfaction in service sector, especially in hotel and bank industries and the ways in which customer satisfaction can be measured and increased. Customer satisfaction is the key factor that determines the future sales of the company. This paper provides detailed information on how customer satisfaction affects and can be increased in bank and hotel industries. In order to explain it, the paper contains information about SERVQUAL Method for explaining customer expectations in five measurements such as reliability, responsiveness, assurance, empathy and tangibles; and 5 Gaps regarding hotel industry and Service Profit Chain for bank industry. The study supports that understanding customers, having an individual approach to each of them, keeping good relationships with them and keeping customer satisfaction in high level increase sales.

This issue of the journal ends with an interesting case study called *An Analysis of Innovation and Cultural Diversity in the Challenges and Perspectives of Local Companies' Development: An Example of Azerbaijan* written by Mahammad JABRAYILOV. The article says that the role of innovation is crucial for countries and businesses to gain competitive advantage. The key to success in the competitive process is to have a culture of innovation. The purpose of the study is to identify the link between innovation and cultural diversity in company management, which is one of the most important sources of competitive advantage, and to explore the role they play in company management. In this regards, a comprehensive review of innovation, cultural diversity and organizational culture has been conducted and links were established. The study concludes that innovation and cultural diversity have a major impact on innovation in companies and services. The study seeks to provide a



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comprehensive overview of the role of local innovation companies in the development challenges and perspectives, while providing insights into the concepts of innovation and cultural diversity. Research work can be considered as a good source for experts, researchers, and scientists working in this field.

We hope that our journal issue caught your attention and made you read it. Also, we strongly believe that all the articles are interesting and deserve to be appropriated by those who are interested in understanding the specific issues of the global economy.

If you liked our articles please visit our website at <http://anale-economie.spiruharet.ro/>. If you want to write an article in our journal, we are waiting you to expose your ideas in new studies published by us.

Finally, hoping that you found interesting Issue 4/2019, I strongly invite you to address your comments and suggestions at [ashues@spiruharet.ro](mailto:ashues@spiruharet.ro) and, of course, to submit your own paper via online submission system, using the following link: <http://anale.spiruharet.ro/index.php/economics/login>.

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

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



# **ACADEMIA PAPERS**



## THE INFLUENCE OF CLOUD TECHNOLOGY IN TRANSFORMING ACCOUNTING PRACTICES

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### Abstract

*Cloud has been one of the most important developments in information technology in the past decade, having a significant impact on financial reporting for both businesses and individuals. It is considered to be an indispensable tool for accountants in the near future and will improve the accuracy of financial information and the business strategy.*

*The most recent developments tend to confirm that cloud computing or cloud technology in accountancy has been transformative as to how accountants work on a daily basis with their clients and how they communicate the fiscal information to the tax authorities.*

*The aim of this paper is to present some particular aspects of cloud technology in accounting, and to show how cloud accounting platform could provide an accurate and comprehensive dataset in financial reporting.*

**Keywords:** *cloud technology; business automation; smart economy; accounting.*

**JEL Classification:** D73, H70, H83, M48



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**Introduction**

This paper covers some particular aspects of cloud technology in accounting, characteristics of cloud computing and specific aspects of cloud provider. Cloud computing is one of the most important technologies transforming accounting, finance and tax, because it can provide extensive flexibility and control over the database with low cost and at high information processing speed. It will be difficult to predict the evolution of accounting in the near future, but cloud computing, artificial intelligence (AI), and blockchain are three frequently discussed technologies that are often predicted to have a great impact.

According to the Future of Jobs Report 2018 from World Economic Forum 2018, four specific technological advances: high-speed mobile internet; artificial intelligence; widespread adoption of big data analytics; and cloud technology – are set to dominate the 2018–2022 period as drivers positively affecting business growth. Of these four elements we believe that cloud technology will have a major influence on the company’s management, transforming the accounting practices. Nowadays, many companies are likely or very likely to have expanded their adoption of technologies such as the internet and app- and web-enabled markets, and to make extensive use of cloud computing. At the same time, the power of human-machine collaboration has augmented and virtual reality provides considerable business investment.

**Table 1. The Most Important Trends to Influence Businesses Up to 2022**

<b>Trends set to positively impact business growth up to 2022</b>
Increasing adoption of new technology
Increasing availability of big data
Advances in mobile internet
Advances in artificial intelligence
<b>Advances in cloud technology</b>
Shifts in national economic growth
Expansion of affluence in developing economies
Expansion of education
Advances in new energy supplies and technologies
Expansion of the middle classes

Source: WEF (2018) The Future of Jobs Report,  
[www.weforum.org/reports/the-future-of-jobs-report-2018](http://www.weforum.org/reports/the-future-of-jobs-report-2018)



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We can observe in the table above the trends set to impact business growth positively/negatively up to 2022.

According to World Economic Forum 2018, the advances in cloud technology are one of the most important five factors to influence businesses in the next few years. The European market is open to these new technologies, and advancements in cloud technology are set to drive growth in the Information & Communication Technologies industry, while the availability of big data is expected to have an even broader impact on the Financial Service & Investors and the accounting sector. Financial service industry is particularly interested in adopting cloud technology due to serverless computing and cost efficiency. Cloud computing, artificial intelligence (AI), and robotics are automating complex and repetitive tasks and processes in the accountancy sector, with extreme accuracy. According to researchers at Sage, 58% of accountancy professionals are expecting to automate tasks using AI solutions within the next three years<sup>1</sup>.

#### **Cloud Computing Adoption**

Cloud computing is a very new technology involving on-demand availability of computer system resources related to data storage and computing power, connected to business automation and artificial intelligence<sup>2</sup>. Cloud providers are available to many users over the Internet and deliver several computing services, such as file and database storage, networking, software, and database analytics, reducing the hardware and software maintenance costs. Thus, digital society experiences innovation and new technologies, including automation and algorithms, create new high-quality jobs and vastly improve the quality and productivity of the existing work of human employees. [Ionescu, & Andronie, 2019]

The evolution of cloud computing has gone through many phases such as networking and utility computing, application service provision (ASP), and Software as a Service (SaaS) [Timmermans *et al.*]. Predominant today in the big companies, cloud computing describes data centres and large clouds distributed over multiple locations from central servers. Recently, the standardization of cloud computing using the conventional standards development organizations has become a necessity.

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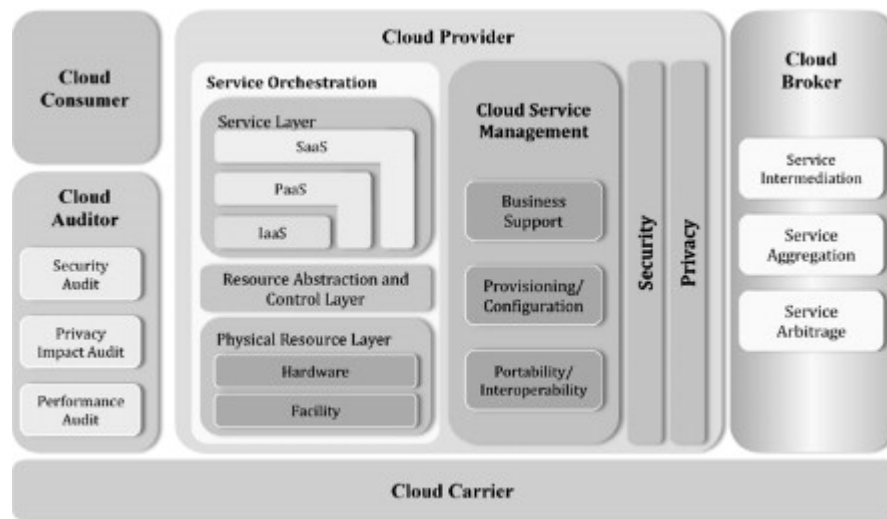
<sup>1</sup> <https://www.accountancyage.com/2019/09/23/how-technology-is-transforming-the-accountancy-sector/>

<sup>2</sup> [https://en.wikipedia.org/wiki/Cloud\\_computing](https://en.wikipedia.org/wiki/Cloud_computing)

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The standards development process needs to be as agile and align with the maturing cloud service product development life cycle to address unique federal government requirements that support high priority government-wide or federal agency projects [Metheny, 2017].

We present in the figure below the conceptual reference model of cloud carrier in the digital era:



**Fig. 1. The Conceptual Model of the Cloud Carrier**

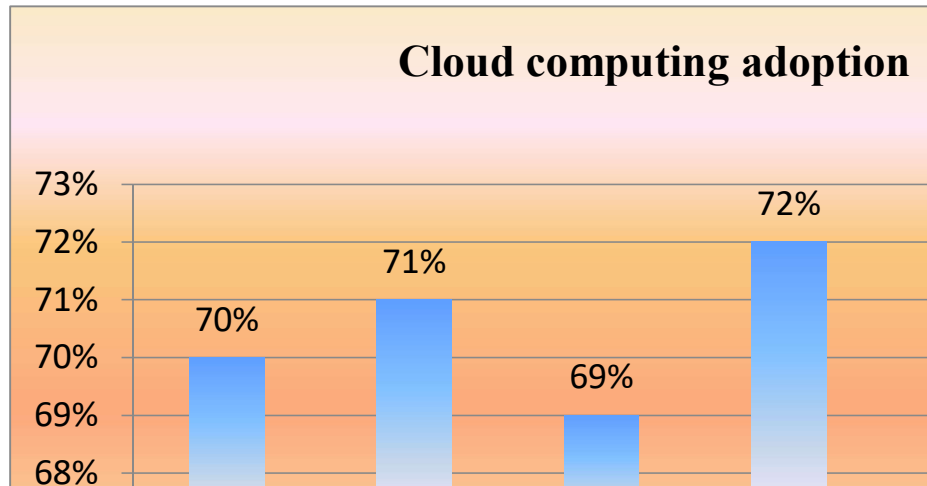
Source: Metheny, M., Federal Cloud Computing, 2017

[www.sciencedirect.com/topics/computer-science/cloud-computing-standard](http://www.sciencedirect.com/topics/computer-science/cloud-computing-standard)

Cloud Provider (CP) has implemented standards that meet the necessary interoperability, portability, and security requirements to maximize the benefits offered by cloud computing. Furthermore, cloud providers enable administrators to manage which applications can be accessed by their users and how employees can use each service; also, cloud providers allow administrators to build custom functionality and integrate their applications with other technologies [Apostu *et al.*, 2013].

Analyzing the indicators in Table 1, we observe that cloud computing, mobile internet, artificial intelligence and automation record a high score as problematic

factors influencing businesses all over the world. The evolution of cloud computing adoption is presented in the figure below:



**Fig. 2. Technology Adoption – Cloud Computing**

Source: [www.weforum.org/reports/the-future-of-jobs-report-2018](http://www.weforum.org/reports/the-future-of-jobs-report-2018)

We observe in the figure above that many countries are investing in cloud technology which has recently become a priority for big companies due to the most important benefits it offers such as: data confidentiality, privacy, integrity. Cloud computing and user and entity big data analytics will be key factors for financial sector and accounting in the near future.

### **Cloud Computing in Accounting**

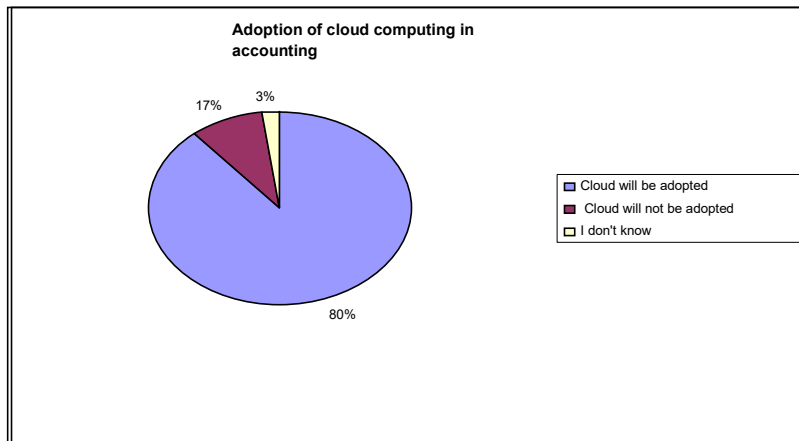
Cloud computing in accounting is starting to be a priority for the main professional organizations and big companies due to flexibility in automatic software integration. In the cloud, software integration is usually something that occurs automatically; this means that cloud users don't need to take additional efforts to customize and integrate their applications as per own preferences [Apostu *et al.*, 2013]. Adoption of cloud computing in accounting provides easy access to financial information and fast database update. Once the users sign in to the cloud, they can

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access the information from anywhere, any place with Internet access, irrespective of time zone and geographic location [Apostu *et al.*, 2013]. It is common knowledge that Gmail, Google Documents, Twitter, Facebook are all cloud applications used in accounting system and preferred by accountants in their daily activity. In this way, artificial intelligence (AI), cloud accounting and data science are dramatically reshaping the accountancy industry, having a huge impact on costs, operational efficiencies and customer experience.

By adoption of cloud computing in accounting, financial data, especially personal data, stored in the cloud should be managed properly. Accountability provides a promising approach to empower users to ensure this is being done [Timmermans *et al.*].

Using the cloud for their computer services needs allows accounting, finance and tax professionals to redirect their attention and efforts from their being concerned about the hardware and data storage for their customers.



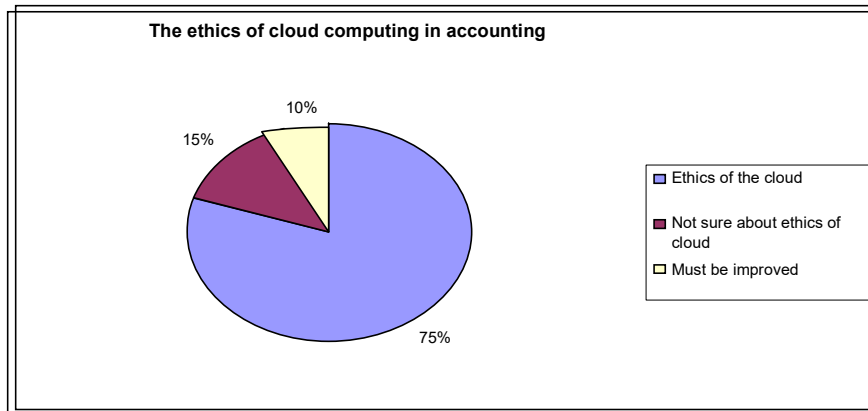
**Fig. 3. Adoption of Cloud Computing in Accounting**

Source: Authors' own work

We developed our research based on a survey in which over 100 accountants, expert accountants and managers from public and private companies from Bucharest and other small cities have participated in. The questions were referring to the

existence of cloud computing in accounting and to the ethics of cloud computing. About 25% of the participants were expert accountants and 75% were managers, all of them being university/college degree holders. Thus, firstly, we asked the respondents if, in their opinion, cloud computing could be a new technology in the financial services. Here are the results: 80% of the respondents said YES (cloud computing will be implemented in the financial and accounting services), 17% of the respondents said NO (cloud computing will not be adopted soon), while the remaining said they did not know. The results were presented in the figure above.

Then, secondly, the respondents were asked whether they believed in the ethics of cloud computing as it is one of the fastest growing segments in the computing industry. Therefore, 75% of the respondents said YES, they believe in data security and the ethics of cloud computing, while 15% of the respondents said NO, and 10% said that cloud computing must be improved. The results are presented in the figure below:



**Fig. 4. The Ethics of Cloud Computing in Accounting**

Source: Authors' own work

In this research we identified many managers and specialists interested in cloud computing in accounting and their intention to adopt cloud technology in financial services. It is generally accepted that cloud technology could provide unlimited



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resource and storage virtualization, simultaneously with efficiency of resource sharing.

#### Conclusion

The development of financial and accounting sector is based on the adoption of new technologies, such as artificial intelligence (AI), cloud technology, blockchain, robotization, etc. These new technologies will have a high impact on the power of human-machine collaboration, business automation and development of the smart economy.

In our opinion, the adoption of cloud technology in accounting system will increase the quality of financial reporting with high cost efficiency and other scalable options available, as user demand. Cloud computing in accounting could ensure unlimited storage of information, data backup and database restore, also creating new applications that allow users online access for better analysis of transactions, business and financial reporting.

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## E-EDUCATION IN ACADEMIC ENVIRONMENT

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### Abstract

*This paper discusses major features of e-learning systems used by higher education institutions. Short historical overview provides the necessary perspectives and introduces the subjects of distance learning and e-learning. Major system features are further analyzed and concepts of content personalization and system standardization are given as technical constructs. Elements of further possibilities are displayed at the conclusion of this paper.*

**Keywords:** *e-learning; educational process; learning objects.*

**JEL Classification:** A2

### Introduction

The main difference between the classical educational process and any method of distance learning is that in classical education, usually the teacher and the student share a close space, and the totality of pedagogical and supportive educational





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activities occur synchronously. Therefore, distance education has two basic problems: overcoming student and teacher physical distances, as well as solving process synchronicity issues.

Academic practice has long known the concept of distance education. Practically from antiquity we witness different models of overcoming the physical distance between students and teachers, as well as finding different models of solving the problem of synchronicity of the educational process. Since 1960, the telecommunication systems in education have been developing rapidly and have been used as an absolute advantage over the communication links of the learning participants so far. Particularly important is the fact that, in 1960, the Open University in the United Kingdom was founded; today it is the largest institution of higher education providing distance education [Dedic *et al.*, 2011]. The term e-education, nowadays established, therefore represents a more detailed definition of the term distance education, in terms of the clear technological basis used.

### **Basic Features of E-Education Systems in an Academic Environment**

The development of information and communication technology (ICT) has enabled the development of global e-learning systems. Such systems meet the requirements of all anticipated participants and actors in the educational process and provide access from anywhere in the world (using the Internet). Advantages are ease of use, unlimited possibility of repeated use of individual teaching aids, as well as the choice of time and dynamics of learning [Dedic, 2012].

A significant number of distance education institutions appear in Balkans countries [Dedic *et al.*, 2011], almost exclusively through the Internet, and this paper can therefore be considered as a significant potential contribution to the development of technology-supported education in our countries.

One of the goals of education is to provide adequate and applicable knowledge useful for each individual, but also for society and the community as a whole. Education is everyone's right and should not neglect and preclude the inclusion of any specific potentially handicapped group or individuals, be it a physical or health restriction or regular work and other obstacles that make it impossible to attend a traditional school in an average case [Phipps & Mersotis, 1999].

Despite all the technical and methodological constraints that information technologies (IT) place before the realization of the teaching process using the Internet, the choice of adequate teaching aids and prepared quality learning materials



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cannot only replace traditional teaching methods but also overcome them in some elements.

IT is increasingly influencing the way in which new generations are educated and brings with it, every day, new, bigger and bigger challenges to the traditional education system. At the same time, the use of IT in education is becoming a source of competitive advantage for the institution itself [Dedic *et al.*, 2011].

There are a number of challenges in the process of the immediate implementation of IT in education. They must be resolved in order to establish a systemic solution that fully implements IT in the educational process. Challenges may be different, more or less influential, but normally we meet the following: legislation, existing innovation habits and attitudes, teachers' prior knowledge, effective management decision-making, resistance to innovation, integration with the existing system, technology constraints, technical preconditions, security internal and external technical support, teacher training, internal and external promotional activities, motivation of all participants in the educational process for full contribution, security. [Dedic *et al.*, 2011; Allen *et al.*, 2002]

Electronic distance learning enables education to be delivered directly from home or from work through the Internet. Also, teaching and non-teaching staff participating in the educational process may perform activities when they are not present at the institution's headquarters. Some automated systems can be used for repetitive processes; they can be automated without, at the same time, requiring the presence or activity of a teacher.

Each distance learning system implemented in a university environment typically integrates the following building blocks:

- content creator module;
- learning management system;
- student testing module;
- systems administration.

Each of these modules is designed according to specific requirements and rules, and the modules communicate with each other according to defined protocols. It is noted that a large number of modules also represent a potential danger, since there is a problem of standardization of contents and associated technologies. The problem of standardizing the design of the mentioned modules and standardizing the ways of interaction between them is defined in two ways: first, as a classical problem of software engineering (application of some standard method of designing an



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information system); and second, as a problem of standardizing communication between the projected system and other similar systems in the environment.

Potential benefits of e-education in the context of higher education are understood from numerous research endeavours [Phipps & Mersotis, 1999; Dedic *et al.*, 2011; Allen *et al.*, 2002] and the very nature of the system as such.

This type of education has many potential advantages over classical education. Generally, the benefits can be viewed from the perspective of an educational institution and a student.

The advantages in terms of educational institutions:

- excursion of the University beyond national borders;
- accept a larger number of students, if allowed by regulations;
- expansion of the population of potential students;
- saving space, cost reductions, investment opportunities;
- reusage of the learning material;
- reducing the cost of execution, a large number of business processes;
- market differentiation from similar educational institutions;
- following the trends of developed countries – establishing high standards and criteria in education that classify the institution as a competitive partner in Europe and the world;
  - ease of use;
  - ease of conducting analyzes of educational success and efficiency;
  - role in connecting people, knowledge and information;
  - establishing and maintaining a unified knowledge base;
  - facilitating the advancement of a centralized knowledge base;
  - past records, data mining and analytics;
  - simplified evaluation processes of all elements of the system;
  - establishing better communication with students;
  - connecting and increased collaboration between all factors of the educational process;
    - saving and better organization of teaching staff time due to the opportunities that the principle of asynchronous communication brings with it;
    - more objective assessment and continuous insight into degree of progression and activity of students.

The advantages from the perspective of a student:



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- reduction of costs due to costs related to the stay in the place of study;
- the ability to choose schools outside the physical boundaries of the home country;
- possibility of working during the study regardless of the venue of the study;
- overcoming the impossibility of attending the traditional teaching because of some form of permanent or temporary physical problems, impairments or illnesses;
- independence from the teaching schedule and the ability to self-organize learning time (high motivation, time planning and ability to analyze and synthesize the learning content), etc.;
- easier scheduling of commitments and activities;
- insight into progress and activities throughout the learning process.

The actual exploitation of these benefits depends on the concrete realization of the e-education system as well as on the quality of interaction between the system and the educational institution.

#### **The Problem of Standardization and Personalization of Content**

A significant breakthrough in standardizing the design of building modules of distance learning systems, as well as standardizing ways of creating instructional content, testing and communication between modules, are the internationally accepted SCORM standard and the defined properties of teaching instruction through the learning object paradigm.

A *learning object* is a realization of an object-oriented teaching instruction paradigm. A learning object is a package of instructional instructions defined by its content, methods that can be applied to the object, and interfaces to the external environment. The learning object is different from the generic information object in its meaning in the context of learning.

In reality, during the implementation of a particular distance learning program, we face a twofold limitation:

- first, there is an infrastructure constraint that emerges from the quality of the telecommunications network in the environment of the distance learning system. This limitation is of a technical and technological nature and is only surpassed by significant financial investment in infrastructure. In other words, the infrastructural constraint is an exogenous influence on the distance learning process;
- second, educational content has its own hierarchy of complexity, which, again, stems from the educational goals set. The degree of complexity of educational



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content does exert an endogenous influence on the distance learning process, but it is not separable from the infrastructure constraint, which will inevitably eliminate some educational content from the process due to technological incompatibility. In this sense, one can also talk about limiting educational content [Dedic *et al.*, 2011].

The overall effect of these limitations is always embedded in a specific distance learning system and the system itself, therefore, is inseparable from its technological environment and the educational content on offer.

One of the well-known ideas of overcoming system-generated problems is known as the model of personalizing distance learning [Kuleto *et al.*, 2011]. Not without small pretensions, it can be said that the idea is in the wake of the ancient pedagogical doctrine of mastery learning, later transformed into the concept of mentoring, and the well-known ideal of fruitful interaction of a highly motivated student and the best possible teacher.

In the literature [Dedic *et al.*, 2011] we find that a student's personal characteristics that determine his / her learning preferences are defined as "learning styles". Numerous studies have righted the proponents of learning style theories, but not many studies have called into question such findings. In particular, voices of dissent and even resistance are heard from the community of neuroscientists and cognitive psychologists, who reject the idea of learning styles. The ambition of much contemporary research is to seek to define and theoretically shape a new set of student traits that can speak about his or her preferences in the field of learning, accepting the scientific knowledge in this area. Such a system that uses a set of student traits, with its ability to accurately measure traits for any particular student individual, also defines ways of preparing and presenting educational material. Such a system is called an adaptable personalized model of the distance learning system.

Checking the plausibility of similar models is often realized by checking the connection between personal traits found and preferences and how to prepare and present learning materials. This test is done in two ways: by checking the attitudes and grades of students towards an adapted personalized model, and by checking the objective achievement of students when actual teaching is performed on an adapted personalized model, and the results of which are tested by achievement tests.

## Conclusions

Numerous specific e-learning system solutions are certainly desirable, from the perspective of increasing competition in the market for such solutions, and also from



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the perspective of the possibility of choosing an adequate solution in a particular institution. However, the problem of standardization, both content and the system itself, with the new problem of interoperability of multiple systems and integration into the information system of an educational institution, increase the already clearly emphasized importance of standardization at the institution level.

Content personalization, now very popular, has failed to answer some essential questions, first and foremost the question of the meaning of finding a set of relatively immutable student-individual traits, commonly known as learning styles. These questions remain open.

Efforts to design e-learning systems should also address some issues of broader societal importance, of which we highlight the cost-effectiveness of distance learning systems as a current issue of accreditation, especially of such innovative solutions.

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## PERSON-JOB FIT AND EMPLOYEE ENGAGEMENT IN EDO STATE SECRETARIAT, BENIN CITY

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### Abstract

*In the last four decades, person-job fit, person-organization fit, job related attitudes and behaviours have remained topics of considerable interest in the fields of human resource management, organizational behaviour and industrial psychology. Person-job fit, which is the match between the individual's knowledge, skills and abilities and the demands of the job, positively contributes to organizational attitudes and behaviour such as job satisfaction, job performance, employee's commitment, display of organizational citizenship behaviour and employee's engagement. This study therefore seeks to explore the nitty-gritty of person-job fit and its effect on employee engagement in Edo State Secretariat, Benin City using survey research method. Non-probabilistic sampling techniques comprising of purposeful and convenience techniques were used to elicit information via questionnaire from 250 respondents. Data collected were analyzed using descriptive statistics, correlation and linear regression analysis with the aid of Statistical Package for Social Science (SPSS) version 17. The results of the study showed that there is significant relationship between person-job fit and employee engagement. As predicted, the study also revealed that person-job fit exerts a positive and statistically significant effect on employee engagement. Thus, the study recommends among others that management should emphasize the suitability between job characteristics and employees ability to perform the*





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*job. This will go a long way to help employees recognize the similarity among them and thus exchange positive and supportive attitudes and behaviours.*

**Keywords:** *person-job fit; employee engagement; intention to stay; attitudes; behaviours.*

**JEL Classification:** M1, M2, M54

### Introduction

In the last four decades, person-job fit, person-organization fit, job related attitudes and behaviours have remained topics of considerable interest in the fields of human resource management, organizational behaviour and industrial psychology. Human resource management plays vital role in developing employees' knowledge, skills, abilities and aptitude to argument their work and organizational performance. The effective functioning of any organization is consisting on the eminence and competence of the employees which are required by the organization to fill its future human resource needs [Hassan *et al.*, 2012]. It is important to note that both practitioners and academicians believe that human capital is the most valuable asset to an organization, the retention of high skilled talent has always been one of the major challenges [Boswell *et al.*, 2008]. It has been noted that high voluntary turnover hinders the strategies objectives of organizations and becomes a severe threat to their competitive advantage [Memon *et al.*, 2015]. Undeniably, the lost of high skilled or talented employees not only creates financial constraints [Jutidi *et al.*, 2013], it also affects the productivity of the organization and low employees' morale [Johnson, 1995]. Despite the severe consequences of voluntary turnover, organizations around the world are constantly facing a high rate of voluntary turnover.

According to Bitzer (2006), the cost incurred in each voluntary movement is equivalent to approximately 25% to 33% of the annual salary of each of the employees who quit. Parsa, Tesone and Templeton (2009) affirm that the flaws in the selection process of the organizations could be one of the major reasons for such high rate of voluntary turnover. In a nutshell, it may be possible that selected individuals do not fit in with the organization's environment, and finally, decide to leave that organization for a better fit. Empirical evidence indicates that the existence of fit produces more favourable attitudes – experience, greater well-being and better performance [Kristof-Brown *et al.*, 2005; Jansen & Kristof-Brown, 2006; Manson &



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Carr, 2011; Memon *et al.*, 2015]. The literature often indicated two different forms of fit, such as person-job fit and person-organization fit. Person-job fit is defined as compatibility that exists between an individual personal attributes and the job characteristics. Person-job fit has been found to influence various work outcomes such as job satisfaction, job commitment and turnover intention. For instance, person-job fit was found to be positively related to an employee job involvement, job satisfaction, organizational identification and intention to stay [O'Reilly *et al.*, 1991], work stress [Iplik *et al.*, 2011], turnover intention [Boon *et al.*, 2011], organizational and citizenship behaviour and job performance [Cable & De-Rue, 2002]. A study by Hamid and Yahya (2016) revealed a strong correlation between person-job fit and work engagement.

Unfortunately, only a handful of research in this area has been conducted in Nigeria. This study was undertaken to fill this obvious research gap and we hope to contribute to a better understanding of the effect of person job fit on employee engagement, specifically in the Nigerian context. The main aim of this study is to explore the nitty-gritty of person-job fit and its effect on employee engagement in Edo state secretariat, Benin City using survey research method.

## Literature Review

### *Employee Engagement*

Engagement is a concept that is hard to define. However, it is easy to realize that concepts of love, trust and justice are crucial for people. In organizations, engagement has become a buzzword [Ridnman, 2006]. The term 'employee engagement' has been conceptualized in a number of ways. It is used as a competitive advantage strategy by human resources of consulting firm [Macey & Schneider, 2008]. Kahn (1990: 694) defined employee engagement as "the harnessing of organization member's selves to their work roles; people employ and express themselves physically, cognitively and emotionally". Also, it has been defined as "a positive, fulfilling work related state of mind that is characterized by vigour, dedication and absorption" [Schaufeli *et al.*, 2002]. *Vigour* is characterized by high energy levels, resilience, a desire to strive, and not to give up in the face of challenges. *Dedication* on the other hand is characterized by feeling of worth, enthusiastic, inspiring, valuable and challenging. While *Absorption* is characterized by intense concentration, interest and engrossed in the work [Sulistiowati *et al.*, 2018]. Richman (2006) views employee engagement as an emotional and intellectual commitment to the organization. According to Saks (2006:602), employee engagement is "a unique construct composed of cognitive,



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emotional and behavioural concepts which are related to individual role performance”. On the whole, one common agreement in these definitions was the work role of the employee. Therefore, employee engagement in the context of this study can be seen as a multidimensional form of cognitive, emotional and physical interconnected aspects of employees.

Since engagement refers to meaningfulness, safety and availability, it can be expected that a high level of engagement generates positive outcomes such as organizational success and high financial performance [Richman, 2006]. Engaged employees are inclined to increase their job resources (e.g., actively asking for feedback from their supervisor and colleagues) and job demands (e.g., taking the initiative to start a new project) to create a more challenging work environment [Tims *et al.*, 2013]. Bakker and Demerouti (2008) posited that employees with high work engagement will find their work interesting, meaningful and energizing and will experience positive affection, including happiness, joy and enthusiasm. In their study, Schaufeli and Bakkers (2004) found that employees with a high level of engagement are less likely to be involved in turnover behaviour compared to those with low engagement. In addition, an engaged employee will feel loyal and care about the organization’s future. This supports the assertion of Azoury, Daou and Sleiaty (2013) who posit that employees who are engaged are builders and loyal to the organization.

### *Person-Job Fit*

According to Kristof-Brown *et al.* (2005:284), person-job fit or P-J fit is defined as the “relationship between a person’s characteristics and those of the job or tasks that are performed at work”. Person-job fit can be interpreted as the fit of the individual’s ability with the demand of a job [Edwards, 1991]. This supports the assertion of Leng (2016) who posits that person-job fit is the match between the individual’s knowledge, skills and abilities (KSAs) and the demands of the job. Also, Sulistiowati *et al.* (2018) view person-job fit as the fit between the knowledge, expertise and skills of the employee with a particular job or task. With the fit, it is expected that employees can perform their job without significant constraints. Cable and De-Rue (2002) explained that there are two dimensional approaches to person-job fit, namely Demand-Abilities (D-A) Fit and Need-Supply (N-S) Fit. D-A fit refers to aspects such as the matching between employees’ knowledge, skills and abilities (KSAs) with requirements of their jobs. It is the extent to which individual knowledge, skills and abilities meet the demand for work. In the D-A fit approach, it



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requires knowledge, skills, expertise and other personality's traits to see how well the individual is able to accomplish the task of his/her job [Sulistiowati *et al.*, 2018]. While N-S fit refers to the extent to which employees needs, aspirations and preferences are fulfilled by the jobs they perform and by the rewards associated with that jobs [Cable & De-Rue, 2002]. A good fit exists when an individual has the right knowledge, skills and abilities to perform his/her job or the job can fulfil the individual's need [Edwards, 1991].

### **Theoretical Framework**

While there are several theories which might prove appropriate for a discourse of this nature, the personality-job fit theory and the theory of work adjustment present us with a heuristic tool for interrogating the central issues of the study. The effort to match job requirements with personality characteristics is best articulated in Holland's (1997) personality-job fit theory. The theory identifies six personality types and proposes that the fit between personality type and occupational environment determines satisfaction and turnover. That is, satisfaction and the propensity to leave an organization depend on the degree to which individuals successfully match their personalities to a job as shown in the model below.

The theory argues that satisfaction is highest and turnover is lowest when personality and occupation is in agreement. Social individuals should be in social jobs, conventional people in conventional jobs, and so forth. A realistic person in a realistic job is in a more congruent situation than a realistic person in an investigative job. A realistic person in a social job is in the most incongruent situation. The key points of this model are that (1) there appear to be intrinsic differences in personality among individuals, (2) there are different types of jobs, and (3) people in jobs congruent with their personality should be more satisfied and less likely to voluntarily resign than people in incongruent jobs. The theory of work adjustment development by Dawis, England and Lofquist (1968), on the other hand, explained that the closer the correspondence of an individual's knowledge, skills and abilities (KSAs) with the requirements of the job role or organization, the higher the likelihood that the individual will be engage and perform the job better. For instance, in a marketing profession, employees are required to listen to unruly customers (e.g., Agreeableness), and making sales calls (e.g., extraversion). Hence, it is expected that employees who are able to relate to the tasks positively are more likely to be more comfortable performing the tasks and to remain in their job. As noted before,

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engaged employees are in positive, fulfilling affective-motivational states. To achieve consistency between the experienced positive affect and their feelings of person job fit, engaged workers might be motivated to change the components of the workplace environment [Yu, 2009]. According to Scroggins (2008), in the self-concept-job fit, employees are more likely to adjust themselves to fit with their job requirements. Maslach and Leiter (2008), drawing from the personality-job fit theory, stressed that the greater the perceived congruity, the greater the likelihood of engagement with work. In the final analysis, the relevance of the personality-job fit theory and the theory of work adjustment is based on their ability to justify how person-job fit influence employee engagement and intention to stay or leave an organization.

Holland's Typology of Personality and Congruent Occupations		
Type	Personality Characteristics	Congruent Occupations
<b>Realistic:</b> prefers physical activities that require skill, strength and coordination	Shy, genuine, persistent, stable, conforming and practical	Mechanic, drill press operator, assembly-line worker and farmer
<b>Investigative:</b> prefers activities that involve thinking, organizing and understanding	Analytical, original, curious and independent	Biologist, economist, mathematician and news reporter
<b>Social:</b> prefers activities that involve helping and developing others	Sociable, friendly, cooperative and understanding	Social worker, teacher, counsellor and clinical psychologist
<b>Conventional:</b> prefers rule regulated, orderly and unambiguous activities	Conforming, efficient, practical, unimaginative and inflexible	Accountant, corporate manager, bank teller, file clerk etc.
<b>Enterprising:</b> prefers verbal activities in which there are opportunities to influence other and attain power.	Self-confident, ambitious, energetic and domineering	Lawyer, real estate agent, public relations specialist and small business manager
<b>Artistic:</b> prefers ambiguous and unsystematic activities that allow creative expression	Imaginative, disorderly, idealistic, emotional and impractical	Painter, musician, writer and interior decorator.

Source: Adopt from John Holland's personality-job fit theory, 1997



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### *Person-Job Fit and Employee Engagement*

An employee's psychological condition plays an important role in employee engagement with his job [May *et al.*, 2004]. One of the psychological conditions is the person-job fit [Juhdi *et al.*, 2013]. Employees who are better fitted in their organizations are engaged, committed and want to remain part of the organization but will prefer changing their job positions if they are not fitted with their jobs [Saks & Ashforth, 1997]. Warr and Inceoglu (2012) stressed that a poor level of person-job fit is expected to be linked with low engagement. Hollenbeck (1989) conducted an empirical study and concluded that poor person-job fit will result in job turnover. This supports the assertion of Wilk and Sackett (1996) who posited that individuals who experience a mis-fit between their own abilities and complexities of the job will have an intention to leave their job for another job in which they perceive better fit. Increased productivity, job satisfaction, job commitment, job engagement and reduced turnover intention becomes apparent as the congruence between an individual and a job increases [Iplik *et al.*, 2011]. Individuals who are fit with their job will feel confident with the work they do, more confidently with their roles in the job and tend to be engaged with their job [Saks & Gruman, 2011; Memon *et al.*, 2015]. In their study, Hamid and Yahya (2016) found that there is a strong and significant relationship between person-job fit and work engagement. Also, Sulistiowati *et al.* (2018) study in higher education institutions in Indonesia revealed that person-job fit has a positive and significant relationship with employee engagement. In addition, the study conducted by Manson and Carr (2011) classified person-job fit into three categories, namely, demands-abilities fit, supplies-value fit and perceived fit. The three categories of the person-job fit are tested for their influence on three main job related outcomes, namely, job satisfaction, work engagement and life satisfaction. Overall, they found that person-job fit exerts a positive effect on the three job related outcomes. Specifically, the study conducted by Sulistiowati *et al.* (2018) revealed that person-job fit exerts a positive and statistically significant effect on employee engagement.

In line with the literature review, the following objectives and hypotheses were formulated for the study:

- i. To examine the relationship between person-job fit and employee engagement in Edo state secretariat, Benin City.
- ii. To assess the effect of person-job fit on employee engagement in Edo state secretariat, Benin City.





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*Hypotheses of the Study:*

H<sub>1</sub>: There is no significant relationship between person-job fit and employee engagement in Edo state secretariat, Benin City.

H<sub>2</sub>: Person-job fit does not have a significant effect on employee engagement in Edo state secretariat, Benin City.

**Methodology**

The study adopted a survey research design to determine the effect of person-job fit on employee engagement in Edo state secretariat, Benin City. Data was collected via a survey of 250 respondents using non-probabilistic sampling techniques comprising of purposeful and convenience techniques. The research instrument used for this study was the structured questionnaire. This was a modified form of the research instrument used by Schaufeli, Bakker and Salonova (2006); Cable and De-Rue (2002) and Lauver and Kristof-Brown (2001). This was necessary to better address the new respondents in a different environment. Out of the 250 copies of questionnaire administered, 217 were retrieved and analyzed giving us a response rate of 86.8%. Out of the 217 respondents, 98 were female staff and 119 were male staff. The items of measurement were rated on 5-point like type of scale which ranks responses on a scale of (1) strongly disagreed to (5) strongly agreed. Data collected were tested and analyzed using descriptive, correlation and linear regression analysis. A pilot study to determine the level of reliability was carried out on 50 staff that was part of the study within three weeks. Cronbach Alpha method was used to establish the internal consistency of the instrument as shown in the table below.

**Table 1. Reliability Test**

Scale	No of items	Cronbach's Alpha
Person-job fit	7	0.921
Employee engagement	9	0.877

The results yield a coefficient of 0.921 and 0.877, which satisfied the general recommended level of 0.70 for the research indicators [Cronbach, 1951]. Also, the questionnaire was validated by experts in management sciences. Hence, researchers' satisfied both reliability and validity of the scale.

*Data Analysis and Results*

**Table 2. Descriptive Statistics and Correlation Matrix**

Variables	Mean	Standard Deviation	1
1. Person-job fit	3.491	0.635	
2. Employee engagement	3.075	0.687	0.896

\*\* Correlation is significant at 0.01 levels (2-tailed)

Table 2 shows the mean values, standard deviations and correlation coefficient between both the dependent and independent variables. There exists a significant positive high correlation between person-job fit and employee engagement ( $r = 0.896$ ,  $n = 217$ ,  $p < 0.01$ ). This implies that person-job fit has a strong and positive relationship with employee engagement. Therefore, the null hypothesis is rejected.

*Linear Regression Analysis*

**Table 3. Model Summary b**

Model	R	R <sup>2</sup>	Adj-R <sup>2</sup>	Std. Error of the Estimate
1	0.668	0.631	0.574	0.235

- a. Predictors: (constant), person-job fit
- b. Dependent variable: Employee engagement

**Table 4. ANOVA**

Model	Sum Square	Df	Mean	F.	Sig.	Remark
Regression	16.548	3	4.182	32.185	0.003	Sig
Residual	10.291	211	0.263			
Total	26.839	214				

- a. Dependent variable: Employee engagement
- b. Predictors: (constant), Person-job fit

The linear regression shows (R<sup>2</sup>) value of 0.631 which reveals that person-job fit independently accounts for 63.1% of the variation in employee engagement in Edo





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state secretariat, Benin City. The F. Statistics of 32.185 revealed that the model is statistically significant at 0.05 significant levels. Therefore, the null hypothesis is rejected.

### Discussion

The results among others showed that person-job fit has strong and positive correlation with employee engagement. This finding is in agreement with previous studies. Hollenbeck (1989); Manson and Carr (2011); Hamid and Yahya (2016); Sulistiowati *et al.* (2018) found that person-job fit has a positive relationship with employee engagement. The finding also support the views of Memon *et al.* (2015) that individuals who are fit with their job will feel confident with the work they do, more confidently with their roles in the job and tend to be engaged with their job. Also, based on the results of regression analysis, person-job fit has significantly explained 63.1% of variation in employee engagement in Edo state secretariat, Benin City. Therefore, the study has shown that person-job fit exerts a positive and statistically significant effect on employee engagement. This finding corroborates Memon *et al.* (2015), Unal and Turgut (2015); Hamid and Yahya (2016); Sulistiowati *et al.* (2018) who reported that person-job fit exerts a positive effect on employee engagement. The finding is also in agreement with the views of Maslach and Leiter (2008) that the greater the perceived congruity, the greater the likelihood of engagement with work.

### Conclusion and Recommendations

The study has revealed through its perceived findings that person-job fit has a positive effect on employee engagement. Therefore, person-job fit plays an important role for employees to be engaged and engagement has a negative association with turnover intention. Also, the relationship between person-job fit and employee engagement was confirmed. Thus, the greater the perceive congruity, the greater the likelihood of employee engagement in an organization. Based on the research findings, the study recommends as follows:

- i. Management should emphasize the suitability between job characteristics and employees ability to perform the job. This will go a long way to help employees recognize the similarity among them and thus exchange positive and supportive attitudes and behaviours.



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ii. Management should provide employees more job autonomy and create a more relaxed work environment. This could help employees tailor their jobs to fit their motives, strengths and passions.

iii. The study also suggested that further empirical work should be conducted on a larger sample using employees in private hospital in Edo state.

iv. Further studies should be conducted to test other behavioural constructs, especially organizational citizenship behaviour, as a mediator between person-job fit and turnover intention.

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## DOES TAXATION HAS IMPACT ON INVESTMENT? AN EMPIRICAL RESPONSE FROM CO-INTEGRATION ANALYSIS

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### Abstract

*This study examined the effect of taxation on investment in Nigeria from 1970 to 2018. Relevant secondary data were obtained from Central Bank of Nigeria (CBN) Statistical Bulletins and Federal Inland Revenue Services Bulletin from 1970 to 2018. Regression analysis technique, Units root test, Johansen co-integration, Vector Error-Correction Model, and Granger causality tests were employed to determine the long run relationship and causality links among the variables. Results showed that PPT and Value added tax had positive significant impact on INV both in the short run and in the long run while Company income tax, and Custom and Excise duties impacted INV negatively. It is concluded that all components of taxes had positive significant impact on investment in Nigeria except corporate income tax. Corporate income tax had negative significant impact on investment both in the short run and in the long run.*

**Keywords:** *taxation; investment; co-integration analysis; corporate income tax.*

**JEL Classification:** H20





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### ***Introduction***

Taxation is an instrument of fiscal policy adopted by government in transforming various aspects of economic growth and investment in the country. It is also referred to as a way by which government forcefully shares a fractional part of income of individual and private organization with the disposition of fulfilling fiscal responsibilities. Investment decisions of individual and organization depend on the available funds which are initiated through savings and access to funds. It does not depend on effective average tax rates, but does depend on effective marginal tax rate when the firms are financially constrained. Low income tax people have more disposable income that can be used for saving and investment. Buttner, Overesch, Schreiber and Wamser (2006) opined that active tax rates are important for both policy makers and business managers to access the investment tax burden. Heavy taxes can reduce the intention to invest, especially if the tax is heavily on savings and profits. All the discrimination features of the companies income tax stems from the fact that company's net income is the base. The tax falls more heavily on activities with low ratios of debt and it is a deductible expense. However, the Nigerian companies' income tax attempts to attract investment in certain preferred sectors by giving tax incentive to firms engaged in such activities. Contrary to this, tax policy affects economic growth by discouraging new investment and entrepreneurial incentives or by distorting investment decisions [Chigb *et al.*, 2012]. The economic benefits of any investment to organization and individual are diminishing by tax rate. Tax policy distorts the investment from high tax sector to the low tax sector with low efficiency by affecting the marginal productivity of the capital [Harberger, 1962]. Arising from this perspective, this study examined the effect of taxation on investment in Nigeria from 1970 to 2018. Based on the objective of the study, the following hypotheses stated were tested:

Ho<sub>1</sub>: Taxation has no significant effect on investment in Nigeria.

Ho<sub>2</sub>: Taxation has no long run relationship with investment in Nigeria.

Ho<sub>3</sub>: There is no causality between taxation and investment in Nigeria.

### ***Literature Review and Theoretical Framework***

#### **Tax Reform and Investment**

Taxation is referred to as a system in which income of individuals and private organizations are levied by government in which a fractional part of the income is paid into the government purse so that the political promises of the government will



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be fulfilled in terms of fiscal responsibilities. Taxation can strongly impact on investment by first impacting on the investment climate. A country's tax system has a strong effect on other macroeconomic indicators, hence has a systematic, predictable and regular relationship with economic growth and development. Measures to spur investment through tax reduction command wide-spread support. Investment incentives of taxation can be roughly divided into three categories – reduction in the effective price of new capital goods through the investment tax credit or accelerated depreciation, reduction in the corporate tax rate and reductions on the returns on investment at the personal level [Chigbu *et al.*, 2012].

Multiple taxation increases the cost of production, reduces the international competitiveness of locally produced goods and hinders inter-state commerce [Chartered Institute of Taxation of Nigeria, 2002], high corporate income tax reduces the cash flow of business enterprises, hence stiffens their investment capacity. To this extent, tax reforms that reduce the tax rate and eschew multiplicity of taxation will not only improve the investment climate, but leverage investment capacity by beefing internal fund for business enterprises. Thus, tax reforms are designed to serve three functions. They are: amendatory function, the innovative function and the revenue function. While the amendatory role attempts to correct weakness in the tax system, the innovative function attempts to introduce something new in the tax regime and the revenue role attempts to beef up public tax generated revenue by broadening the tax base and preventing tax evasion and avoidance [Nwokoye & Rolle, 2015].

According to Tosun and Abizadeh (2005), there are five possible mechanisms by which taxes can affect economic growth. First, taxes can inhibit investment rate through such taxes as corporate and personal income, capital gains taxes. Second, taxes can slow down growth in labour supply by distorting labour-leisure choice in favour of leisure. Third, tax policy can affect productivity growth through its discouraging effect on research and development expenditures. Fourth, in a Harbenger framework, taxes can lead to a flow of resources to other sectors that may have lower productivity. Finally, high taxes on labour supply can distort the efficient use of human capital high tax burdens.

### **Underpinning Theory**

#### *Theories of Investment*

Panoply of both theoretical and empirical studies mainly focused on the determinants of fixed business investment. There is a general consensus that business





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environment significantly impact on investment decisions. The tax regime of any country has been established as one of the determinants of its business climate. A key area of controversy is whether depreciation allowance and tax credit influences investment in physical assets. Several investment models have been formulated to examine the determinants of investment decisions. Three of these models will be examined. They are the accelerator model, the neoclassical model and the cash flow model. The accelerator model assumes fixed capital-output ratio, proposing that the relationship between capital and output is technologically fixed. The model expresses change in capital stock as a multiplier function of change in output. Thus, the determinant of investment is change in output [Jhingan, 1976; Iyoha, 2003]. Adopting this model implies that tax benefits such as depreciation allowance and tax credits cannot influence investment decisions, since investment is solely determined by output. If the tax rate is increased, the purchase power of the individual and organization reduces, which will invariably reduce the level of saving and this will affect the level of investment.

### *Review of Empirical Studies on the Relationship between Taxation and Investment in Nigeria*

Muhammed and Jumbo (2012) empirically examined the impact of Pakistan taxes on investment and economic growth. The study utilizes the Ordinary Least Square method for estimating the growth model, while the Johansen's co-integration test was utilized in estimating the investment model. Results reveal that taxes do not directly impact on economic growth, but it does indirectly influence investment. Thus, higher income taxes impeded growth and result in dis-investment due to the savings channel. Newman (1998) examines the impact of tax reform on revenue productivity in Ghana. The study concluded that tax reforms impacts on productivity positively and significantly. However, this study was carried out in Pakistan not in Nigeria, therefore the results cannot be generalized and extended to Nigeria.

Adegbite and Usman (2017) study examined the effect of taxation on investment in Nigeria. It also looked at the direction of causality among Petroleum profit tax (PPT), Value added tax (VAT), Company income tax (CIT), Custom and excise duties (EXCISE), and Investment (INV) employing the method of Johansen co-integration and the Granger causality tests using data spanning the period 1981-2013. Results showed that petroleum profit tax has positive significant impact on investment both in the short run and in the long run with ( $\beta = 0.1472065$ ;  $t = 2.89$ ;

$P > |t| = 0.000$ ) and ( $\beta = 0.1269068$ ;  $z = -5.99$ ,  $P > |z| = 0.000$ ) respectively. Also, PPT granger-cause INV. Value added tax and Company income tax have positive impact on INV in the short run ( $\beta = 0.2060944$ ;  $0.0675709$   $t = 3.71$ ;  $2.59$ ,  $P > |t| = 0.000$  respectively) but negative impact in the long run ( $\beta = -.1130489$ ;  $-0.0915747$   $t = -4.62$ ;  $-11.93$ ,  $P > |t| = 0.000$  respectively). Custom and Excise duties impacted INV negatively both in the short run and in the long run. ( $\beta = -0.1930202$ ;  $t = -1.20$ ,  $P > |t| = 0.000$ ) and ( $\beta = -.5798377$ ;  $z = -8.70$ ;  $P > |z| = 0.000$ ) respectively. It is recommended that, once company income tax impacted investment negatively in the long run, Government should reduce the rate of company income tax in order to enhance the level of investment both local and foreign direct investment which will invariably reduce poverty and unemployment rate in Nigeria. However, this study was limited to 2013, many policies have been formulated after this scope, and therefore the results cannot be generalized.

Edame and Okoi (2014) examined the impact of taxation on investment and economic growth in Nigeria from 1980 to 2010. The ordinary least square method of multiple regression analysis was used to analyze the data. The annual data were sourced from the Central Bank of Nigeria statistical bulletin and NBS. The result of the analysis showed in conformity to our prior expectation because the parameter estimates of corporate income tax (CIT) and personal income tax (PIT) appears with negative signs, this means that an inverse relationship exists between taxation and investment. The economic implication of the result is that a one percent (1%) increase in CIT will result in decrease in the level of investment in Nigeria. Consequently, an increase in PIT will result in decrease in the level of investment. Finally, the result therefore showed that taxation is negatively related to the level of investment and the output of goods and services (GDP) and is positively related to government expenditure in Nigeria. It was observed that taxation statistically is significant factor influencing investment, GDP and government expenditure in Nigeria. Based on the result, the study recommended that the government of Nigeria should use taxation to achieve its set target that will enhance economic growth and development. However, this study was restricted to 2010, but not prolonged to 2018.

Mihai and Dan (2011) examined the impact of tax on economic growth for the Romanian economy. Using the method of Vector Auto regression (VAR), and examining the statistical properties of the variables based on Kwiatkowski–Phillip Schemidt Shin and Phillip–Peron tests, the researchers admonish that tax policy in Romania cannot be taken to extremes, and thus suggested that caution be taken in the implementation because a large amount of factors that could not be accounted for



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may have influenced the results. Nevertheless, this study was only covered and restricted to taxation on economic growth in the Romanian economy not in Nigeria.

Nwokoye and Rolle (2015) examined the investment implication of the series of tax reforms in Nigeria, particularly the tax reforms of 2003 and National tax policy of 2012. Annual time series data spanning the years 1981-2012 were utilized. Preliminary diagnostic test was conducted to examine whether the estimated model satisfies the OLS assumptions. The basic assumptions of the OLS were satisfied. The result of the estimated OLS model shows that tax reform as proxied by VAT and CIT, both positively and significantly stimulate investment in Nigeria. The study recommends that efforts should be made towards intensifying the tax reforms. Further, policies should be directed towards redressing multiple taxation and high company income tax as both have the tendency to adversely affect investment. However, the study employed OLS model to examine the effect of tax reforms on investment, other econometric tests were ignored, and the years of study did not extended to 2018.

Rodrigo (2004) empirically examined the relationship between tax reforms and private investment using Chile data. He employed data for the years ranging 1975-2005. The study confirmed the findings and found that tax reforms stimulate investment by freeing up investible resources. Similarly, the results were limited to Chile not Nigeria. In addition, the scope was confined to 2005 not strengthen to 2018

Mika, Andrew and Shiv (2012) examined the impact of the tax system on small and medium scale enterprises (SMEs) in Shinyanga Municipality, Tanzania. The study utilized the primary data approach, which was analyzed using descriptive statistics using frequencies and percentages. The results showed that majority of the respondents' position that the prevailing tax system is detrimental to the robust performance of small and medium scale enterprises (SMEs). Thus, the study suggested the reforming of the tax policies. However, this study only examined the effect of tax system on the performance of small and medium scale enterprises (SMEs) in Tanzania but Nigeria was not covered in the scope of the study.

From the review of previous works, the gaps identified are scope, methodology and conceptual gap. This is because the majority of the studies seen and reviewed are conducted in Nigeria with different scope, methodology and concepts, and the findings may not be generalized in wider perspectives. Thus, this study is exclusive and is expected to contribute to knowledge by employing unique econometric tests to investigate the impact of taxation on investment in Nigeria.

### Methodology

Secondary data were used in this study. The relevant data for the study were obtained from Central Bank of Nigeria (CBN) Statistical Bulletins and Federal Inland Revenue Services Bulletin from 1970 to 2018. Regression analysis technique was used to measure the effects of independent variables on dependent variable while Units root test, Johansen co-integration, Vector Error-Correction Model, and Granger causality tests were employed to determine the long run relationship and causality links among the variables.

### Model Specification

Investment (proxied private investment) is the dependent variable that is the explained variable while the explanatory variables are company income tax, petroleum profit tax, value added tax, and Custom and Excise duties. This can be specifically stated as:

$$INV = f(CORPT, PPT, VAT, CUSEXC, \mu) \quad (1)$$

Note that the proxy for economic growth is GDP; hence it will be used for the study. The multiple regression equation based on the above functional relation is:

$$\sum_{i=1}^n INV = \alpha_0 + \sum_{i=1}^n \alpha_1 PPT + \sum_{i=1}^n \alpha_2 VAT + \sum_{i=1}^n \alpha_3 CORPT + \sum_{i=1}^n \alpha_4 CUSEXC + \mu_1 \quad (2)$$

Transforming equation (6) to the natural logarithm it changed to:

$$\sum_{i=1}^n LOGINV = \alpha_0 + \sum_{i=1}^n \alpha_1 LOGPPT + \sum_{i=1}^n \alpha_2 LOGVAT + \sum_{i=1}^n \alpha_3 LOGCORPT + \sum_{i=1}^n \alpha_4 LOGCUSEXC + \mu_3 \quad (3)$$

### Results and Discussion

The unit root test and multiple regression analysis, Johansen Tests for Co-integration, Vector Error-Correction Model, and Granger Causality Wald Tests results are presented below.

**Table 1. Unit Root Test**

Variables	ADF stat	1% critical value	5% critical value	10% critical value	Order of integration	Remark
INV	3.822	-3.628	-2.950	-2.608	I(0)	Stationary
PPT	3.764***	-3.655	-2.961	-2.613	I(1)	Stationary
VAT	4.358***	3.750	3.000	-2.630	I(1)	Stationary
CORPT	3.865***	-3.655	-2.961	-2.613	I(1)	Stationary
CUSEXC	3.114	3.750	3.000	-2.630	I(1)	Stationary

(\*), (\*\*) and (\*\*\*) means stationary at 1%. 5% and 10% respectively

Source: Author’s computation (2018)

Table 1 showed that ADF stat of all variables are greater than all the critical values (1%, 5% and 10% critical values which made all variables stationary at 5% level of significant, that is all the variables are co-integrated). All the variables are stationary at first level which exhibited that there is a long run relationship between taxation and investment in Nigeria.

**Table 2. The Effect of Tax Income on Investment in Nigeria**

Dependent variables	Independent variables	Coefficient	Standard error	T	P>/T/	(95% conf. Interval)
LOGINV	LOGPPT	0.1636448	0.0487803	3.35	0.004	0.0596721 0.2676174
	LOGVAT	0.2160115	0.1299643	2.66	0.017	-0.0610009 0.4930238
	LOGCORPT	-0.0704139	0.0396542	-3.85	0.014	-0.0141071 0.1549349
	LOGCUSEXC	-0.2452478	0.1540096	-1.59	0.132	-0.5735115 0.0830159
	CONSTANT	9.433373	0.564367	16.71	0.000	8.230453 10.63629
R-squared = 0.7095	Adj R-squared = 0.6854	Prob > F = 0.0000	Root MSE = 0.14965	= F(4, 15) = 37.68		

Source: Author’s computation (2018)

Table 2 shows the effect of taxation on investment in Nigeria. 1% increase in the Petroleum profit tax (PPT) increases investment (INV) by 0.16%. This suggests a positive significant effect of PPT on INV. The outcome is significant ( $\beta = 0.1636448$ ,  $t = 3.35$ ,  $P > |t| = 0.004$ ). 1% increase in Value added tax (VAT) increases GDP by 0.2%. This means that VAT imparted INV positively and significantly ( $\beta = 0.2160115$ ,  $t = 2.66$ ,  $P > |t| = 0.017$ ). That is if VAT increases, INV increases. Contrarily, 1% increase in the corporate income tax (CORPT) reduces INV by 0.7%. This suggests a negative significant effect ( $\beta = -0.0704139$ ,  $t = 3.85$ ,  $P > |t| = 0.014$ ) of CORPT on INV. More so, 1% increase in Custom and excise duty (CUSEXC) reduces INV by 0.24%. This also reveals a negative insignificant effect of CUSEXC on INV ( $\beta = -0.2452478$ ,  $t = -1.59$ ,  $P > |t| = 0.132$ ). This is suggesting that if CUSEXC in Nigeria increases, INV also reduces.

Given coefficient of determination ( $R^2$ ) as 0.7095 (70%) with the high value of adjusted  $R^2$  as 68.5%, it shows that the independent variables explained 69% of the observed variation in investment in Nigeria, the remaining 31% are for error terms. The F and probability statistics also confirmed the significance of this model. This hypothesis is to test whether or not there is significant effect of taxation on investment in Nigeria. From the decision rule above, because the p-value equals 0.0000, which is less than 0.05, therefore the null hypothesis is rejected while the alternative hypothesis is upheld. Therefore, taxation has significant effect on investment in Nigeria.

**Table 3. Selection-Order Criteria**

Lag	LL	LR	Df	p	FPE	AIC	HQIC	SBIC
0	-2728.9				1.6e+53	136.695	136.771	136.906
1	-2569.4	319	25	0.000	1.9e+50	129.97	130.428	131.237
2	-2492.97	152.86	25	0.000	1.6e+49	127.398	128.238	129.721
3	-2343.36	299.22	25	0.000	3.7e+46	121.168	128.238	124.546
4	-2058.88	568.96*	25	0.000	1.2e+41*	108.194*	109.797*	112.627*

Endogenous: INV, PPT, VAT, CORPT, CUSEXC

Exogenous: \_cons

Source: Author's computation (2018)



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The Hannan–Quinn information criterion (HQIC) method, Schwarz Bayesian information criterion (SBIC) method, and sequential likelihood-ratio (LR) test all chose four lags, as indicated by the “\*” in the output. Both the SBIC and the HQIC estimators suggested that four co-integrating equations existed among the variables. Having determined that there is a co-integrating equation among the GDP, PPT, VAT, CORPT and CUSEXC series, the parameters of a bivariate co-integrating VECM for these four series by using Vector error-correction model were estimated in Table 3. Lags four was used for this bivariate model because HQIC, SBIC and LR test selected four lags, as indicated by the “\*” in the output.

**Table 4: Vector Autoregression**

Equation	Parms	RMSE	R sq	chi2	P>chi2
INV	21	7321.95	0.9978	18026.65	0.0000
PPT	21	44223.3	0.9994	72559.67	0.0000
VAT	21	34730.1	0.9998	191407.4	0.0000
CORPT	21	44796	0.9997	159157.7	0.0000
CUSEXC	21	21720	0.9998	216422.1	0.0000
Log likelihood = -2058.876	Det (Sigma_ml) = 3.51e+38	AIC = 108.1938	HQIC = 109.7967	SBIC = 112.6271	

Source: Author’s computation (2018)

In order to confirm the output result of selection-order criteria in selecting the appropriate lag, vector autoregression was also tested. Lags four was also chosen for this model because the Hannan–Quinn information criterion (HQIC) method, Schwarz Bayesian information criterion (SBIC) method, and sequential likelihood-ratio (LR) test confirmed four lags as indicated by in the Table 4.

**Table 5. Vector Error-Correction Model**

Equation	Parms	RMSE	R sq	chi2	P>chi2
D_ INV	7	0.049329	0.9306	147.4676	0.0000
D_ PPT	7	0.58922	0.3032	4.787472	0.6859
D_ VAT	7	0.572748	0.4574	9.27106	0.2338
D_ CORPT	7	0.631593	0.3433	5.750349	0.5692
D_ CUSEXC	7	0.993357	0.3895	7.016821	0.4271
Log likelihood = 28.09468	Det (Sigma_ml) = 3.03e-08	AIC = 1.211702	HQIC = 1.477705	SBIC = 3.140841	

Variable	Coefficient	Std Error	Z	P> z	[95% Conf. Interval]	
D_INV_ce1 L1.	0.0010729	0.0090284	0.12	0.905	-0.0166223	0.0187682
INV LD.	0.1513765	0.1679185	0.90	0.367	-0.1777378	0.4804908
PPT LD.	0.0072754	0.0053063	1.37	0.170	-0.0031246	0.0176755
VAT LD.	0.1251278	0.0765562	1.63	0.102	-0.0249197	0.2751753
CIT LD	0.0116651	0.0144937	0.80	0.421	-0.0167421	0.0400723
CUSEXC LD	-0.2071355	0.0989234	-2.09	0.036	-0.4010218	-0.0132492
- CONS	5651.763	2350.602	2.40	0.016	1044.667	10258.86
D_PPT_ce1 L1.	-0.8731796	0.331642	-2.63	0.008	-1.523186	-0.2231732
INV LD.	-1.019751	6.168216	-0.17	0.869	-13.10923	11.06973
PPT LD.	-0.5139666	0.1949168	-2.64	0.008	-0.8959966	-0.1319367
VAT LD.	-4.912724	2.81217	-1.75	0.081	-10.42448	0.5990282
CIT LD	-0.2810865	0.5324035	-0.53	0.598	-1.324578	0.7624053
CUSEXC LD	5.633751	3.633791	1.55	0.121	-1.488349	12.75585
- CONS	77215.21	86345.57	0.89	0.371	-92019.01	246449.4
D_VAT_ce1 L1.	-2.184293	386	-5.64	0.000	-2.943975	-1.424611
INV LD.	-9.095154	7.208979	-1.26	0.000	-23.22449	5.034186
PPT LD.	0.3510334	0.2278051	1.54	0.000	-0.0954564	0.7975232
VAT LD.	-20.72566	3.286667	-6.31	0.000	-27.16741	-14.28391
CIT LD	1.009667	0.622236	4.24	0.000	-0.2098933	2.229227
CUSEXC LD	23.26025	4.246921	5.48	0.000	14.93644	31.58406
- CONS	-5912.86	100914.7	8.97	0.000	-203702	191876.2
D_CIT_ce1 L1.	-2.641875	0.4523768	-5.84	0.000	-3.528517	-1.755233
INV LD.	-9.952393	8.413765	-2.37	0.010	-26.44307	6.538284
PPT LD.	0.4555922	0.2658766	3.76	0.004	-0.0655163	0.9767008
VAT LD.	-25.34064	3.835945	-6.61	0.000	-32.85895	-17.82232
CIT LD	1.141143	0.7262259	5.39	0.000	-0.2822337	2.564519
CUSEXC LD	28.6292	4.956679	5.78	0.000	18.91429	38.34412
- CONS	-1958941	117779.8	8.35	0.000	-250433.6	211254.8



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D_CUSEXC_cel L1.	-1.413916	0.265703	-5.32	0.000	-1.934685	-0.893148
INV LD.	-6.051887	4.941815	-1.22	0.221	-15.73767	3.633892
PPT LD.	0.2578157	0.1561623	1.65	0.000	-0.0482568	0.5638881
VAT LD.	-13.54734	2.253038	-6.01	0.000	-17.96321	-9.131468
CIT LD	0.6609143	0.4265479	4.56	0.000	-0.1751042	1.496933
CUSEXC LD	15.23959	2.911299	5.23	0.000	9.533551	20.94563
- CONS	-1943.877	69177.83	9.78	0.000	137529.9	133642.2

Equation_cel	-	Parms 4	chi2	P>chi2
Identification: beta is exactly identified			464.8528	0.0000

Source: Authors' Computation (2018)

**Table 6. Johansen Normalization Restriction Imposed**

Beta	Coefficient	Std Error	Z	P> z	[95% Conf. Interval]	
_cel INV	1	.	.	.	.	.
PPT	0.3394484	0.0383473	8.85	0.000	0.2642891	0.4146077
VAT	-0.0166819	0.0633606	-4.62	0.003	-0.1408664	0.1075025
CORPT	-0.1130951	0.0201892	-5.60	0.002	-1.521709	-1.123658
CUSEXC	-1.322683	0.1015455	-13.03	0.000	-0.1526652	-0.0735249
-CONS	-161252.1	.	.	.	.	.

Source: Author's computation (2018)

Table 5 and Table 6 contain information about the sample, the fit of each equation, and overall model fit statistics. The first estimation table contains the estimates of the short-run parameters, along with their standard errors, z statistics, and confidence intervals. The three coefficients on L. cel are the parameters in the adjustment matrix – for this model. The second estimation table contains the estimated parameters of the co-integrating vector for this model, along with their standard errors, z statistics, and confidence intervals. According to Johansen normalization restriction imposed table, one per cent increase in PPT increases INV by 0.3% in the long run, this shows that there is positive relationship between PPT

and INV. Contrarily, one per cent increase in VAT, reduces INV by 0.001% in the long run, this shows that there is a negative significant relationship between VAT and INV in the long run. Also, one per cent increase in CORPT, reduces INV by 0.011% in the long run, this also shows that there is a negative significant relationship between CORPT and INV in the long run. More so, one per cent increase in CUSEXC reduces INV by 1.3% in the long run, this shows that there is a negative significant relationship between CUSEXC and INV in the long run. Coefficient is statistically significant confirmed by  $P > |z|$  which is 0.000. Overall, the output indicates that the model fits well. The coefficient on INV in the co-integrating equation is statistically significant, as are the adjustment parameters.

**Table 7. Johansen Tests for Co-integration**

Rank	Eigen Value	Parm	LL	Trace statistic	5% critical value	1% critical value	Eigen Value
0	-	80	-2366.2345	614.7179	68.52	76.07	-
1	0.99939	89	-2218.3076	318.8640	47.21	54.46	0.99939
2	0.99515	96	-2111.7123	105.6735	29.68	35.65	0.99515
3	0.88719	101	-2068.0705	18.3899	15.41	20.04	0.88719
4	0.36555	104	-2058.9706	0.1901*1*5	3.76	6.65	0.36555
5	0.00474	105	-2058.8756				0.00474

Source: Author's computation (2018)

Table 7 produced information about the sample, the trend specification, and the number of lags included in the model. The main table contains a separate row for each possible value of  $r$ , the number of co-integrating equations. When  $r = 3$ , all three variables in the model are stationary. In this study, because the trace statistic at  $r = 0$  of 614.7179 exceeds its critical value of 68.52, the null hypothesis of no co-integrating equations are rejected. Similarly, because the trace statistic at  $r = 1$  of 318.8640 exceeds its critical value of 47.21, the null hypothesis that there is one or fewer co-integrating equations is also rejected. In the same vein, because the trace statistic at  $r = 2$  of 105.6735 exceeds its critical value of 29.68, the null hypothesis that there is two or fewer co-integrating equations is also rejected. The trace statistic at  $r = 3$  of 18.3899 exceeds its critical value of 15.41, the null hypothesis that there is

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three or fewer co-integrating equations is also rejected. In contrast, because the trace statistic at  $r = 4$  of  $0.1901 \cdot 1 \cdot 5$  is less than its critical value of 3.76, the null hypothesis that there are four or fewer co-integrating equations cannot be rejected. Because Johansen's method for estimating  $r$  is to accept as  $r^*$  the first  $r$  for which the null hypothesis is not rejected,  $r = 4$  is accepted as the estimate of the number of co-integrating equations between these five variables. The "\*" by the trace statistic at  $r = 4$  indicates the value of  $r$  selected by Johansen's multiple-trace test procedure. The eigenvalue shown in the last line of output computes the trace statistic in the preceding line.

**Table 8. Granger Causality Wald Tests – Causality between Investment and Taxation**

Equation	Excluded	chi2	Df	Prob > chi2	Decision
INV	PPT	60.192	4	0.000	PPT granger-cause INV
INV	VAT	56.844	4	0.000	VAT granger-cause INV
INV	CORPT	64.268	4	0.000	CORPT granger-cause INV
INV	CUSEXC	77.263	4	0.000	CUSEXC granger-cause INV
INV	ALL	161.17	16	0.000	ALL jointly granger-cause INV
PPT	INV	67.854	4	0.037	INV granger-cause PPT
PPT	VAT	1124	4	0.000	VAT granger-cause PPT
PPT	CORPT	52.195	4	0.000	CORPT granger-cause PPT
PPT	CUSEXC	55.937	4	0.000	CUSEXC granger-cause PPT
PPT	ALL	7982.8	10	0.000	ALL jointly granger-cause PPT
VAT	INV	30.868	4	0.000	INV granger-cause VAT
VAT	PPT	445.28	4	0.000	PPT granger-cause VAT
VAT	CORPT	329.14	4	0.000	CORPT granger-cause VAT
VAT	CUSEXC	938.23	4	0.000	CUSEXC granger-cause VAT
VAT	ALL	21782	10	0.000	ALL jointly granger-cause VAT
CORPT	INV	47.92	4	0.000	INV granger-cause CORPT
CORPT	PPT	173.55	4	0.000	PPT granger-cause CORPT
CORPT	VAT	1926.5	4	0.000	VAT granger-cause CORPT
CORPT	CUSEXC	875.68	4	0.000	CUSEXC granger-cause CORPT

CORPT	ALL	55331	16	0.000	ALL jointly granger-cause CORPT
CUSEXC	INV	42.791	4	0.000	INV granger-cause CUSEXC
CUSEXC	PPT	500.07	4	0.000	PPT granger-cause CUSEXC
CUSEXC	VAT	3396.5	4	0.000	VAT granger-cause CUSEXC
CUSEXC	CORPT	277.42	4	0.000	CORPT does not granger-cause CUSEXC
CUSEXC	ALL	62947	16	0.000	ALL jointly granger-cause CUSEXC

Source: Authors' Computation (2018)

Consider the results of the five tests for the first equation in the Table 8. The first is a Wald test that the coefficients on the four lags of PPT that appear in the equation for INV are jointly zero. The null hypothesis that PPT does not Granger-cause INV cannot be accepted because  $\text{Prob} > \chi^2$  is 0.000, therefore PPT granger-cause INV. Also, the null hypothesis that the coefficients on the four lags of VAT in the equation for INV are jointly zero cannot be accepted because  $\text{Prob} > \chi^2$  is 0.000. Therefore, the hypothesis that VAT does not Granger-cause INV cannot be accepted, therefore VAT granger-cause INV. The null hypothesis that CORPT does not Granger-cause INV cannot be accepted because  $\text{Prob} > \chi^2$  is 0.000, therefore CORPT granger-cause INV. More so, the null hypothesis that the coefficients on the four lags of CUSEXC in the equation for INV are jointly zero cannot be accepted because  $\text{Prob} > \chi^2$  is 0.000, therefore CUSEXC granger-cause INV. The fifth null hypothesis is that the coefficients on the four lags of all the other endogenous variables are jointly zero. This null hypothesis cannot be accepted because  $\text{Prob} > \chi^2$  is 0.000 that is that PPT, VAT, CORPT and CUSEXC, jointly, Granger-cause INV. Therefore the null hypothesis is rejected, alternative hypothesis is accepted that is there is causality between taxation and investment.

Table 9 showed the results of the causality analysis among petroleum profit tax (PPT), value added tax (VAT), corporate income tax (CORPT), custom and excise duties (CUSEXC) and investment (INV). The results showed that causality ran from petroleum profit tax (PPT) to investment (INV) and vice versa. This result indicated that bidirectional causality existed between the two variables in Nigeria. Furthermore, the findings revealed that the causality ran from value added tax (VAT) to INV, while VAT also granger cause INV. This result also indicated that bidirectional causality existed between VAT and INV. Also, corporate income tax (CORPT) with the Chi-

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square statistic (64.268) and the probability value (0.000), being statistically significant, granger-caused INV. In the same vein, INV also granger-caused CORPT. This indicated that bidirectional causality existed between CORPT and INV. More so, it was revealed that custom and excise duties (CUSEXC) with the Chi-square statistic 77.263 and the probability value 0.000, being statistically significant, granger-caused INV. INV also granger-caused CUSEXC. These results showed that there was a feedback effect from taxation to investment and from investment to taxation. Therefore, all the component of taxation showed causal relationship with investment.

**Table 9. Direction of Causality between Investment and Taxation**

Equation	Excluded	chi2	Df	Prob> chi2	Decision	Direction of Causality
INV	PPT	60.192	4	0.000	PPT granger-cause INV	<b>PPT → INV</b>
PPT	INV	7.8545	4	0.097	INV granger-cause PPT	<b>INV → PPT</b>
INV	VAT	56.844	4	0.000	VAT granger-cause INV	<b>VAT → INV</b>
VAT	INV	30.868	4	0.000	INV granger-cause VAT	<b>INV → VAT</b>
INV	CORPT	64.268	4	0.000	CORPT granger-cause INV	<b>CORPT → INV</b>
CORPT	INV	47.92	4	0.000	INV granger-cause CORPT	<b>INV → CORPT</b>
INV	CUSEXC	77.263	4	0.000	CUSEXC granger-cause INV	<b>CUSEXC → INV</b>
CORPT	INV	47.92	4	0.000	INV granger-cause CORPT	<b>INV → CUSEXC</b>

Source: Author's computation (2018)

## **Conclusion**

This study examined the effect of taxation on investment in Nigeria from 1970 to 2018. Secondary data were used in this study. The relevant data for the study were obtained from Central Bank of Nigeria (CBN) Statistical Bulletins and Federal Inland Revenue Services Bulletin from 1970 to 2018. Regression analysis technique was used to measure the effects of independent variables on dependent variable while Units root test, Johansen co-integration, Vector Error-Correction Model, and Granger



causality tests were employed to determine the long run relationship and causality links among the variables. Results showed that PPT has positive significant impact on INV both in the short run and in the long run ( $\beta = 0.1636448$ ;  $t = 3.35$ ;  $P > |t| = 0.000$ ) and ( $\beta = 0.1269068$ ;  $z = -5.99$ ,  $P > |z| = 0.000$ ). Also, PPT granger causes INV. The study also reviewed that Value added tax has positive significant impact on INV in the short run ( $\beta = 0.2160115$ ;  $t = 2.66$ ,  $P > |t| = 0.000$ ) but negative significant impact in the long run ( $\beta = -0.0166819$ ;  $z = -4.62$ ,  $P > |z| = 0.000$ ). VAT grangers cause INV. Company income tax, and Custom and Excise duties impacted INV negatively both in the short run ( $\beta = -0.0704139$ ;  $-0.2452478$ ,  $t = -3.85$ ,  $-1.59$ ,  $P > |t| = 0.000$ ) and in the long run ( $\beta = -0.1130951$ ;  $-1.322683$ ,  $z = -5.60$ ;  $-13.03$ ;  $P > |z| = 0.000$ ) respectively. CORPT granger causes INV and CUSEXC also granger causes INV.

It is concluded that all components of taxes had positive significant impact on investment in Nigeria except corporate income tax. Corporate income tax had negative significant impact on investment both in the short run and in the long run. Petroleum profit tax had positive significant impact on investment both in the short run and in the long run in Nigeria. Taxation had long run effect on investment in Nigeria. It is recommended that tax incentives should be given to corporate organisations, this will create enabling environment for investment to thrive so as to complement the efforts of the government in provisioning the employment opportunity in the country.

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## INVENTORY CONTROL MANAGEMENT AND REVENUE GENERATING CAPABILITIES OF OIL AND GAS DRILLING FIRMS IN NIGERIA

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### Abstract

*The critical role of effective inventory control has been much emphasized in the oil and gas industry which is subdivided into upstream and downstream sectors with drilling activities falling within the upstream subsector. In light of this development, this study investigates effective inventory control and effective drilling activities of oil and gas drilling firms as well as its relationship with revenue generating capabilities of oil drilling firms in Nigeria. Simple random sampling technique was adopted. Presentation and analyses of primary data collected with questionnaires and testing of the hypotheses were done using percentage and Spearman's Rank correlation coefficient. The results from the tests with the use of SPSS show positive and significant correlation between ineffective inventory management and downtime in the operations of oil and gas drilling with a correlation value of 0.682 with  $p\text{-value} = 0.001 < 0.05$ , which*





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*implies that there is 68% relationship between ineffective management and downtime drilling. There is a significant correlation between incessant downtime in operations of oil and gas drilling firms and their income level owing to poorly managed inventory control with a correlation coefficient value of 0.788 with  $p$ -value =  $0.000 < 0.05$ , which implies that there is 79% relationship between income (profit) level and downtime in drilling operations. Incessant downtime in drilling operations of oil and gas firms as a result of poor inventory control management has significant difference with termination of contract of oil drilling firms with the result of the  $F$ -cal value as 344.632 while  $F$  tabulated value as 3.901 leading to rejection of hull hypothesis. Based on the findings, it was recommended that oil drilling firms should strengthen their inventory management system for effective and timely work delivery in order to avert downtime, loss of income and termination of contracts. Finally, members of staff of oil and gas drilling firms in inventory units should be trained and retrained on regular basis to embrace technological changes in inventory management to improve their performances which would in turn strengthen the inventory management of such firms.*

**Keywords:** *inventory control; downtime; oil drilling firms; termination of contract; inventory management; loss of income.*

**JEL Classification:** G31, H29, H32, L21, M11

### 1. Introduction

Considering the fact that huge capital of a company is tied to its inventory and that optimal, effective and efficient operation of businesses, both manufacturing and service oriented ones can considerably be influenced by the nature of inventory management put in place, it becomes important that managements of such businesses give priority attention to inventory management system and policies put in place. Elomora (2014) is of the view that inventory management is tremendously important within most businesses and that a firm's returns can get to its climax as well as improve its liquidity and reduce company's risk by managing inventory effectively. The concept of inventory management in the prior years has attracted the attention of researchers and industry operators [Prempeh, 2016; Fosu, 2016; Mensah, 2015; Mwangi 2016]. For example, Prempeh (2016) stated that there is a weighty positive association between inventory management and profitability. Confirmation from



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former researches [Appiah, 2014; Mwangi, 2016] also buttressed the direct link between inventory management and profitability. A divergent result from the studies of Mensah (2015), Sitienei and Memba (2015) entirely revealed a negative relationship.

Letinka and Lee (2000) observe that difficulties with inventory heightened as a result of the industrial revolution together with improvement in technology which encouraged mass production faster and with improvement in quality of products. Colling (1990) observes that in the advanced countries such as America and other European countries, advancement in production was attained by cutting down manpower need per unit of output. Soaring manpower requirement was reasonable in order to produce per unit of output. Besides, it is observed that big production companies, such as the American Automobile Assemblers, procure more or less 60 per cent worth of materials it uses to produce its merchandise. What it means is that effective inventory is a *sine qua non* for output enhancement. In such a firm as the American Automobile Assemblers, poor inventory procurement could lead to shut down of operations. Mid 1980s, Japanese companies applied Just-In-Time (JIT) inventory model in their companies and they received a boost in terms of quality and quantity of goods and services. The fundamental objectives of businesses after industrial revolution were effectiveness and production of goods in large quantity coupled with enhanced satisfactory customer's knowledge at the point of purchase. A group of experts in Harvard University in 1930s developed punch card for efficient stocks control. In the late 1940s and early 1950s, researchers fashioned the prototype of the contemporary bar coding device as they got to know vendors wanted an improved platform. In this case, 'ultraviolet light-sensitive ink and readers' are applied in making marks on materials for sale. The system was deficient in computation capacity necessary to ensure it worked; again it was burdensome'.

The Universal Product Code (UPC) or Modern Bar Code, Radio Frequency Identification (RFID) using microchip to a scanner including other statistics gathering gadgets, that are more powerful than bar codes in several ways which can sense materials piled on high shelves in stockroom are some modern technologies put in place for a functional inventory system. Economic steadiness of a place, availability of infrastructural facilities, transportation structure/system and many more can influence inventory system to be used [Ogbo et al., 2014; Hamlett, 2006]. Poor inventory system could lead to under-production, stoppages and high production cost in many businesses.



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Inventories may be considered as unused resources which have monetary values [Ogbo *et al.*, 2014]. The bringing together of materials, ease of access, controlling and consumption of stock at a point in time is seen as inventory control. Inventory management is the control of stocks stored in a concern with the purpose of making accurately available what is needed where and when it is required applying the least of residual stock and thus sustaining the least possible cost [Ogbo *et al.*, 2014].

Effective inventory management can help guide against storage cost, spoilage of stocks, pilferage and obsolescence of materials. When a firm runs short of essential stock items, the manufacturing process is brought to a standstill. One might conclude that effective inventory management makes momentous contributions to a firm's earnings including adding to the entirety of assets of a firm [Adeyemi & Salami, 2010]. In the light of the above, considering the importance of inventory management in relations to efficient management, avoidance of work stoppage (downtime) and profitability of firms, it becomes imperative to embark on this research study with particular reference to oil drilling firms in the oil and gas sector of the Nigerian economy through scientific analysis of the generated hypotheses. The research aims at solving the problem of poor inventory control in oil drilling firms through creating the awareness of what poor inventory management portends to this subsector of the oil industry in Nigeria. It is of great importance to establish the relationship between effective inventory control management, downtime (halt in operation), loss of contract and loss of fund in this study in order to suggest the ways forward. Therefore, in specific terms, this study has the following objectives as stated below.

### 1.1. Objectives of the study

- a. To determine the relationship between effective inventory control and downtime in the operations of oil and gas drilling firms.
- b. To ascertain if downtime in operation of oil and gas drilling firms does not have any significant relationship with income (profit) level of oil and gas drilling firms.
- c. To find out whether incessant downtime in operation have any significant difference with termination of contract of oil and gas drilling firms.

### 1.2. Research questions

- a. Does effective inventory control have any significant relationship with downtime in the operations of oil and gas drilling firms?



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- b. What is the relationship between downtime in operation of oil and gas drilling firms and income (profit) level of oil drilling firms?
- c. Is there any significant difference between incessant downtime in operation of oil and gas drilling firms and the termination of contract of oil drilling firms?

### 1.3. Hypotheses

- a. There is no relationship between effective inventory control and downtime in the operations of oil and gas drilling firms.
- b. There is no existence significant relationship between downtime in operation of oil and gas drilling firms and their income (profit) level.
- c. Incessant downtime in operations and termination of contracts of oil and gas drilling firms makes no significant difference.

## 2. Literature Review

### 2.1. Conceptual issues

#### *Inventory management. Definitions and concepts*

Inventory is defined based on the systems or establishment where they are found. For instance, the definition of inventory in an oil drilling company is different from the definition of inventory in a firm that deals in automobiles. Whereas in a drilling company, inventory is defined as collection of spare parts and other consumables which are used in repairing, maintenance and servicing of machines for operation, inventories in an automobile firms include vehicles (cars of different brands) available for sale and so the definition of inventory in a manufacturing firms is slightly different from the two mentioned above. According to Kotler (2000) in Adeyemi and Salami (2010), inventory management entails all actions and strategies applied in building up and overseeing the stock levels of unprocessed materials, partly-finished products and finished commodities to ensure that sufficient materials are obtainable and reduced the costs of over-stocking or under-stocking guaranteed. Microsoft Encarta (2009) sees 'inventory as the amount of commodities and stocks at the disposal of a producer which shows those produce that are set and on ground for sale'. As opined by Drury (1996), in expectancy of some prospective purchases, the quantity of merchandise that is preserved by a business enterprise is called inventory. This implies that inventories are kept in order to meet prospective demand and manufacturing and/or transaction. Stocks can be seen as unused reserves in terms of stocks which have economic worth. As observed by Ghosh and Kumar (2003),



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improved and effective control of stocks would free resources for other productive uses in a company.

Therefore inventory control includes the bringing together of materials, ease of access, controlling, consumption and acquisition of stocks. All processes involved in getting sufficient quantity of stocks where needed and on time by an establishment are known as inventory management. Miller (2010) states that effective inventory can determine the profit-making capacity of an establishment directly or indirectly. Also inventory management connotes a scientific technique of making sure that sufficient stock is maintained by a business to meet up subsequent demand [Coleman, 2000; Jay & Barry, 2006]. From the foregoing, effective and efficient control of material in a firm makes it possible for materials needed to be available in the sufficient quantity and on time to ensure that storage cost is reduced to bare minimum as well as maintain continuity of operations.

**Reasons for inventory management:** Morris (1995) [Adeyemi & Salami, 2010], buttress that inventory management in its widest view is to maintain cost effective quantity of one type of asset to aid a boost in the entire worth of all assets. In this case, human and material assets are considered. Keth *et al.* (1994) [Adeyemi & Salami, 2010] emphasized that feeding management with information as regards the quantity of re-order level, lead time, how often to re-order, the right amount of safety stocks needed and to reduce incidence of stock-out are some reasons for inventory management. Schroeder (2000) [Adeyemi & Salami, 2010] states the objectives for keeping inventories could be transactional, precautionary and speculative motives. It has financial, marketing and accounting effects. The transactional objective for holding stocks ensures that enough materials are maintained in stock to meet manufacturing and sales needs. Precautionary motive means that a business holds extra quantity stocks in case of under-estimation of future production and uncertainties of demand/sales. The speculative motive for holding inventory is expectation of upsurge in profit-making capacity of a firm. Purchase of stocks or raw materials in case of inflation in future is speculative in nature.

The **four types of inventory control systems** as observed by Lyson (2001), Encartar (2009), Kenneth (2002), Hamlett (2006), Sande (2003) are "(i) Manual inventory management system; (ii) Barcode technology; (iii) Radio Frequency Identification (RFID); (iv) Warehouse Management System".

(i) *Manual inventory management system:* "Spreadsheets are used manually by owners of small scale businesses, to keep track record of inventory depending on the



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quantity of their product. Normally, small quantities of products are recorded manually with spreadsheets. To take stock when orders for new stocks are placed/re-ordered, spreadsheets are set up. Weekly or monthly, the entrepreneur makes the manual inventory in order to determine the quantity of stocks that enters and that are available in the warehouse. The objective is to determine whether the quantity of stocks on hand is enough to continue operations or to purchase more. Good side of this method is its cost effectiveness in relation to training of personnel. A piece of unprocessed information imputed or procedure mistake can bring about major imprecision in the data result, hence maintaining data reliability is one of the major drawbacks of manual inventory management [Lysons, 2001]. Again, the technique is labour intensive, costly, prone to error, and not easily up-dated.

(ii) *Barcode technology*: Barcodes comprises series of straight perpendicular lines, or bars, applied in allotting single distinctive identification code to a material. Barcode identification system is used to trace inventories electronically. A barcode stick together many series to make a distinctive group of numbers or alphabets to identify the materials [Encarta, 2009]. Key vendor employ barcode technology as fraction of general stock management coordination given that it strengthens the correctness and effectiveness of managing inventory. When a barcode is interpreted at the place of sale, stock sales records is instantaneously interpreted and transmitted to a larger structure that keeps statistics. Barcodes control inventory in stockroom level to enhance tracking of inventory inside the boundaries of the stockroom [Kenneth, 2002].

(iii) *Radio frequency identification (RFID)*: It is comparatively fresh and it employs a mark that transfers records assembled by a reader from a set spaced out position. RFID applies two forms of technology to direct stocks movement and they are (1) active and (2) passive technology. Active RFID technology utilizes fastened tag readers allocated all through a stockroom such that anytime a stock with an RFID mark gets across the reader, the motion of the stock is captured in the inventory management software. Active systems operate most excellent in structures that need real time stock tracing or anywhere inventory safety setbacks are present. Passive RFID technology involves the application of manual readers that can be handled with hand to inspect inventory movement. Owing to the fact that RFID technology has a reading distance coverage of up to 40 feet when using passive technology and 300 feet when using active technology, it greatly enhances the accurateness of transferring stocks within a stockroom [Hamlett, 2006].





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(iv) *Warehouse management system*: Sande (2003) sees it as a chief fraction of the supply sequence and principally with the intent to manage the transfers and conservation of stocks inside a stockroom and bring about the related business deals together with shipping, receiving, keep the stocks in the right place and selecting the items. Warehouse management systems assist to capably supervise the movement of inventories. There is either batch harmonization with or a real time wireless transmission to a centralized database immediately data has been gathered. Useful information about the positions of products in the storehouse is made available by the database. Warehouse Management System is incorporated with Enterprise Systems (ES) and Electronic Data Interchange (EDI) which are complicated and are now in use in many companies. At present, the majority material tracking systems make use of two facets barcodes should be near to and within the “line of sight” of the barcode reader. Manual or conveyor with barcode or scanner is needed in this case. The barcodes stand the risk of not working well which may result in inaccurate reading when not used well or when in contact with wet surroundings or peeled off.

**Automated inventory control system software:** As observed before, the automated inventory control system software is a computerized platform for keeping an eye on stocks levels, movements, orders placement, sales and deliveries. This software package can generate bills/records for stocks, job orders and relevant transaction papers in production outfits. The software is used to avoid merchandise overstock and outages. Such vital information can be kept in hardcopy in case of any eventuality. The software is made up of mechanism working together to generate a unified inventory control system which include: (i) *Asset tracking*: This brings about tracking stock through its barcodes and other tracking criteria such as serial number when they are in a stockroom or store; (ii) *Order management*: As soon as stocks get to a definite low point, the software as programmed sends information to inventory manager to re-order for stocks. This assists businesses in preventing running out of stocks or making redundant huge capital tied to stocks; (iii) *Service management*: Service-oriented firms may apply this software in the estimation of cost of materials they put into use in order services. By so doing, they evaluate or quantify their services monetarily. This inventory control systems are proficient, effectual and have assisted to advance producing firms thereby offering more security to storehouses while enhancing customer services. As already observed, the automated system assists in: (i) the determination of inventory status, (ii) registration of new stock, (iii) registration of new customers, (iv) supply of goods to registered customers, (v)



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printing of transaction invoices for customers for transactions that have taken place as well as viewing the available transactions that were carried out at a particular time.

**Just-in-time model (JIT):** This is a well-built viewpoint for managing inventories. A Just-In-Time (JIT) inventory system stresses the need to reduce inventory levels to the smallest amount, and at the same time provide sufficient items just-in-time as they are required and/or needed. The significant increase in Japanese productivity in Toyota Company in the late 20<sup>th</sup> century is attributed to this philosophy-Just-In-Time inventory model. In recent years, other parts of the world, the United States inclusive, have well accepted this philosophy hence it was well-liked there. Though the just-in-time point of view, at times is misconstrued as being mismatched with using EOQ model (Economic Order Quantity) because EOQ holds large stock with the attendant setup costs, they are in fact supporting each other. JIT inventory model places emphasis on how to significantly bring down the set-up costs so that the most favourable order quantity will be little. It also looks for ways to trim down the lead-time for the delivery of an order, since this cuts down the improbability about the quantity of materials that will be required when the delivery takes place. Just-In-Time aims at enhancing preventive maintenance so that the needed manufacturing facilities are on hand to produce the quantity of materials needed on time. Again, improvement in quality, timely delivery of orders, and avoidance of waste in the cause of production are among the objectives of this inventory model. Others benefits are avoidance of unreasonably large setup costs, needlessly long lead times, construction facilities that are not functioning when they are needed, and substandard items. Reduction of these kinds of waste is a key attribute of superior inventory [Adeyemi & Salami, 2010].

**Drilling operations in oil drilling company:** Drilling operations in the oil industry involves making a hole from earth surface or topsoil to beneath the earth crust usually at locations where there is oil deposits, targeting either crude oil deposits or gas reserves. Drilling operations can be explained as the piercing of an oil and gas well and the production and completion operations resulting from the drilling which requires entry upon the surface estate (Control of oil and Gas Resources, North Dakota Century Code, Title 38, Chapter 8, February 2013 Legislation). Alaska Oil and Gas Conservation Commission (2012) describes drilling operation as using a drilling rig able to carry out the officially recognized oil well and work together with other reasons other than putting in place platform





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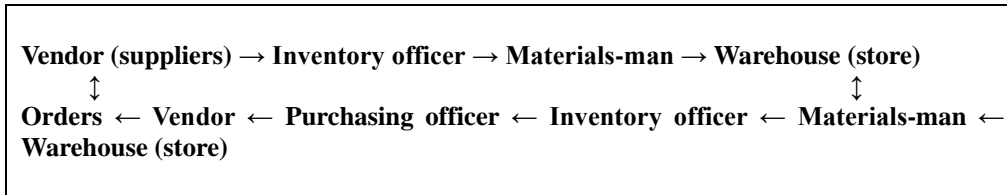
or conductor casing to penetrate the ground below the setting depth of structural or conductor casing is termed drilling operations. Drilling operations consist of the running of casing, plastering, and other down-hole work carried out additional to formation estimation, and operations essential to complete and furnish the well so that crude deposits can safely be brought to the surface. It must be noted here that at drilling site, operation is expected to run without incessant stoppages and it is only through effective inventory management that materials or spare parts both consumables and non-consumables can be available on time. Any deficiency in terms of timely delivery of materials, in this case spare parts, results in 'shutdown of operations with its attendant income losses' (Alaska Oil and Gas Conservation Commission, 2012).

**Loss of income in oil drilling company:** Most oil drilling firms charge oil and gas production companies on hourly basis usually in US dollars. The implication here is that, should there be any shutdown in operations of a given oil drilling firm hired at any point in time, the resultant effect is loss of income because the income that should have accrued to the hired company would not be paid. Eventually this halt in operation lingers for a long period; it means that the oil drilling firm in question would source for money elsewhere to take care of its working capital thereby depleting its reserves or even incurring debt.

**Downtime (halt) in operation of oil drilling firms:** This describes a situation where there is work stoppage or halt in the drilling operations at the drilling site. This could indicate the breakdown of a machine or non-availability of spare parts. For whatever reason, operation stop at drilling site is termed downtime. Considering the fact that payment is made for input on hourly basis in most cases, income of the company involved is negatively affected, i.e. reduction in income.

**Termination of contract in oil drilling firms:** Oil and gas production companies works within time frame for any project. Take for instance, in the contract terms and conditions, an oil drilling company may be given say six months to deliver (finish) an oil well among conditions. Eventually, there is a breach of these conditions, owing to inefficiencies in relation to poor inventory management which of course would result in breakdown of machines and untimely and poor maintenance of these machines, oil production companies are normally forced to terminate their contract with such an inefficient oil drilling company.

### Chain of Flow of Inventories, Procedure and Control in Oil Drilling Firms



Source: DWC Oil Drilling Company Nig. Ltd Inventory control Chart, 2017

Using DWC Drilling Nig. Ltd. as a case study regarding inventory inflow, inventory control and inventory management gives one an insight of practical inventory control management with particular emphasis on drilling firms in Port Harcourt that adopt both manual and automated inventory control management system. Materials (inventories) are supplied by vendors (suppliers). Those materials are received by the inventory control officer who does the verification of materials supplied using waybills and invoice to ensure that what is supplied corresponds with materials specifications in terms of quantity, quality and price as specified in the invoice, waybill and material requisition form. With the arrival of the inventories, the inventory officer updates his general inventory list in computer system. The inventory officer acts as the watch dog between the vendors and the materials-men as well as the user departments. It is important to note that the user department initiates the request for an inventory item needed with the material requisition form which, of course are normally signed by the drilling manager and drilling superintendent respectively. The inventories so received are handed over to the materials-man either at the base or rig site for necessary documentation and safe keeps. The materials-man is very close to the warehouse and so he monitors the consumption of materials and whenever a particular item reaches its re-order level, he alerts the inventory officer who confirms that the re-order level has been reached in the general inventory list. Having ascertained this, the inventory officer informs the purchasing officer of the need for order placement. The purchasing officer at this point calls for a quote from vendors. The vendor who wins the bid does the supply. The following records are always kept and updated on daily basis.



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**a.** Materials or inventory received log book; where inflow of inventories from vendors are recorded on daily basis. **b.** Materials or inventory issue log book; where materials issued out to user departments are recorded on daily basis. Again there is usually weekly reconciliation of inventory list maintained by inventory officer and materials-man at the rig site to actually ascertain the exact quantity in the warehouse. With the above procedure effective inventory control management and internal control of the inventories are ensured. However, this system of inventory control management has not been as effective as a fully automated system because of human errors such as recording a particular item twice in the list, using wrong part numbers, cumbersome nature of the system and most times discrepancies between inventory list maintained by the inventory officer and materials-man at the rig site. Sometimes, the officers may not know that a particular item that has not been used for a long time is out of stock. This has on several occasions led to down-time, loss of manpower with its attendant loss of income and possible loss of contracts because halts in operation persisted for a long time. The advantages semi-automated inventory control system has over automated inventory control system are easy identification of obsolescent items and damaged items. The reason being that materials-man is always in close contact with the materials because he does his physical inventory almost on daily basis.

### 2.2. Theoretical Framework

Heyman and Sobel (1990), Lau and Lau (1996), Silver, Pyke and Peterson (1998), Axsater (2000) and Erlenkotter (1990) opine that arithmetical inventory models used under methodical inventory management are classified into two-*deterministic* and *stochastic models*; based on the forecast nature of demand.

*Deterministic inventory theory:* Demand for a merchandise in inventory reveals the frequency a material is issued out from inventory for utilization (e.g., sales) at a point in time. If the demand in prospect can be determined accurately, it is rational to adopt an inventory policy that presumes that all forecasts will always be completely accurate and in this case, where demand is known, a deterministic inventory model would be adopted. Conversely, when demand cannot be estimated with accuracy, it becomes essential to apply a stochastic inventory platform where the demand at a point in time is not steady but rather fluctuates.

*Stochastic inventory theory:* This inventory structure is adopted where there is significant improbability about future demands. Continuous-review inventory system



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is looked into here. In this case, the inventory level is reviewed continuously to ensure timely placement of new order as soon as the stock level drops to the re-order point. The use of two-bin system to put into practice a continuous-review inventory system is a conventional method. All the units of particular products are captured in two bins. The capacity of one bin would equal the re-order point. The units are taken from the first other bin. Once the stocks in the second bin are depleted, a new order is placed. In the lead-time while waiting for this order to be received, materials would be collected from the first bin. In recent times, two-bin systems have been to a great extent replaced by automated inventory systems. In this case, withdrawal or addition of stocks is electronically recorded. Therefore, the computer places a new order as soon as the inventory level has reduced to the reorder point using the second as a yardstick. Science and technology have made available excellent software packages to help companies implement such a system.

### 2.3. Empirical Review

Research has been conducted between effective stock control and organizational performance by Adeyemi and Salami (2010), in their learning on Coca-Cola Bottling Company, Ilorin Plant from 2000 to 2004, and disclosed that stock management has greatly advanced to address the growing difficulty in numerous business outfits. This is in reaction to the reality that stock is an asset of unique quality. The stock management condition of the Nigeria Bottling Company, Ilorin Plant has been disclosed with the adoption of the EOQ model. Through a dependable strategy, the company is capably handling its unused stocks without sustaining avoidable charges.

The study recommended as follows: Economic Order Quantity model should be given serious consideration because it is considered aptly most excellent for the interest of production outfits to sustain best possible level of stocks in stockroom; the size that trims down total cost of outlay in stock. The research equally stipulated that to achieve this, diverse costs related to inventory should be kept apart and added up for easy determination of Economic Order Quantity (EOQ). So, stock control is a *sine qua non* ingredient for the continuance as well as continued existence of any going concern with vision.

Also in a similar study conducted by Ogbo, Onekanma and Ukpere (2014) to look into the connection between effectual system of stock management and business in the Seven-Up bottling company, Nile Mile Enugu. Eighty-three (83) respondents made up the sample for the research. Having generated four research questions and four hypotheses and examined at 10 percent (%) (that is, 0.10) significant level with



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descriptive statistics and non-parametric test. The outcome of the investigation confirms that proficiency in stock control is a key strategy for the accomplishment of dependable business objectives.

The study came to a conclusion that through effective inventory management, a firm's profit from uncomplicated storage and withdrawal of stocks enhanced sales efficiency and reduced running cost. Again, cost reduction tactics are put into serious consideration to enhance benefits accruable from a going concern investment opposed to stock control. Business outfits should develop techniques to efficiently and effectively handle their inventories. It is recommended that organizations should ensure the implementations of the inventory keeping technique that most excellent suits their operations.

### 3. *Research Methodology*

This research work is a descriptive field study, and the design is analytic; for this reason it depends on survey analysis of the views of individuals on the relationship between effective inventory control management, revenue generating capability, and smooth operations of oil and gas drilling firms in Nigeria using oil drilling firms in Port Harcourt, Rivers State as samples. The study adopted the simple random sampling technique in gathering primary data from the sample drawn from the population. ANOVA test and Percentage and Spearman's Rank correlation coefficient are statistical tools used in the analysis and testing of the hypotheses. SPSS is used to show the outputs of the tests.

### 4. *Presentation and Analyses of the Results of the Test*

The analyses of the data obtained from respondents give more concentration to these questions relevant to three null hypotheses for the study. These research hypotheses with the empirical data were tested using Spearman's Ranks Correlation Coefficient. Based on the experiences of the respondents on the subject matter, a total of 24 copies of questionnaire were share out to each of the 26 sample companies. The researchers were able to retrieve 21 copies, representing 87.5%. Among the 21, 3 sets, representing 12.5%, were found unusable due to their improper completion. In view of this, 18 sets, representing 75%, were used for the purpose of the analyses. Using SPSS output, Spearman's Ranks Correlations Coefficient result as shown below, the hypotheses are tested for acceptance or rejection.

**H<sub>01</sub>: There is no significant relationship between ineffective inventory control and downtime in the operations of oil and gas drilling firms.**

**Table 1. Correlation Coefficient between Ineffective Inventory Management and Downtime in Drilling Operations**

	Downtime in drilling	Ineffective management
Downtime drilling	1	0.682 (.001)
Ineffective management	0.682 (.001)	1

Source: Field Survey, 2018

The analysis of the result shows a correlation value of 0.682 with p-value = 0.001 < 0.05, which implies that there is 68% relationship between ineffective management and downtime drilling. We therefore reject the null hypothesis and accept the alternate hypothesis, which states that there is a positive significant relationship between ineffective management and downtime in the operations of oil drilling firms. This implies that the more ineffective inventory control system, the more downtime increases in the operations of oil and gas drilling firms. Therefore, oil and gas drilling firms should put in place effective inventory management policies to avert downtime in their operations with its attendant consequences.

**H<sub>02</sub>: There exists no significant relationship between downtime in the operation of oil and gas drilling firms and their income (profit) level.**

**Table 2. Correlation Coefficient between Income (Profit) and Downtime in Drilling Operations**

	Downtime drilling	Loss of income (profit)
Downtime drilling	1	0.788 (.000)
Loss of income (profit)	0.788 (.000)	1

Source: Field Survey, 2018



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The analysis of the result shows a correlation coefficient value of 0.788 with p-value =  $0.000 < 0.05$ , which implies that there is 79% relationship between income (profit) level and downtime in drilling operations. We therefore reject the null hypothesis and accept otherwise, which states that downtime resulting from ineffective inventory management does have strong positive relationship income (profit) of oil and gas drilling firms. This implies that increase in downtime in operations will lead to 79% increase in loss of income (profit). Therefore, effective and responsive inventory control mechanism should be adopted by oil and gas drilling firms to enhance timely acquisition and control of inventories during operations to ensure continuous running of the rig as well as acquisition of these inventories at the lowest possible cost to maximize profit.

**H<sub>03</sub>: Incessant downtime in operations and termination of contracts of oil and gas drilling firms do not have significant difference on their revenue generating capability.**

**Table 3. ANOVA Test on Downtime Drilling and Termination of Contract. Coefficient Table**

Model	Sum of square	d.f	Mean square	f. cal	f- tabs	Remark
Regression	5.1013	1	1.5058	344.632	3.901	Reject
Residual	8.5229	24	0.4611			
Total	13.6242	25				

Source: Field Survey, 2018

Table above shows the ANOVA result of downtime in drilling operations and termination of contract of oil and gas drilling firms. The test of significance of the R-square was done by use of the analysis of variance (ANOVA) technique. We accept the alternate hypothesis that the regressed equation is significant; the F-cal value was 344.632, while F tabulated value was 3.901. This means that F-cal was greater than F-Tab. So, the null hypothesis is rejected and the alternate accepted thus, this states that incessant downtime in drilling operations of oil and gas firms as a result of poor inventory control management does have significant difference with termination of contract of oil drilling firms.

Note: If  $F_{cal} > F_{tab}$ , reject the null hypothesis otherwise accept the alternate hypothesis.

#### 4. *Result and Discussion*

**From SPSS table 1**, the study concludes that there is a significant correlation between poor inventory control management and downtime (work stoppage) in the operations of oil and gas drilling firms. **Table 1** shows a correlation coefficient of 0.682 which indicates a strong positive correlation between ineffective inventory control management and downtime (work stoppage) in the operations of drilling firms, and a p-value of 0.001 which is also far less than the conventional 0.01 and 0.05 levels of significance.

In a similar study carried out by Ogbo, Onekanma and Ukpere, (2014) to look into the correlation between effectual system of inventory management and business status in the Seven-Up Bottling Company, Nile Mile Enugu. The study revealed that business derives advantages from stock control through safe keeps and withdrawal of stocks, enhances sales efficiency and minimal running cost. It equally discloses that effective stock management is recognized as one of the aspects any concerned management should acquire as a potential for enhanced performance.

**From Table 2 SPSS**, the study shows that there is a significant correlation between downtime in the operations of oil and gas drilling firms and their income (profit) levels. It shows a correlation coefficient of 0.788 which indicates a very strong positive correlation between downtime in the operations of drilling firms and loss of income (profit), and a p-value of 0.000 which is also far less than the conventional 0.01 and 0.05 levels of significance. Therefore, the study concludes that there is a significant relationship between downtime in drilling operations of oil and gas drilling firms and their income (profit) levels.

**From Table 3 SPSS**, shows a significant difference between incessant downtime in drilling operations as a result of poor inventory management and termination of contract. The study shows the  $F_{cal}$  value was 344.632, while  $F_{tabulated}$  value was 3.901. This means that  $F_{cal}$  was greater than  $F_{Tab}$ . Therefore we conclude that there is a significant difference between incessant downtime as a result of poor stock management and termination of contract. Adeyemi and Salami, (2010) in their similar study on Coca-Cola Bottling Company, Ilorin Plant from 2000 to 2004 revealed that stock control has become greatly enhanced to address the increasing difficulties in greater number of business outfits. It is in reaction to the veracity that





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inventory is an asset of unique nature. So, inventory management is a necessity for the firmness and continued existence of any business outfit with vision.

### 5. Conclusion and Recommendation

The primary objective of this study is to look into inventory control management and revenue generating capabilities of oil and gas drilling firms in Nigeria with the intent to establish their possible dependable interrelationship.

The conclusions in line with the results of the hypotheses testing were as follows:

Poor inventory control management would result in downtime (work stoppage) in operations of oil and gas drilling firms. Therefore, the study confirms that there is a significant relationship between downtime in the operations of oil and gas drilling firms in Nigeria and poor inventory control management.

It can be adduced that downtime (work stoppage) as a result of poor inventory system can lead to loss of income in oil and gas drilling firms, that is, the revenue generating capabilities. This is because, in oil and gas drilling firms, the terms of payment is based on work done on hourly or daily basis. Any stoppage in operations would have stopped income accruable from the period or hours when operations sized.

It can also be seen that incessant downtime caused by poor inventory control management can lead to termination of a contract of an oil and gas drilling company, reason being that delay in delivery of job could provoke a oil production company to terminate their client's contract. Therefore, the study concludes that poor inventory control can ultimately lead to loss of contracts.

This study therefore strongly recommends that oil and gas drilling firms should strengthen their inventory management system through training and retraining on regular basis, responding to technological changes in inventory managements for effective and timely delivery of jobs and operations. This would equally help to avert downtime in operation with attendant consequence of loss of income and termination of contracts.

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**BACHELOR, MASTERAL, DOCTORAL  
AND POST-DOCTORAL STUDENTS'  
PAPERS**





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## THE STRATEGY OF PROMOTING AND SELLING MEDICINES ON THE ROMANIAN MARKET

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### Abstract

*For the purpose of writing this paper, we have been to choose this subject as it is a core part of the pharmaceutical companies' business strategy for promoting medicines. Regarding the importance of the research theme and the business environment, it is crucial that anyone connected to this business should realize the importance of organization, details, good deployment and impact of each event. In this respect, marketing can be seen as a true system of economic activities related to the programming of products and services that have the role of satisfying the requirements of current and potential consumers considerably, but is also linked to prices, promotion and distribution products or services.*

*Taking into consideration the importance that marketing has within the pharmaceutical field and the huge budgets that medical and pharmaceutical companies spend for the events organized in this domain, I consider that a company which is able to have a new approach and a new vision for the*



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*organization of events and sharing medical education to doctors and medical information to patients will have a big success.*

**Keywords:** *medicine; marketing; pharmaceutical industry; medicine promotion strategy.*

**JEL Classification:** M30

### Introduction

The pharmaceutical industry is a strategic component of the Romanian economy, having an essential contribution through the taxes paid to the state budget. In addition to this economic influence, the role of the pharmaceutical industry is growing in complexity through its major contribution of the health level of the population. People's health definitely influences governmental strategies through the social implications that it brings to a long-term period. That is why it is extremely important to understand how this industry works, what are the forces that drive it and what are the variables that can be influenced to make operating mechanisms more efficient. This article aims to make a breakthrough in the Romanian pharmaceutical industry and to focus the reader's attention on the important elements that define this industry and the areas of action that can be improved in general, and in particular, an analysis will be made on how a producer medicine promotes and sells medicines on the Romanian market. The Romanian pharmaceutical market is strongly influenced both by external factors and by internal factors. The analysis of these factors by marketing specialists leads to the development of appropriate strategies to meet the demands and competition in the market. A method commonly used in assessing external factors that influence the market is the Pestel Analysis which analysis the economic, political, social, cultural, institutional, technological and demographic variables.

Romania has an internal and stable political climate that is reflected by stimulating factors in the pharmaceutical market. Multinational companies are encouraged to invest and come to Romania with state-of-the-art products. However, the economic inefficiency of governments over the last 20 years has led to the creation of a pressure by the Romanian state on the economic environment materialized by taxes to cover the lack of strategy and governmental efficiency. The pharmaceutical industry is fairly protected by changing economic conditions, because the demand for



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medicines remains constant. Romania's economic growth is reflected in the pharmaceutical industry through the presence of many multinational companies that have significantly diversified their product portfolios to better meet demand. Changes in social trends may have an impact on the demand for products. Consumers motivation and need identification in case of medicines are based on many personal, cultural and social factors such as: health perception, individual's education and social norms, the general social framework related to public health, the norms of the group to which the individual belongs (family) [Gârdan & Geangu, 2009]. The generic medicine has a great impact on the pharmaceutical industry due to its accessibility, causing fierce competition between generic companies, which is reflected in the final product price.

At the same time, the patents' expiring for original medicines and the emergence of much cheaper generics stimulate innovative companies' actions to invest heavily in research and development to find new medicines. A society that develops from all points of view creates the premises for its members to hope for and to have a higher level of life that translates into a more effective medication, and in this case through a higher consumption of medicines.

The pharmaceutical market in Romania is highly regulated and harmonized with the EU legislation. In Romania, the existence of strict legislation on fixed-term patent protection prevents many pharmaceutical companies from launching a new product on the market. The National Medicines Association (ANM) is the Romanian institution responsible for implementing and monitoring the application of legislation in the field of medicines. For a manufacturer to receive a Market Implementation Authorization (APP), it must comply with internationally agreed regulations. In order to receive APP, a generic medicine has to prove through bioequivalence studies by independent company that it is similar to concentrations and efficacy with the original medicine. The competition in the pharmaceutical industry is held in ethical limits by the Competition Council, which is a state body that is responsible for monitoring and correcting techniques of good practice in all industries.

The system of values, customs, and traditions of the population encourages the pharmaceutical industry. The population of Romania perceives the medical profession as one of great importance and influence, treating with seriousness and respects the representatives of this profession. As a result, physicians have a great influence on the population and are a growth factor for the pharmaceutical industry.

Progress and technological change put pressure on health systems. New generation medicines created with advanced technology that treats rare and serious





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diseases have influenced and will influence in the future the dynamics of the Romanian pharmaceutical market. In Romania, there is an increasing trend of aging population. The number of births is less than the number of deaths. In the last 30 years, Romania's population has fallen naturally or due to migration by almost 20%. An aging population leads to an increase in the number of chronic diseases associated with age. This trend of aging and illness of the population directly affects and influences the pharmaceutical industry and the marketing strategies of companies in this field.

### **General framework of pharmaceutical industry**

A conclusive picture of the pharmaceutical industry can also be seen in the analysis and influence of the 5 Forte Porter. [Epure, 2007]

Threats of new entrants into this industry are low. In the pharmaceutical industry, there are high barriers to entry because of the high costs associated with research and development of new medicines. Patent protection can be an important barrier to generic medicine companies.

Worldwide, the large amounts of money available in the pharmaceutical industry have led to a steady stream of new companies created. However, these smaller companies do not pose a serious threat to large pharmaceutical companies. In fact, one of the key exit strategies of a start-up investor in the pharmaceutical industry is selling to a large pharmaceutical company when new products are in the initial development phase. The only areas for which pharmaceutical companies are of particular interest (to develop new products) are niche such as hepatitis, immunological diseases, and cancer and biological medicines in the future. The global trend also applies to the pharmaceutical market in Romania and will remain continuing a steady trend for the coming years. Competitive rivalry in the pharmaceutical industry is extremely high. The high degree of competition is due to: strong market presence of multinational medicine companies and the opportunity arising from the expiry of the original medicines patent and the presence of a large number of generic medicines companies. The number of pharmaceutical companies is quite high in Romania (382 records in Cegedim). However, the top 15 rankings account for 63% of the total market (the percentage is fairly stable in years). All companies fight for the same number of doctors, pharmacists and potential patients and, at the same time, for the same resources (insurance money).

The trend for the next 5 years is that competition and rivalry will grow even more, mainly through:



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- Making mergers and acquisitions;
- Applying technology to increase efficiency.

The negotiating power of buyers in the pharmaceutical industry varies according to their type. Of all stakeholders in the pharmaceutical industry, the customers have the slightest negotiating power because medicines are necessity products and in most cases they need help from the Romanian state to get them. As a customer, we will refer to:

- Pharmacists;
- Doctors;
- Patients;
- Health Insurance House (CAS).

#### *Pharmacists – Growing Negotiating Power*

Due to the legislation that allows selling without a prescription, the strength of the pharmacist is very high. Often, the purpose of the medical act is less influenced by the doctor and more influenced by the pharmacist who releases the brand with the best commercial advantage for him. Of all pharmacies, pharmacy national chains have the highest power, accounting for 30% of the total number of pharmacies, but more than 50% of total sales. Pharmacies are fighting for patients with their own marketing activities. The pharmaceutical chains, the more patients they have, the more bargaining power they have, and it will be more costly for manufacturers to sell their products in these pharmacies. The trend is that the strength of national drugstores will increase even further in the years to come. They buy individual chains or local pharmacies, conquering the market. The Romanian market is very attractive in this area, so one of the biggest players in the EU as pharmacies (Dr. Max) has already entered Romania and will develop next year by purchasing the second chain Pharmacies in Romania (SSB). As for individual pharmacies – their power is getting smaller and the prognosis is that they will disappear over the next 10 years. In 10 years, there will be more or less four types of very strong pharmacies: national chains, local chains, virtual chains and purchasing groups.

#### *Doctors – MEDIUM Negotiating Power, Decreasing in Power*

Doctors can only prescribe the molecule on recipe. However, the strength of doctors in choosing the brand to be bought by the patient has dropped dramatically in recent years. There are strictly regulated differences in what each physician can



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prescribe: general practitioners and specialists. There are protocols and different types of compensation lists. The future trend will be that the power of physicians will increase when they prescribe original products (which, as mentioned above, will primarily be niche or biologic medicines), but still moderate and low tendencies for generic prescription medicines.

### *Patients – REDUCED Power of Negotiation*

Now, in Romania, most patients rely on prescriptions from doctors or pharmacists when it comes to RX medicines in particular (it is also true for OTC products, but not for RX). Knowing that in the next 10 years, Y-generation components will be the main buyers, we can predict that their concentrated attention and increased education will increase decision-making, taking into account not only the price (as in most cases now), but also the quality. So the trend is that patients' influence will increase over the next 10 years. They will take more care of the options they have in treatments and the quality of products and services.

### *Health Insurance House (CAS) – Huge negotiating power, and will maintain its dominant position*

Limitation of prices for compensated medicines is very strict: generic companies may have a maximum of 65% of the original price and the lowest price in the EU countries where they are sold. The trend of the coming years will be: reduced funding and inefficient use of public resources, plus increasing the number of chronic diseases. For this reason, the government will continue to focus in the coming years on introducing cost-saving measures such as the lowest EU price and claw-backs.

### **The Negotiating Power of Suppliers in the Pharmaceutical Industry is Medium**

Medicine distributors buy goods and pharmaceutical products from producers (foreign or domestic) and sell them to pharmacies in Romania. They have their own logistics and sales force. So besides taking orders and bringing medicines to pharmacies, they also have marketing activities. Based on these, they can influence the sales of products in pharmacies and have enough negotiating power. More than 10 years ago, distributors had the logistics of the whole process, and it was the moment when they began to create and develop their sales forces and have their own commercial approach (linked to producers). More recently, distributors began to develop in two different directions:

– Promotion teams focusing on a producer / brands;



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– Extending their activities by creating virtual pharmacy chains (VPCs) consisting of grouping more individual pharmacies under the same concept and design in strict correlation with the commercial approach (VPCs acquire medicines exclusively or mainly from the VPC vendor).

Due to the decrease in prices and the claw-back taxes, the commercial conditions offered by the producer to the distributor decreased dramatically. Cumulative conditions, bargaining power and retailers' profitability tend to fall. Having anticipated this in advance, they have developed and created new areas that will help them maintain the same level of negotiation and profitability. In order to better control the distribution chain, many distributors merged with national or international medicine chains or created their own chain of pharmacies (for example, Fildas Distributor – Catena Pharmacy). The trend for the coming years will be that distributors will maintain their power by focusing on:

- own promotional teams (high skills, team hire);
- new technologies developed to reach pharmacies will provide strong penetration in pharmacies;
- increasing the VPC's activities and power;
- fusion between pharmacies' distributors and chains or the creation of distributor pharmacies.

### **The Threat of Substitutes in the Pharmaceutical Industry**

The threat of substitutes in the pharmaceutical industry is medium. As substitutes for medicines, we can talk about new trends in the use of “natural solutions” for treating diseases. Helped by increased Internet access and information, over the past 10 years, the substitute medicine with “natural ingredients” has been greatly promoted, with more and more followers. The information “sold” by replacement products (generally, dietary supplements) is not regulated by any law (all medicines, including OTC medicines, are strictly regulated in terms of communication with the professional public or the general public). Due to this situation, misleading problems can occur and the increase in excess consumption of supplements is favoured. The trend is that if the legislation does not change, the consumption of supplements will increase at the expense of medicines and the major diseases risk being untreated. A similar situation is also found in vaccines cases where an important part of the population refuses to vaccinate because of media poisoning. Another trend or “hope” is that, if the education of the new generations is higher, it will increase the



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addressability for the healthcare professionals, and the tendency to substitute medicines will decrease.

### **Segmentation, Targeting and Positioning of Products on the Market**

Segmentation, targeting and positioning of products on the market are other tools used by marketing specialists to achieve competitive advantage in pharmaceutical industry. The Romanian pharmaceutical market, by its size and complexity, puts real problems on marketing specialists in defining appropriate sales and marketing strategies. By segmenting the pharmaceutical market, it is desired to divide it into definable, accessible, profitable growth parts or potential growth segments, which can be monitored for a good implementation of marketing strategies. Through this method, marketing specialists can identify market segments that are compatible with their promotion and sales strategies. At the same time, marketing teams can monitor the implementation and the consequences of their strategies within a defined period of time.

### **The Financial Resources of the Marketing Teams in the Pharmaceutical Industry**

The financial resources of the marketing teams in the pharmaceutical industry are limited. That is why there is an acute need to segment the market and channel resources into areas of potential and interest for pharmaceutical manufacturers and distributors. Segmentation of the representative market for the pharmaceutical industry is achieved by disaggregating the market in geographic segments. The Romanian pharmaceutical market is segmented in the first phase at the level of the counties and at the level of the micro segmentation it reaches the level of the city or parts of the city, in case we speak of big cities. Since all pharmaceutical companies report and receive market information from the same authorized data providers, then their marketing strategies can be better adapted to market conditions and competition. The most well-known segmented data providers in Romania are Cegecim and IMS.

### **Variables for Market Segmentation**

In the pharmaceutical industry, segmentation of the market takes into account several variables. Firstly, account is taken of geographical and demographic variables on the market. Another important variable that is taken into account in industry is related to the operational characteristics of the pharmaceutical industry. Not all companies in the pharmaceutical industry have proper budgets to cover selling and promoting the entire Romanian pharmaceutical market. This is why there is a need



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for geographically differentiated segmentation to create targeted marketing strategies on areas of interest or areas where companies have sales and promotion teams. Another variable that may influence market segmentation is situational and may be internal or external to the pharmaceutical industry, and may be related to the seasonality of certain pharmaceutical products or to the economic cycle. Other variables that may occur in segmentation may be related to the personal characteristics of customers or the special relationships that exist between clients and pharmaceutical industry players. For players from the pharmaceutical industry, targeting the market is a natural approach to trying to get commercial profit. Targeting the market must be done taking account of some logical steps starting from the general and reaching individual. As a first step in pricing the market, we must make a prediction on the size and direction of the market in the coming period. Then, the profiles of the segments where we will act should be identified and determined, followed by a prediction of their future dimensions. Once these predictions are done, in the next step the marketing strategy for each segment is defined and the potential for profit is predicted.

### **The Positioning of Products in the Pharmaceutical Industry**

The positioning of products in the pharmaceutical industry is extremely restrictive and strictly regulated by the National Medicines Agency (ANM). This positioning of the medicines should be approved by the ANM and must follow the unique Marketing Placement Authorization (APP) guidelines. As a free translation, this means that the placement of a medicine on the market is strictly based on pathologies approved in the package leaflet. It is forbidden to promote off-label medicines on pathologies other than those approved. It is possible that some medicines in Romania have been approved for sale and release of less pathology than in other European countries. These approvals are exclusively granted by the ANM. Taking into account these positional restrictions, pharmaceutical companies are forced to innovate in marketing strategies to position their products appropriately and to achieve their value-added currencies in Romania. The perceptions of patients is mainly influenced by the explicit communication made by doctors and medical personnel, also other patients consumption experiences [Geangu et al., 2010]. The positioning of the products of the manufacturing companies on the Romanian market takes into account several variables. One of the positioning approaches takes into account the major attributes of the products compared to the competition.





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On the same therapeutic area and on the same medicine molecule, manufacturers position their products on the basis of some additional qualities and added value to their competitors. Other medicine placement takes into account the life cycle of a medicine. Many of the medicines on the Romanian market are outdated both as efficacy compared to other medicines as well as the incidence of adverse reactions or as compliance and adherence of patients to treatment. Many medicines on the market are from the old generation and are at the end of their life cycle. The goal of the manufacturers is to position their medicines in positions capable to replace those older medicines with lower efficacy or with a greater number of daily administrations with new medicines. Studies have shown that patients generally forget or refuse to take certain doses of medication in the day as the number of administrations is higher or the taste of administered medicine is worse to assimilate. Manufacturers are trying to increase the compliance and adherence of patient in Romania by bringing and positioning new generation medicines in a single daily administration or easy administration to replace older generic medicines.

By continuous positioning, medicine manufacturers adapt their marketing strategies and, depending on the stage of life cycle, products for sale and promotion. Some pharmaceutical manufacturers also position their medications according to the perceptions of clients (doctors and pharmacists) and patients about quality and safety. Much of the pharmaceutical companies are purchasing raw materials from countries like China or India where standards of efficiency, quality and safety do not match European standards. Thus, some European manufacturers place their medicines at the level of doctors, pharmacists and patients' perception as effective and safe and made to high European standards as opposed to competition.

### **All Marketing Strategies Are Centred on Marketing Mix**

Marketing specialists in the pharmaceutical industry are constantly searching for the perfect marketing mix to maximize their profits. All marketing strategies are centred on the 4 P: product, price, positioning, and promotion. The mix of these variables makes the difference between medicine companies. When talking about the product in the pharmaceutical industry, and in the case of medicine manufacturers, we are talking about both a tangible good that identifies itself with the medicine and an intangible good that refers to a service. The intangible service that medicine manufacturers make with the help of medical representatives is the medical education provided to healthcare professionals. Taking into account the dynamics of





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the medical industry, it is impossible for a physician to keep up with the new medical information related to pathologies and appropriate medication. International medical treatment guidelines are improving rapidly according to the new medical studies published. On the Romanian market are approved and marketed tens of thousands of medicines that are hard to remember and assimilated by medical specialists without the help of the medicine manufacturers. That is why we can say that medicine manufacturers are in addition to medicine suppliers and service providers with useful medical information for physicians and pharmacists for the benefit of patients.

The products that marketers promote on the Romanian market can be classified into two main categories: RX (medicines with medical prescription) and OTC (medicines without prescription). RX products may only be recommended by physicians due to the risks and consequences that may arise from the ingestion of these medicines. OTC (Over the Counter) products can be consumed and purchased without a prescription because of the low risks involved in overconsumption or inappropriate consumption.

The price of RX medicines is regulated on the Romanian market by the National Medicines Agency and published officially in the annual catalogue of CANAMED medicines. The ANM requires all APP holders' maximum medicine prices and at the same time obliges medicine manufacturers to register their medicines in Romania at the lowest price of 12 European standard countries. As producers of medicines, they have to take into account another additional variable, namely the pricing of medicines and the price of competition. Medicine prices have suffered and are permanently subject to changes and adjustments based on company strategies or price movements. In the case of compensated medicines, the Romanian state offers a subsidy to each insured by reducing the co-payment it has to pay for the purchase of pharma medicines. This copayment represents a specific percentage determined by the ANM on various pathologies (50%, 100%) and relates to the lowest-priced medicine in that class.

The only way to play with prices and increase profitability is with the OTC medicine pricing strategy. These medicines, which are released without medical prescription, do not have price-setting constraints, as is the case with Rx medicines. That is why it is extremely important for a medicine manufacturer to have a complete and comprehensive OTC medicine portfolio that will increase the company's profit margin. In the case of generic OTC medicines, manufacturers try not to enter into a price war that may erode profit margins. There is also the risk that by eroding prices,



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customers will no longer have confidence in the qualities of the medicine offered at a too low price. In the mind of the Romanian consumer a cheap medicine is associated in thinking in most cases with a bad medicine. There are few cases where patients require expensive medication from doctors, assuming that if expensive it is also very good.

### **Advertising in the Pharmaceutical Industry**

Advertising in the pharmaceutical industry is strictly regulated by the National Medicines Agency. It is forbidden to use mass advertisements for prescription medicines (RX). Advertising is only allowed for medical specialists, physicians or pharmacists, and only in specific contexts, such as specialized pharmacies or in symposiums and congresses where access to the public is limited. Instead, in the case of OTC medicines with a non-prescription, advertising is allowed on any media channel. Medical promotion is a marketing tool widely used in the pharmaceutical industry. The multitude of medicines present on the Romanian market makes it virtually impossible for the medicine manufacturers to be seen by the medical industry specialists and to persuade them to prescribe or recommend without the help of medical team representatives to promote the medicines.

### **Medical Promotion – Basically a Sales Process**

Medical promotion is basically a sales process. Medicines at pharmacies cannot be sold without a prescription from a doctor. The doctor would not know of a medicine on the market if he did not been promoted. The promotional team brings medical information to healthcare professionals in pharmacies and medical institutions, discovering their needs for patients on their clients, and selling those strict benefits that cover their needs. So promotion is a sale of benefits that cover the needs in order to get the recommendation. The placement of medicines in the Romanian pharmaceutical market is done through distributors. They buy large quantities of medicines from manufacturers, store them and distribute them in smaller quantities to pharmacies where they have business relationships. At the national level, the most important distributors are: Farmexpert, Farmexim, Mediplus, Fildas, Dona Logistics, Pharmafarm. Most pharmaceutical manufacturers sell their medicines in Romania via two-level distribution channels. One is the level of national distributors and the second is that of pharmacies that make the final sale to



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patient clients. The type of distribution chosen by the majority of producers for the Romanian market is the selective distribution which grants the right to distribute medicines to a limited number of collaborators.

### **Conclusions**

In order to be successful in the Romanian pharmaceutical market, it is necessary to develop and implement complex marketing strategies that will ensure competitive advantage in an over-crowded field of competitors.

In order to continue with a sustained growth of this market, a well-informed consumer is needed and, in this respect, the service offered by the pharmacy offices is becoming a key and differentiating aspect compared to other channels. Medicine producers and doctors play a key role in the development of a sustainable system: health and wellness culture as the main added value that will be enhanced in the coming years. Current consumption trends will help us identify the future of the pharmaceutical market.

The prescription of generic medicines should be encouraged, as other countries have been doing, both to achieve a more appropriate use of the medicine and to stimulate competition in the market by eliminating the strong economic barrier represented by the commercial brand in medicines.

The prices' vector of a market and the quantities consumed is the result of the interaction between producers, funders, prescribers and consumers of medicines, all of them reacting with imperfect information to the actions of the others. While such a scenario of actions and reactions has a dynamic nature, the regulatory framework designed must take into account not only the clinical and pharmacological aspects of the medicine sector, but also the interaction mechanisms that occur within the supply and demand of these products. Thus, market structures are the result of the offer's ability to establish prices and criteria to differentiate its products, presenting cases of greater competition or greater concentration, affecting the intervention policy of the regulator. From another perspective, greater diversity in supply atomizes the ability of producers to establish rules of the game, facilitating the operation of cost-effective prescription patterns. Also, differentiated market structures within the pharmaceutical sector require specific intervention mechanisms, there being an extended palette of policies.

Product-based strategies will be focused on adding features that determine an additional benefit for the customer. These characteristics in the case of a the pharmaceutical product will focus on the packaging, the pharmaceutical form and the



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substance that compose it. For the packaging, one could include new attributes such as color, biodegradable materials and so on. For the pharmaceutical form, we could replace the tablet with the soft capsule, to reduce the risk of falsification, but also to improve its speed of action and bioavailability. For the substance, one could include excipients that are less harmful to health. It can be concluded that all the characteristics added to the Product must fundamentally be aimed at giving greater added values represented in benefits for the final consumer. An example of added value is free home delivery for the purchase of pharmaceutical products in some pharmacies.

On the other hand, promotion-based strategies have very well defined characteristics such as the following:

- **Personal Sale:** It is the direct and personal or telephone presentation of a product to the final consumer through a representative of the pharmaceutical organization.
- **Advertising:** It is a form of not personal communication that is usually done through mass media such as internet, newspapers, radio and television.
- **Sales Promotion:** It is a demand stimulating activity to complement personal sales and advertising information such as: 2x1 offers, organization of draws for amounts in purchases, acquire the second pharmaceutical product at half price and so on
- **Public Relations:** Public relations, as a form of communication to a target audience in order to obtain favorable attitudes and opinions about our product, can take many forms, such as sponsorship of medical events, lobbying and so on.

The distribution strategies are based on the following aspects: Offer certain pharmaceutical products exclusively, use intermediaries, offer pharmaceutical products through the internet or by telephone, delivering the pharmaceutical products at home and so on.

### *Directions for Future Research*

Regarding the content of the present work, one would identify certain directions for future research:

- quantitative research based on field survey regarding consumers' perception of medicines regarding the degree of trust in producers and/or the chains of established pharmacies;
- research on the degree of efficiency of media channels used for the promotion of medicines;



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- qualitative research of focus group type regarding the decision-making process of buying medicines for young consumers;
- research on general population perception of possible consumption problems;
- research on perception of young people on possible consumption problems and associated risk situations;
- research on accessibility to the health system of all social groups;
- research regarding the impact of prevention policies on the use of some substances and other consumption problems.

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## THE ROLE OF CUSTOMER SATISFACTION IN INCREASING SALES IN THE SERVICE SECTOR

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### Abstract

*This paper's aim is to explain the role of customer satisfaction in service sector, especially in hotel and bank industries and the ways in which customer satisfaction can be measured and increased. Customer satisfaction is the key factor that determines the future sales of the company. This paper provides detailed information on how customer satisfaction affects and can be increased in bank and hotel industries. In order to explain it, the paper contains information about SERVQUAL Method for explaining customer expectations in five measurements such as reliability, responsiveness, assurance, empathy and tangibles; and 5 Gaps regarding hotel industry and Service Profit Chain for bank industry. [Arlen, 2008] The study supports understanding customers, having an individual approach to each of them, keeping good relationships with them and with keeping customer satisfaction in high level increase sales.*

**Keywords:** *customer satisfaction; hotel industry; bank industry; customer expectation.*

**JEL Classification:** M30

### Introduction

Research on customer satisfaction was one of the most famous marketing areas. Customer satisfaction is becoming the field to which all businesses continue to give





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attention and try to keep on the highest possible level. Customer satisfaction rate relies on how the company gives attention to it and tries to satisfy it. The connection between meeting the expectations of customers and its effects to the marketing is direct. Furthermore, businesses are scared of the negative word of mouth which can be shared during a short time to a lot of people and can also have effects to the customer expectations, which can immediately create problems for businesses. As getting profit was the main purpose for companies a few years ago, but nowadays to focus on customer and getting profit thought their satisfaction is essential, because of the fact that customers who are those getting your product or service. One of the visible results of marketing activity is customer satisfaction, which plays a main role in case of differentiation of the company and creates reasons for customers to choose company's service. To put it another way, it creates competitive advantage and allows company stand out of the competition, especially for firms which are surviving in the competitive market. Keeping customer satisfaction at the highest level could not guarantee customer loyalty for the firm, but it can guarantee positive word of mouth. The reason why service companies need to pay attention to customer satisfaction during the quality of services is the characteristics of the service that differentiate the product and make it create and consume at the same time, which plays an essential role in customer satisfaction. This article contains abstract, introduction, research methodology, main body, conclusion and references.

### ***Research Methodology***

The qualitative data that was collected from websites and scientific articles were used to explain the customer satisfaction effects for sales in the service sector, especially in the hotel and banking industry and affecting the satisfaction of each industry. Other types of qualitative data collection tools also were used, such as online survey and participation method. The question of online survey was "Which of the following options affects customer satisfaction the most?" Online survey was used to clarify existing data. Participation method was used in August 2018 in the hotel to clearly understand determinants of customer satisfaction.

### **Customer Satisfaction in Service Sector**

The service industry is experiencing a fundamental change, which has a direct impact on the manner we live and operate. New services are being continuously introduced to satisfy our current needs and needs that we did not even know we would have. The service sector produces goods which we cannot see, touch and warehouse. It



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is the third largest sector of the economy, which comes after the production and manufacture of raw materials, due to the fact that all countries pay more attention to this sector year by year by creating opportunities for service companies. [Chappelow, 2019] In today's competitive market, the thing that will secure in the long term the company's development is strong relationship with customers in terms of their satisfaction. The researchers found that even increasing the quality of services is a more efficient tool for increasing sales and profit, and not for all marketing activities. It is also essential from financial side, because of the fact that the cost of attracting new customer is more than the cost of maintaining a relationship with an existing customer. At this point in time, service quality has become more important for company's success than product quality and companies which are investing in order to improving their service quality get competitive advantage on those firms which do not. It should be mentioned that the employees' behaviour or performance plays a main role in creating customer satisfaction. For this reason, service companies spend time and money for training employees especially who has direct communication with the customer. In the restaurant service sector, the behaviour, speech and communication of the waiter with the customer determine the future sales of the company from this customer. According to the *trainingmag.com* or *2018 Training Industrial Report* total USA training expenditures in 2018 was \$87.6 billion [Freifeld, 2018].

Customer satisfaction level can be measured using 2 methods: Customer satisfaction index and Customer satisfaction score. Customer satisfaction index is created by combining many customer satisfaction survey results in single customer satisfaction index which shows overall satisfaction level. Customer satisfaction score is the measurement of satisfaction through giving only one question to the customer. The most two popular question about the customer satisfaction index are about: (Customer Satisfaction Score / Customer Satisfaction Index)

1. Rating overall service experience out of 10, where 10 is very satisfied and 1 is very dissatisfied.
2. Probability of suggesting Company "X" to friend or colleague out of 10, where 10 is very satisfied and 1 is very dissatisfied.

### **Customer Satisfaction in Hotel Industry**

Hotel industry is one of the main industries within the service sector. It becomes the most competitive industry year by year. Nowadays, having the highest customer satisfaction level and keeping customer loyalty are the main goals of the hotels



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because of the fact that they will secure the long term business integrity. In service sector satisfaction, it determines the difference between what was expecting and the result of product or service after consumption. Oliver's (1977) disconfirmation paradigm theory is one of the most widely used theories regarding customer satisfaction in scientific researches. This theory explains that the post-purchase experience is becoming the source of determining the satisfaction. Of course, if the performance or service quality is below the customer expectation, it will lead to the dissatisfaction of the customer. If the performance meets and exceeds expectations, this means that the customer will be satisfied and respectively delighted. Expectation confirmation theory includes four main concepts: expectations, perceived performance, disconfirmation of beliefs, and satisfaction. Previous researches on customer satisfaction in hotels reported that the key determinants of customer satisfaction are personality, staff service quality and physical environment [Oppong & Augustine, 2017].

### *Personality*

Personality refers to individual feeling, thinking and behaving. The behaviour of each client towards the service is directly associated with the qualities of their personality, which differentiates each person from the other. These personal qualities create a character which determines everyone as an individual. McCrae & Costa (1989) assorted these personal qualities into 5 categories: openness, extraversion, agreeableness, neuroticism and conscientiousness. [Oppong & Antwi, 2017]

- **Openness** – being interested in everything, quickly adapting to new places, being open to unfamiliar experiences, being highly curious and creative.
- **Extraversion** – being sociable and extroverted, always being in the centre of attention.
- **Agreeableness** – being kind and helpful to others, having an interest always towards people.
- **Neuroticism** – feeling depressed, fear and jealousy.
- **Conscientiousness** – having discipline, working according plan.

### *Staff Service Quality*

Creating a performance of services in line with the expectations of their customers will guarantee the companies to survive, to distinguish themselves from the competition and, in particular, to help them continue to operate in their own line



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of business. The quality of the services obtained by the client can be measured with SERVQUAL Method which was developed by Valarie Zeithaml, A. Parasuraman and Leonard Berry in 1988 for capturing and measuring service quality [Mulder, 2018]. There are 5 determinants of this method which measure service quality: reliability, responsiveness, assurance, empathy and tangibles (SERVQUAL).

- **Reliability** – is the fulfilment of the promised service with accuracy. Reliable service means to serve on time, without any problems.
- **Responsiveness** – is providing quick service and answering to their questions.
- **Assurance** – is about knowledge and politeness of employees and conveying trust and confidence. Assurance also includes to be respectful to customers, good communication and to be interested in customers by heart.
- **Empathy** – is providing individual service and attention to each customer.
- **Tangibles** – is about physical facilities which lie between customer and service provider, such as staffs' appearance and other physical equipments. [Archakova, 2013] (SERVQUAL)

One main point should be mention about the customers that, of course, not all customers are the same and have similar expectations regarding the 5 determinants. For this reason, it is so important for the service provider to understand customers and then to provide individual services. Sensing this personal approach to their customers will feel more confident and positive thinking will increase the service provider.

Understanding and relationship between customer and service provider should be as strong as possible. In order to maintain this strong relationship and at the same time to improve the quality of services, these 5 gaps that create the problem should be closed. Using the SERVQUAL method we can measure the following gaps. This GAP Model was introduced by Parasuraman, Zeithaml, and Berry in 1985 in order to increase service performance. These gaps are:

- **Gap 1** – also known as knowledge gap – is between customer expectations and customer perceptions. Customer expectations are what they expect will happen based on what they saw, their lifestyle, experience and cultural background. Perception is totally customer's individual approach towards the service based on their previous experience and even current mood. The more the gap between them will be overcome, the more satisfied the customer will be. [Essays, 2018]
- **Gap 2** – also known as policy gap – is between management perception and service quality specification. This gap occurs when service provider understands needs and wants of customer, but is not able to deliver accordingly. It is also about



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when the service provider cannot set the required quality specifications or it set them, but cannot reach them as needed. (The Customer Service Gap Model)

- **Gap 3** – also known as performance gap – is between quality specification and service delivery. It is highly related with employees who maybe are less trained, due to the equipment problems and lack of management. (The Gap Model of Service Quality)

- **Gap 4** – also known as communication gap – is between service delivery and external communication. The service provider creates high expectations in customers' mind though communication channels such as advertising in media. At the point of the delivery of service, if what they have shown in advertising and actually service does not match, it creates a communication gap and also dissatisfied customer. (The Customer Service Gap Model)

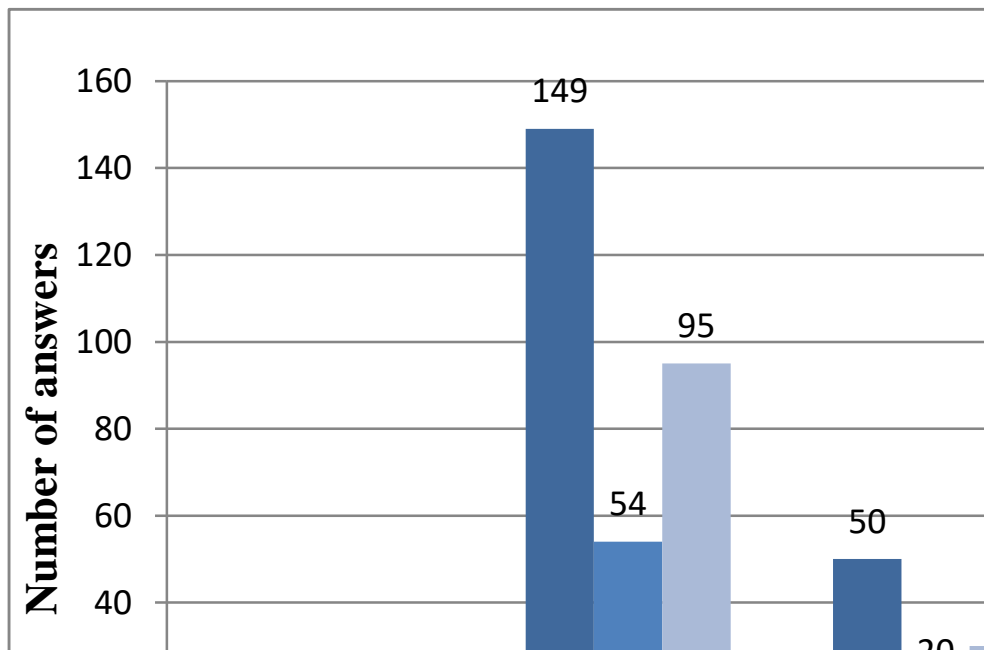
- **Gap 5** – also known as customer gap – is between expected service and perceived service. This gap occurs when one of above 4 gaps occurs; this means that in order to close this gap the service provider has to first close others. This gap means that the actual service performance does not match with expected service performance. (The Gap Model of Service Quality) (Gap Model Of Service Quality)

### *Physical Environment*

Service space – is the term which generalizes the physical environment. Physical environment is the place where customers get service and the design and the quality totally depends on service provider. According to their stars hotels have international standards which they have to obey. Creating a physical environment is also related to these standards. But there are some things that should be in all hotels irrespective of the stars such as normal temperature, internet, silence and comfortable furniture.

From my experience in a hotel in August 2018 it results that physical environment is so important for a guest in order to create a first expression. Before contact with staff, the physical environment is the one that can attract and reject customers. It is clear that customers' expectations will be directly related with hotel stars and if there is any gap between my expectations regarding stars and what actually I get, at that time I will be dissatisfied. One thing should be mentioned, according to my observations it is better to design inside hotel relating to the outside. For instance, using more light colours for hotel near sea and using more dark and strong colours for hotels which are located near mountains or simply nature. In hotels, educated customers can feel and give attention to each of SERQUAL Method determinants.

From my point of view, these five determinants are strongly correlated among one another, because for example lack of reliability can affect empathy, if the service is not delivered on time it can create some problems in giving needed attention to each customer.



**Graph 1. Results of the online survey**

As it was written before, the key determinants of customer satisfaction are personality, staff service quality and physical environment. In order to understand which one is more important among them, one more research was done by me. This research was an online survey. Survey questions were about Name and Surname, Gender, to which age group he or she belongs (18-25, 25-35, 35-55) and the main question. The question was “What do you think, which answer has more effect to the customer satisfaction?” Answers are: personality, staff service quality and physical environment. In the survey participated 208 people, from which 131 were women





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(62.98%) and 77 were men (37.02%). Generally, 192 (92.31%) people were between 18-25, 15 people between 25-35 and 1 person between 35-55. From women 123 (93.89%) were between 18-25, 7 women between 25-35 and 1 woman between 35-55. From men, 69 (89.61%) were between 18-25 and 8 (10,39%) were between 25-35. Generally, out of 208 people 149 people (71.63%) answered “Staff service quality”, 50 people (24.04%) answered “Physical environment” and 9 people (4.33%) answered “Personality”. From women, 95 women (72.52%) answered “Staff service quality”, 30 women (22.90%) answered “Physical environment” and 6 women (4.58%) answered “Personality”. From men, 54 women (70.13%) answered “Staff service quality”, 20 women (25.97%) answered “Physical environment” and 3 women (3.90%) answered “Personality”. In order to understand clearly this data, see Graph 1.

### **Customer Satisfaction in Banking**

Banking sector is the sector which has so many customers and at the same times so many competitors; for this reason, the customer satisfaction always comes on the first place. Improving service quality and developing service through the results of feedbacks, complains and requirements of customers is best way to improve customer satisfaction. It should be mentioned also that customers are becoming more educated about their rights and this increases the quality of expectations from firms.

#### *Service Profit Chain*

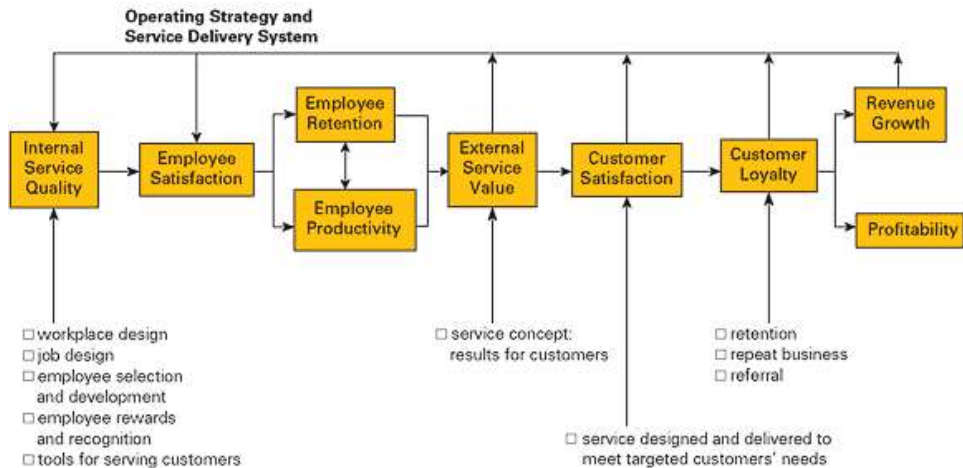
Service profit chain was developed by James L. Heskett, W. Earl Sasser, and Leonard Schlesinger in the *Harvard Business Review* in 1994. It includes internal services quality, employee satisfaction, employee retention, employee productivity, external service value, customer satisfaction, customer loyalty, revenue growth and profitability. [Heskett *et al.*, 2008]

- **Internal service quality** is the first step of service profit chain which is directly related to the employees. As I mentioned before, training and support employees is so essential for service firms, because everything such as customer satisfaction and service quality depend on them. Creating a qualitative service is possible if employees are trained as needed. Employee training and education not only improve the skills of the staff, but allow them to clearly understand who their customers are, what they really want and what they expect from them. These include also motivating employees through rewards to encourage them to actively participate in



the bank's operations. It is also about creating a safe workplace where all employees can work together to achieve common organizational goals. [Heskett *et al.*, 2008]

**The Links in the Service-Profit Chain**



Source: hbr.org

• **Employee satisfaction** is needed to keep customer satisfaction at a high level, because of the fact that if it is the customer who brings money to the company, it is the employee who serves customers and keeps customer satisfaction in high. One thing should be mentioned about employee satisfaction – is important to determine what satisfies each employee and to have individual approach to each of them. [SurveyMethods, 2017]

• **Employee retention and productivity** – it is clear that not always keeping employees is high; a certain level of turnover is possible. But even in this case one should consider the entire costs regarding training, productivity and additional costs. Each employee is the face of company who passes the vision of the company to customer. (Bass)



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• **External service value** always depends on both the perception of how the service is delivered and the expectations of the customer. Because of the fact that value changes from one person to another, all level of management have to be as close as possible to understand their expectations. [Heskett *et al.*, 2008]

• **Customer satisfaction** is the tool which can be even more effective than marketing activities and is the source of positive word of mouth for firm. Satisfied customer will always talk about company positively, recommend his or her own environment and will have great chance to come back. In order to satisfy customers, the company must first know what they want, understand their requirements, and only then must expect feedback from them. Obtained data should be analyzed by firm and use for improving needed things. [Mulder, 2018]

• **Customer loyalty** is so closely related to customer satisfaction, because dissatisfied customers will not be again purchasing from the same company. In general, a company has high sales to loyal customers, and researchers found that loyal customers are 20% of all customers who not only buy but even cover other losses of the company. [Heskett *et al.*, 2008]

• **Revenue growth and profitability** are the last part of the service profit chain which is also the result of all previous parts. [Heskett *et al.*, 2008]

## Conclusion

The conclusions of this study can be understood as follows: today's customers are becoming more educated as the day goes by and at the same time their expectations increase as well. In order to satisfy each customer when all sales depend on them firms should make achieving customer satisfaction their first goal and work on closing the main 5 gaps. In addition, these findings provide additional information about the role of quality of personnel services or the importance of training in the services sector and the impact of the internal environment of the company on the satisfaction of employees in creating customer value and the decision of future sales. This article is recommended for marketing and tourism students who are interested in the services sector and for those who research about the ways of achieving customer satisfaction.

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# **CASE STUDIES**





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## AN ANALYSIS OF INNOVATION AND CULTURAL DIVERSITY IN THE CHALLENGES AND PERSPECTIVES OF LOCAL COMPANIES' DEVELOPMENT: AN EXAMPLE OF AZERBAIJAN

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### Abstract

*The role of innovation is crucial for countries and businesses to gain competitive advantage. The key to success in the competitive process is to have a culture of innovation. The purpose of this study is to identify the link between innovation and cultural diversity in company management, which is one of the most important sources of competitive advantage, and to explore the role they play in company management. In this regards, a comprehensive review of innovation, cultural diversity and organizational culture has been conducted and links are established. The study concludes that innovation and cultural diversity have a major impact on innovation in companies and services.*

*This study seeks to provide a comprehensive overview of the role of local innovation companies in the development challenges and perspectives, while providing insights into the concepts of innovation and cultural diversity. Research work can be considered as a good source for experts, researchers, and scientists working in this field.*

**Keywords:** *innovation; cultural diversity; organizational culture; firm; workplace; creativity.*





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**JEL Classification: M14**

### **Introduction**

Cultural diversity or innovations are one of the most important factors in the development of our modern world. In the context of dynamic structural changes, the success of individuals and organizations, nations and societies is largely dependent on their ability to create, understand and use different kinds of innovations, such as food and technology, social and cultural.

In addition, innovation is an important factor in long-term national economic growth and policy interference [Romer, 1990a; Schumpeter, 1962]. Nobel Laureate Linus Poling; The importance of having different ideas in creative expression with popular expression: "The best way to get a good idea is to have lots of ideas." The idea of this expression is similar to the fact that most literature on divergent research needs different opinions, but there are different opinions.

The culture of innovation has been defined as the core value that supports innovation at the enterprise level and embraces accepted practices for innovation. Most organizations accept diversity in their perspectives, workplaces or organizations to be more creative and open to change. Increasing and improving workplace diversity has become an important issue for management in recent years because of how the workplace has changed.

There is a need for the Republic of Azerbaijan to create an independent economic system after independence and to integrate this system into the global economic system. The development of the economy by innovative methods is crucial for ensuring economic independence in the country.

In this study, a large number of employees from different companies and service providers operating in Azerbaijan were selected. An application form was used to collect data. Respondents generally agreed that a diverse and inclusive workforce would bring different perspectives to strengthen a company's innovation strategy.

Thus, this study, with an introduction, 3 main sections, a conclusion and a literature review, aims to assess the relationship between diversity and innovation in an organizational context and to explore whether diversity is the result of increased productivity through increased innovation. It clearly explores the link between diversity and innovation. It is assumed that such a relationship flows through increased productivity and economic growth, as has long been understood in the literature.



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In this research, I reviewed previous studies and concepts and discussed some of the literature on theoretical aspects of cultural diversity and innovation in the workplace.

### **Research Methodology**

This study can be defined as conducting research to gain additional information or ideas to contribute to a particular understanding and knowledge in a particular discipline. [Myers, 2009] This process involved a combination of research and analysis. During the process of answering research questions, the study is based on primary and secondary sources of information. Two companies with the first source received an email interview with questions regarding their experiences and experiences of working with the multicultural workforce. A second source of information on the diversity of work in the two companies is collected on the Internet.

### **Theoretical Approaches to the “Innovation” and “Cultural Diversity”**

#### *Understanding of the term of “innovation” and “cultural diversity”*

Innovation is the application of highly efficient innovation, new and improved products, technological processes, as well as organizational, technical, financial and economic and other aspects of public relations as a result of intellectual activity, discoveries and inventions. The term innovation comes from the Latin word “innovato”, which means “renewal” and “improvement.” The term has been used in scientific research since the 19<sup>th</sup> century. The concept of “economic innovation” became known to the scientific community in the early 20<sup>th</sup> century in the work of the Austrian economist Joseph Schumpeter’s Theory of Economic Development. [Schumpeter, 1934]

There are many definitions of the concept of innovation in the literature. In short, it can be defined as the process of transforming innovative ideas into value-added outputs.

Innovation – industrial consulting services, research, design and construction, accounting and analytical works, design feasibility study, production, organization and management, product realization. The concept of “innovation” envisages a new rule, a new method, a new product or technology, a new event. Innovation is the process of using innovation associated with the acquisition of innovation, its reproduction and implementation in the material environment of society.

But, underlining that not everything that is new can be considered an innovation, perhaps it will be an important step in understanding the scope of innovation,



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because the basic dynamics of innovation are not everything that is new, but innovations that are transformed or transformed into an economic and social added value.

In other case, Gonzales and Denisi gave a basic definition for diversity: “differences between individuals on any personal attributes that determine how people perceive one another”. Their definition is very general and not categorized. [Gonzales & Denisi, 2009] Richards and Kirby offered one of the most limited definitions; they claimed that the diversity is defined by the subset of demographic characteristics including gender, race-ethnicity, and age. [Richards et al., 1999]

### *Approaches to the relations between innovation and cultural diversity*

However, in many of today’s academic studies [Levitt, 1960; Varga, 1998; Fagerberg, 2004; Etzkowitz, 2008; Chavushgil, 2009; Christensen & Eyring, 2011] focusing on mobilizing the scientific potential of universities for innovation, and innovation has been tangentially based on imagination, cultural change, social change and organizational change; commercialization, innovation and utility. Beside it, culture includes many elements that can increase or decrease the tendency to realize innovation. However, when defining innovation culture, it would be wrong to consider culture in isolation or, on the contrary, simply define organizational culture as the only factor that will cope with the lack of innovation in the organization [Ahmed, 1998].

In their studies, which showed the impact of country culture on innovation, although there is a significant difference between the patent density in Europe and culture, Kaasa and Vadi found a relationship. [Kaasa & Vadi, 2008] However, Shane (1992) showed a positive relationship between patented inventions and individuality, one of Hofstede’s (1980) cultural dimensions. Other studies suggest that countries with a lower power have more advantages in terms of innovation potential.

Goffee and Jones focus on two types of human relationships and their implications for organizations within the framework of organizational culture. The first of these relationships, sociality, is about the degree to which the people in the organization can establish sincerity in their relationships with each other. Ideas, attitudes, interests and values are shared with the establishment of sincerity [Goffee & Jones, 1996].

Robbins and Coulter found that one of the three main dimensions that will trigger innovation is cultural variables and they found that these variables were acceptance



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of disputes, tolerance to impractical practice, low external control, tolerance to risks, tolerance to conflict, outcome focus, open system focus and positive feedback. [Robbins & Coulter, 2012]

### **Impact of Diversity on Innovation in Firm Level**

Continuous monitoring of innovations and the successful implementation of these innovations in gaining competitive advantages are becoming more and more important as a skill that today's organizations are trying to have. Because of innovation, organizational competitiveness is a variable that plays a key role in providing efficiency and efficiency [Osterloh & Frey, 2000].

Culture is an important resource that enables businesses to compete with their competitors in the long run and is a variable that affects employee behaviour and motivation [Wiener & Vardi, 1990]. Leaders are believed to be effective in the development and change of organizational culture [Kilmann, 1985]. Therefore, employees are expected to exhibit attitudes and behaviours within the framework of the values established by the organizational culture and the leader.

In development culture; growth, encouragement, creativity and diversity are important motivation factors. Efficiency criteria in enterprises with this culture – growth includes the development of new markets and the acquisition of resources [Deshpande & Webster, 1989].

The interaction between diversity and innovation in organizational settings is complex and sometimes challenging. Diversity can be defined in six clear demographic strips in terms of policy and law: gender, age, race and ethnicity, sexual orientation, religion and belief, and disability. Learning styles and qualifications of individuals and even communities include different knowledge acquisition and communication styles, educational history, personal skills, professional skills and functional expertise.

While ongoing benefits outweigh the initial shortcomings, cultural diversity is good for the team. [Nielsen, 2010] Cox and Blake stated that cultural diversity influences six direct aspects of organizational effectiveness, including creative, innovative challenges, cost, human resource mobilization and problem solving, organizational flexibility and marketing advantages. [Cox & Blake, 1991]

The study shows that the diversity has positive links with firm performance. Some research show that the company has direct relation with different measures, for example, functional font, age, time and diversity.

Furthermore, the benefits of increased innovation were seen as a key argument in promoting workplace diversity. There are several approaches about diversity by



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firms. Although one company suggested that it was not important and two other large companies suggested that diversity-led innovation was the single-most important driver.

Generally, all companies and firms may suffer from the negative impacts of diversity on trust and communication issues, but in many cases this negative impact over time exerts positive effects of diversity. This means that young companies and firms can be more difficult to bring different teams together. Research shows that there is a data gap in this perspective, and there are no studies that directly test the effects of diversity and innovation at the firm level.

### **Impact of Different Cultural Factors on Innovation**

Culture is a system of values consisting of many elements that take shape of the individual's way of life over time, shaped by the environment in which people live. Culture is a common characteristic of societies that has been formed as a result of centuries of accumulation of value, although there are very different definitions of culture in organizational behaviour literature: culture; emerging and shared through generations of communities' common experiences; values, beliefs, identities, interpretations or meanings of important events [[https://globeproject.com/study\\_2004\\_2007](https://globeproject.com/study_2004_2007)].

Organizational culture elements, which provide clues about the basic characteristics of organizations, are important for all stakeholders. For example, employees recognize these elements in the organizations they are working with or plan to work with and exhibit appropriate behaviours.

Gandotra (2010) defined innovation culture as a culture associated with organizational structures and processes that make innovation a daily business. Innovation culture determines how creativity, risk taking, entrepreneurship and knowledge and ideas are encouraged. The culture of innovation enables the formation of norms that help organizational members develop behaviours that support, not hinder, innovation activities.

Culture that supports innovation has the characteristics of creativity, risk taking, independence, teamwork, solution focus, communication, high confidence and speed in decision-making [Dobni, 2008].

In addition, Dobni stated that innovation culture has four general dimensions. The first is the intention to be innovative, the second is the infrastructure that provides support for advancing innovation activities, the third is the information and



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orientations necessary to support the ideas and activities of the employees, and finally the environmental dimensions to support the implementation [Dobni, 2008].

As a result of the information obtained from the studies examined, it is possible to list the characteristics of organizational culture that has a positive impact on innovation, namely the characteristics of innovation culture as follows:

- To show adhocracy culture type of organizational culture (innovation, vision, new resources are important, creativity-oriented);
- Realization of organizational learning;
- Ensuring participatory decision-making process;
- Open-minded managers;
- The leader can easily express his vision;
- Encourage taking risks and accepting uncertainty;
- Creating a competitive, performance-oriented culture;
- Giving importance to group and team work;
- Customer orientation;
- Learning from failure;
- Making change;
- Rewarding;
- Supporting the individuality and independence of employees;
- Importance of both internal and external communication.

### **Practical Analysis of the Impact of Cultural Diversity on the Management of Local Companies**

It should be noted that the business environment where diversity is most vivid is itself. As a result, it is more appropriate to explore cultural diversity in the work environment. The basis of my research is that the work environment is an area where people from different cultures, customs and traditions apply, work, or have clients.

As a conducive environment for people with different values to come together and conduct a general survey, I preferred the hotel environment for a practical part of my release and found some results in doing research in the hotels of Azerbaijan (Caucasus “Qafqaz” Hotel and New Baku Hotel). In both hotels, the survey was based on the following questions:

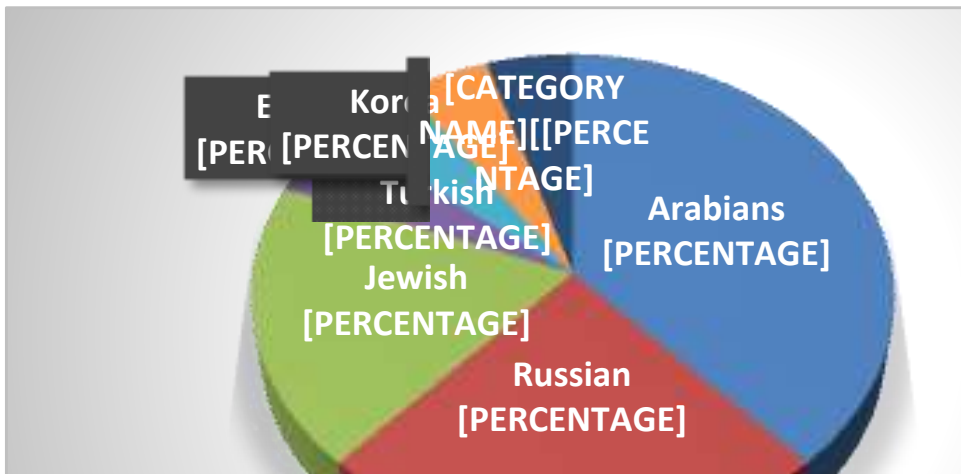
1. How old are you?
2. Name of the organization / enterprise you work for?



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3. Are the aliens you most often encountered in your organization?
4. What challenges do you face when working with people with different cultural values?
5. What do you think is the advantage of spending time with people who have different customs?
6. What is the challenge of spending time with people who have different customs?
7. What are the benefits of working with outsiders in an enterprise?
8. Which culture would you most like to adapt yourself to?

The study found that the hotel’s employees are between 25 and 40 years old in each hotel. The results of the survey on the hotel workers reflect the statistics of foreigners in this way:

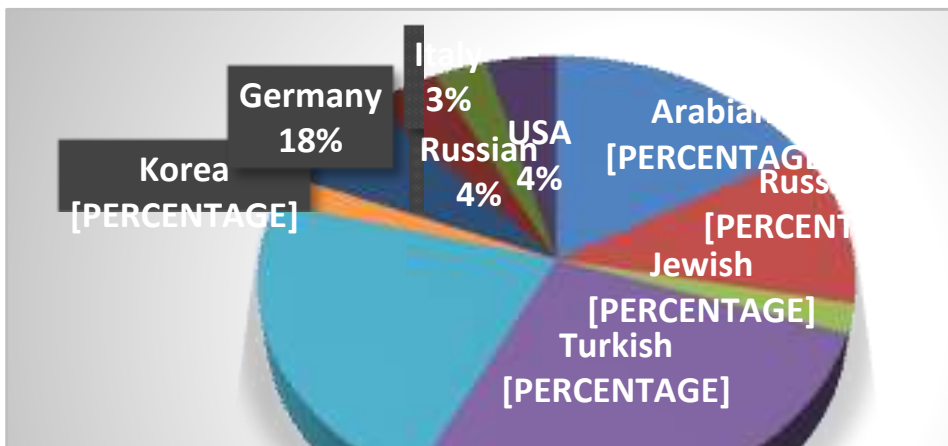


**Fig. 1. Statistics of Foreigners at the New Baku Hotel**

Based on the results of the survey, almost all of the difficulties encountered during communication and work with foreigners come from a non-complicated format. But sometimes we can get unexpected surprises. The main issue is that there are language restrictions when communicating with foreigners. According to the lady who works at the registration desk in one of these hotels, sometimes foreigners can only request hotel staff to speak their language, even though they have alternative language skills.



According to her approaches, for example, Italians often speak their language, refuse to speak English, and try to solve the English language problem in the event of a misunderstanding. Some foreigners do not speak a language other than their own language. This also complicates hotel staff. The staff also noted that foreigners are more demanding and more serious about work and services.



**Fig. 2. Statistics of Foreigners at the Qafqaz Hotel**

Although it is simpler for foreigners to be more kind and friendly in their communication, this kindness and simplicity does not reflect any problem that may arise from work and service.

As we know, staff in the hotel environment is providing services to foreigners and local citizens. However, it is important to note that it is also possible to employ people of different nationalities within an enterprise. Based on the answers to the questions asked to identify the effects of such activities, summarizing the opinions of the hotel staff, we can conclude that there are both pros and cons to working with foreigners within an enterprise. So, according to the survey results among staff members in both hotels, foreigners are treated more seriously and responsibly. They hand over their work on time and do not allow any delays. They also monitor the progress from beginning to end. Such features make them a valuable employee. They become more understanding, patient and open-minded. They express instances or



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situations they disagree with immediately and try to find a solution. On the other hand, they are quite demanding. Sometimes the requirements can go beyond the capabilities of the enterprise. Also, their openness is not welcomed by business executives and sometimes by customers. Another problem, of course, is related to the cultures of other people who work in the same environment in the same enterprise. Such situations can lead to conflicts. There are a number of ideas that staff members form about other cultures, in their working environment. Following these considerations, it was revealed which culture prevails in the staff or what culture is more interesting and colourful. According to the results of the question asked, both hotel staffs prefer European culture. This is explained by the fact that people of European nations have greater ability to communicate, are more relaxed and restrained, and have a higher level of service culture.

### Conclusion

The fact that the concept of innovation has become more and more involved in our lives has undoubtedly been realized by the effect of external environmental conditions. It is no longer necessary to say that competitive conditions and customer needs change rapidly. As in many other activities, the impact of organizational culture on innovation activity is twofold.

That is, it can both facilitate and prevent the realization of the activities. In terms of innovation activity, it is clear that not all features of organizational culture will have an impact on innovation. At this point, a subculture, which is the sum of the characteristics of the organizational culture that is related to the activity of innovation, emerges, which is the culture of innovation.

This article seeks to review the literature on cultural diversity and innovation performance. We have tried to cover studies that influence cultural diversity, directly or indirectly, on innovation.

Cultural diversity within the enterprise is manifested in two aspects. The first of these is the presence of foreign nationals within the enterprise, and the second is the provision of services to foreign nationals. In the first case, the effect of diversity is directly on the company. Thus, the work of employees of different nationalities in one enterprise contributes to a richer and more organized organization of the business process. Representatives from different nationalities add their own ideas to the workflow, and as a result, the viewer is different from the member of the nation



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involved. Finding a common point and pursuing a service or consumption based on it will contribute to the success of an enterprise. Adapting staff to different members is also a time-consuming process.

In the second case, the effect of diversity on intra-organizational processes is immediate. The main affected person here is the employee. When working with a foreigner, staff members can be affected, both positively and negatively. The use of a developing employee's resources (language knowledge, cultural differences, different perspectives, etc.) varies depending on his or her level of creativity. This is why the second aspect is indirect. It is clear from the study that workers have a hard time identifying and preventing problems that may be present due to differences. This curve must be alerted to every possible occurrence of the employee to avoid problems. For this purpose, it would be advisable for employees to study diversity and cross-cultural management fields.

Cultural differences are the biggest challenge for firms, but research shows there is also the potential for innovation. How to solve intercultural problems or use the benefits of cultural heterogeneity is a long-term focus and work.

The results of this study, which seeks to find an answer to air cultural diversity, have a negative or positive impact on innovation. I tried to determine whether the presence of foreign nationals in local firms could influence innovation activity and that diasporas could play an important role in the development of innovation.

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