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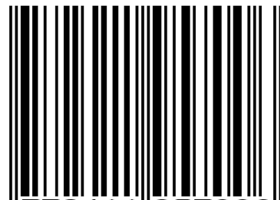
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## Wine as an Investment Opportunity

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### Abstract

Market development with non-traditional commodities is not as developed and widespread as the market with traditional commodities. There is much information regarding investments into antiquarian objects but there is not so much regarding other types of commodities. The traditional slovak investor is an investor into classic investment products with lower risk and lower revenue at the same time. As Warren Buffett said, price does not matter, but value matters. In case of some commodities, with we can gain the high appreciation with a small investment, too, despite the high risk. We have to look forward and to think about the future with non-traditional investments as it is the long-term investment. It represents goods that are little liquid, and there is an inactiveness sometimes needed, but on the other hand it is still necessary to follow the market. There are more and more possibilities of investments with the fast-changing world. Sometimes we can get interesting revenues from some irrational investments. The aim of this paper is to analyze conditions of the market with possibilities to invest into non-traditional commodities, where also the investments into wine belong. We have used the description of alternative investments, analysis of facts and conditions as well as the possibilities of non-traditional investments in Slovakia to reach this aim. On the basis of observing the price development, we have made recommendations for the traditional slovak investor with the positive relationship to non-traditional investments and with the positive relationship to risk.

**Keywords:** commodity, wine, non-traditional investing, market

### Introduction

#### Theoretical background

Trading with commodities is a very old job that dates back further than trading with shares and bonds. Ancient civilizations traded with many commodities from shells to spices. The power of empires can be considered as its reasonable ability to create and manage the complex commercial systems and to ease the exchange of commodities that serve as wheels of trade, economic development and taxation of royal treasury.

The expression commodity is defined also in the slovak legislation and it is defined as „a tangible object and manageable natural power, mainly a product, energy and raw material, including precious metals except of gold which is traded or can be traded on the market of goods and services “(Act no. 92/2008 Coll. on Commodity Exchange).

Some commodities have the great history, that dates back to the beginnings of civilization, but they have one thing in common- they will be attractive again and their value will increase. (Schipman, 2007)

Price of commodities is often connected to inflation. If inflation grows, prices of commodities grow, too. Prices are almost independent from the development of financial markets. Value of commodities does not need to grow only, it can also decrease, but the value will never be zero. As price of commodities is unpredictable, they belong into risk investments.

Trading in commodities is mostly very attractive for small tradesmen because it offers the possibility of the fast enrichment. The old rule still applies, if it is possible to get rich on something very fast, it is possible to go bankrupt very fast, too. Commodities are considered as the awesome trade tool. Every trade has always two sides of one coin, and this applies also for trading in commodities. (Turek, 2007)

### **Non-traditional commodities**

There is a new phenomenon in the world and it is investing into non-traditional, resp. alternative commodities. Nowadays, it is possible to invest into anything. Except of the common forms of investments, there are many non-traditional ones. Non-traditional forms of investing represent new opportunities and the chance for high revenues. Trades with precious coins, art, precious stones, wine and other antiquarian objects belong here. These trades are not very widespread so far, so they represent much higher risk of liquidity. They are traded in the long-term investment horizon, and it is necessary to count with higher risk in a decline of value.

Traditional investments are realized to gold, silver, precious stones or to diamonds. Wine is also a non-traditional investment. A wine expert is not necessary, but it is advisable to use them. The annual revenue from the purchase of this type of alcohol moves between 10 – 15%. In some cases, the future value can increase by 200 % from acquisition price. In some unique cases it can be up to 400% from original price. The wines for investments are red varieties, mainly from the french provinces, that has the potential of maturing. Some wines mature up to 30 years and therefore they become a curiosity after years, and their value increases. The most qualitative wines come from Italy, Spain or Portugal, but it is necessary to purchase them in verified viticulture, where the high quality is guaranteed.

Among the main market indices in this category belongs Liv-ex Fine Wine 100, where there are monthly reflected movements of prices of hundreds qualitative, most searched wines. The value of index is influenced by the price of french wines mainly from the region of Bordeaux, but also by the demand for the wine from the region of Champagne, Burgundy, and also from Italy. (Makarova, 2011)

The best is to purchase wines that mature in barrels, it is possible to get it for the low price on the principle „en primeur“. It is bottled after two years and at that time the price begins to grow. More factors influence price increase, as for example small number of particular bottles and its high demand. The big influence has also the evaluation of tasters, the quality of vintage and prizes won. It is also important in investing into wine its storage and it is necessary to take care of it, too.

Champagne is an excellent investment and it is sometimes more affordable than investing into the wine Bordeaux. It is still new and growing market. The average annual growth of Vintage Champagnes was around 10% from 2014 to 2015. The example of even bigger growth was Krug Brut 96, that grew in 5 years by fifty percent. (Colagrosi) They are luxurious products and it is predicted that the demand will be always higher. The advantage of Champagne is, that the availability of stock is regulated so they do not damage the market and do not change prices. Similarly, it is also important for Champagne to be stored appropriately, in the dark room with the humidity around seventy degrees. It is essential not to expose it to the sun.

### **Methodology**

The aim of this paper is to analyze the possibilities of investing into wine for slovak investor and verification of availability of non-traditional commodities as the part of investment strategy.

We have created the analysis divided into particular parts from the relevant and available information. After analysis we worked with text synthesis. We also used the methods of induction, description and deduction. All the relevant information have been gained from professionals from the particular field. Information were provided directly from professional by means of electronic mail. They were also gained by the market observation on investment portals. We analyzed in more detailed way the possibilities of investing into the particular types of wine. Information were gathered from professionals from this field and from portals dealing with investments into this commodity.

The paper presents the results of the analysis of the market with wine, where Europe is the leading global producer of wine with more than 45% of vineyards and 60% of production of wine. It also belongs into the leading consumers what represents almost 60% of the world consumption. It is the leading exporter and the biggest import market. In the last years, productions of wine in European Union have reached the average production approximately 26 000 millions of hectoliters. France is the biggest producer with the average of 55 million of hectoliters of wine, that represents 30,6% of the total volume in European Union. After France, Italy follows with the approximately 51 million of hectoliters of wine. Spain is the third biggest european producer, with the annual production of approximately 43 million of hectoliters. The production of Germany from the point



of view of value is almost the same as in Spain despite the considerably lower volume of production. Portugal produces approximately 7,2 million of hectoliters of wine and has the value approximately 1 billion EUR. Hungary, Greece and Austria follow. Finally, there are more small producers as for example also Slovakia with 440 000 hectoliters of wine. France and Italy represent more than 40% of the world wine production and they are still dominating in this field. European Union exports around 13 million of hectoliters of wine.

The states as Australia, South Africa, New Zealand, Chile and Argentina have developed the growing reputation for the production of quality wine. This growth of wine production and quality of wine have created some exports and opportunities and therefore it has caused the changes in the types of produced wines. The development of production capacity of these main competitors has caused the worldwide decline of the exported amount of wine and also the decline of its production in European Union.

## Results

It is possible to invest into wine by various ways. Firstly, we have to think over what the aim of investment is. It is possible to invest also into vineyards. Investing into this real estate is more and more popular. Nowadays, there is a high demand for it, but the offer is low, i.e., it has been waiting for rise of prices. Owners rent it profitably or sell the production of grapes to processors.

The Czech Club GWC provided the possibility to partially participate on the profit by the form of convertible bonds. These bonds were issued at the beginning of the project to get another capital to start. These bonds were issued in 2016, and will be payable next year, i.e. in 2019. Just then it will be possible to realize single-use profit or to change their bonds with shares. Just one part is being sold, that was originally reserved for Slovakia and a part that was kept by one investor for a short time.

The other possibility is to invest into viticultures. These investments carry with themselves also a part of its own entrepreneur risk that is transformed to investor in proportion to their engagement with the particular project.

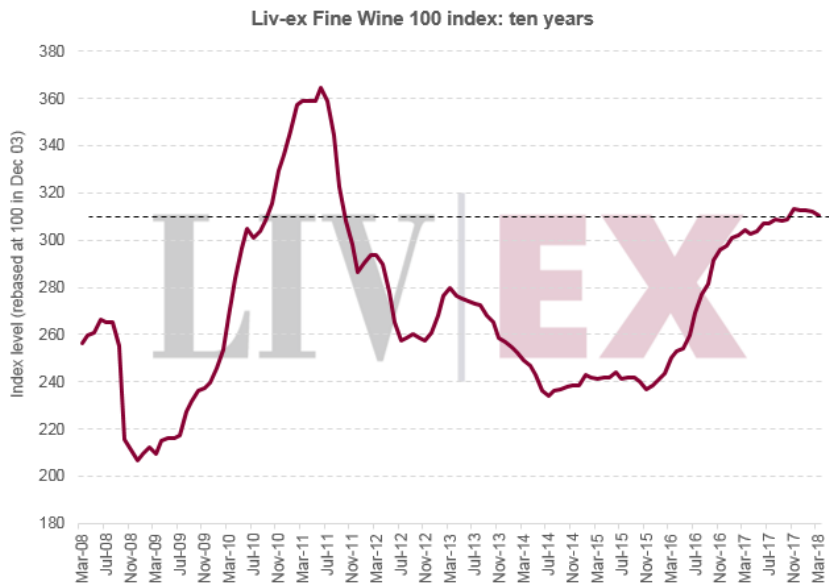
The third option is to invest into wine itself. Nobody will dedicate their time to this type of investment if they do not have any relationship and they will regard it as the common investment, similarly as in works of art and collectors' pieces. As all traditional investments, also investments into wine have its specific rules. Firstly, it is necessary to realize that not every wine is convenient to invest into. Above all, it should deal with the wines from aromatic varieties and it should be attributive. Firstly, it is essential to consider the region of origin and producer. Then it is necessary to consider the upper limit of maturity from which then quality begins to decrease. The essential part is also wine storage as it is the investment for around 5 to 15 years and it carries with itself additional costs for storing.

The price is influenced by different factors as already mentioned origin, vintage, quality but also market availability. The price is very much influenced also in case if a wine has won any prize. The availability is connected to scarcity of particular wine, that grows with the time as well as quality. Appreciation in selling moves between 10% to 15% a year but in some cases, it can be 30%. Appreciation is not linear what means that in the first years the growth rate of value is lower than later. In the shorter horizon, for example around 3 years, it is possible to have profit around 15%.

The good example is also Château Le Pin, that in 1982 cost only few dollars and in 2007 was auctioned for 47,800 USD in the auction in Chicago. It reached 7500% appreciation. These revenues were reached by only few wines mainly the wines Château.

Liv-ex is the global market with wine that provides to tradesmen all around the world services in the area of data, investments and clearing. It provides various services as sale, logistics, different data, accounting, marketing and also research. Liv-ex Fine Wine 100 is an industrial measuring tool that was concluded in March 2018 on the value 310,69 after 0,47% decrease in comparison with previous month, see picture 4. It was the fourth in sequence decrease of index, although every month the decrease was lower and lower. The best movements in March were from the regions of Burgundy a Bordeaux. Two wines from Dve Armand Rousseau Chambertin held the best positions. In 2012 and 2013 it increased by 22,6% respectively by 11%. The highest march decreases were from the regions of Burgundy, Champagne, Bordeaux and Rhone.

**Picture 1 Liv-ex Wine 100 index in 10 years**



Source: Liv-ex.com

Source: Liv-ex

On the picture, we can see variations of index level in the last 10 years. The highest values were represented in 2011, when it got over the value of 360. In March 2018 the value was 310,69, after it had four times in sequence decreasing tendency. The lowest values during the followed period were in 2008 – 2009. After this period the tendency rose although with smaller decrease and it went up to its maximum. Consequently, it decreased with smaller or bigger rises and in years 2015 – 2016 the tendency again rose.

**Table 1 The change of middle values february - march 2018**

Wine	Vintage	Middle value in february 2018	Middle value in march 2018	Change
Armand Rousseau, Chambertin	2012	12 045 GBP	14 763 GBP	22,6%
Armand Rousseau, Chambertin	2013	9 406 GBP	10 441 GBP	11,0%
Haut Brion	2000	6 600 GBP	6 785 GBP	2,8%
Margaux	2000	7 750 GBP	7 948 GBP	2,6%
Vieux Chateau Certan	2009	2 400 GBP	2 460 GBP	2,5%
Comte Vogue, Mosigny Vv	2014	4 780 GBP	4 533 GBP	-5,2%
Taittinger, Comtes Champagne	2006	746 GBP	706 GBP	-5,4%
Angelus	2010	3 130 GBP	2 950 GBP	-5,8%
Krug, Vintage Brut	2002	3 000 GBP	2 800 GBP	-6,7%
Beaucastel, Chateauneuf Du Pape	2012	520 GBP	477 GBP	-8,3%

Source: Own procession on the basis of Liv-ex

In the table, there is a list of 5 wines, that reached from February 2018 to March 2018 the biggest change from the point of view of the middle values expressed in british sterling and 5 wines that reached the smallest change in this period. The biggest change of the middle value was reached by the wine from 2012 Armand Rousseau, Chambertin. While in February it had the value of 12 045 british pounds, in March it reached the value of 14 763 GBP. It reached the total change of 22,6% from february 2018 to March 2018. On the other side, the smallest monthly change was reached by the wine also from the

year 2012 Beaucastel, Chateauneuf Du pape, as its price from February 2018 has decreased from the value of 520 GBP to 477 GBP. This decline represents 8,3% , and by this it got the last place in the list.

In the last years, wine has shown that it is more stable investment than classic cars, precious works of art or jewellery and it has overcome these products by its growth of value. Wine Enthusiast has made the list of 100 best wine cellars. There are 100 best, exclusive wines in this list, that were selected from more than 22 000 wines. Wines were given points from different points of view, and there are also 4 wines in that list with the full score what was 100 points. These wines come from regions as Bordeaux, Champagne and Douro in Portugal. The rest comes from the different parts of the globe as it is the classic Burgundy, Tuscany and Rioja, but also California, Washington, Oregon and New York. While many wines in this list have the high value, almost a half has the value under 100 USD. It proves that the star investments can be also reached for the appropriate price.

### Recommendations for investors

Every investor has to be very patient if he decides to invest either in traditional or non-traditional commodities. In the case of non-traditional commodities, it is very important to be interested in the particular commodity before making investment in it. The best thing is to be an expert in the particular industry or it should be also the investor's hobby. If they are interested in commodity that they decided to invest into, they have higher chance for higher profits. This type of investment is for a longer time period. Investors should not be afraid to invest into this commodity even if it represents high risk. Non-traditional commodities will never have zero value. Its value will be rising by time passing because there will be less of them on the market. The market with the particular commodity has to be examined. Sometimes, also from the absurd investments, high profits can be reached. It is then for investor the most important to be patient and to wait. They have to follow the market, current position and development of prices.

### Conclusion

In case of wine, it is an investment that is riskier. If the risk is higher, the higher profit can be reached. The price of wine does not have big oscillations. We know more varieties of wine and every country has its specifications, too. It is not possible to invest into every wine. In case of wine, it is very important to store it correctly and to treat it in a correct way. Investments to alternative commodities as wine are the commodities for a long time investing. Wine matures and by this its value increases. The more valuable is the particular variety of wine is, the more precious is the wine. The value depends on variety, place of production, vintage and other different factors. Bad weather and vintage do not influence the value of wine. It happens very often that we can have the highly valued wine also from the bad vintage. If the vintage is weak there is less wine produced and therefore these wines are more valued by the time. For many people, some vintages are more valued, and they are able to pay more for it, for example, this year vintages 1948 or 1918 can be more valued. The price can also be influenced by the year of wedding, starting of business, when a couple became parents, etc. The value is different with different people. In case of investment, varieties are important, mainly those, that are few and are less valued. The volcanic wines are becoming valued, too.

It can be said that the older wine is, the more valued it is, but it is not always the case. In case of wine or alternative commodities as such, it is about the trades on OTC markets or auctions. They do not have their market created on stock exchange market. Alternative commodities are less liquid, and its future values are unpredictable. In case of wine, it is possible to invest also with the low starting investment. It is possible to get wines from specialized sellers, winemakers, wineproducers but also through investment portals dealing with investments into wine.

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## Step by Step for Social Innovation with Neuro-Fuzzy Modelling<sup>1</sup>

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### Abstract

Innovation as the key element of economic development is a crucial factor in social processes. Technical innovations can be identified as prerequisites and causes of social change and cannot be created without the renewal of society. Technological and economic innovations cannot respond to all social challenges. Natural and material resources are becoming more and more scarce, so it is necessary to use investment assets as efficiently as possible, maximizing social and economic efficiency. It is a major task to address the backwardness of social disparities and to create opportunities for catching up in peripheral regions. The aim of our study is to identify the local level of catching-up opportunities that arise from social innovation efforts, and model values for other disadvantaged areas. The investigated solution is presented as a case study after a structured analysis of the local initiatives of the settlement. In addition to examining the prominent role of local actors and networks, we present the process of social innovation, the framework conditions that determine systemic functioning, as well as the social needs, potentials and barriers that determine social innovation efforts. The study identifies the social, economic and political challenges associated with social needs in peripheral regions, as well as proposals for solutions based on neuro-fuzzy modelling that can be adapted to other disadvantaged areas. Exploring solutions and innovative structures and collaborations provides an opportunity to demonstrate the role of the social innovation process in local-level catching-up initiatives.

**Keywords:** social innovation, disadvantaged settlements, catching up, neuro-fuzzy modelling, process orientation

### Introduction

A number of fundamental problems of the economy and society - such as the decrease in population, unemployment, migration, or lagging regions - require long-term solutions that need new forms of cooperation between social actors, the direct voluntary participation of citizens in decision-making processes, and the pursuit of social innovation efforts (Veresné Somosi-Varga, 2018). Social innovation and so-called technical innovations reinforce each other and as a result they can respond to local, community-level challenges, find solutions to everyday problems and thus enhance the well-being of the community. Innovations resulting from the expansion of innovative areas can be characterized as complementary processes.

Social innovation efforts can be interpreted at several levels.

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Micro-level social innovation is based on the involvement of companies, social enterprises and civil society organizations implementing social innovations at the organizational level together with the novel co-operation of citizens and local governments.

The analysis of social innovations at the meso level focuses on investigating novel regional co-operations. The exploration of contexts makes it possible to define the framework conditions that will be involved in generating regional social innovation. Defining and studying relationships between settlements, network analyses and micro-regional cooperations make it possible for us to measure the regional social innovation process.

When examining macro-level social innovation, network and systematic analysis of regional contexts is required. Examining a representative sample, a structured interview and a classical network theory approach make it possible to identify national-level social innovation efforts. Identifying global social initiatives requires the implementation of an international analysis by examining the adaptability of expert interviews and international practices.

In the first part of the study we examine the relationship between social and technical innovations, with special emphasis on the role of social efforts in the catching-up process of disadvantaged settlements. In the literature review, we also identify the factors that can be used to determine the process-oriented examination of social innovation.

In addition to determining the process-oriented framework, we examine the micro level of social innovation and the framework conditions that can be interpreted at the organizational level, which enables the identification of social innovations at organizational level and also their generating potential. Among micro-level social initiatives, we focus on exploring good practice within a structured interview. Social innovation as a new means and model to help the process of catching up is a kind of good practice in the toolbox of local governments, especially in disadvantaged regions.

We are exploring a new and innovative solution that we present in the form of a case study. Case analysis enables us to present good practice in a complex way, creating opportunities for adaptation, sustainable operation and effective implementation.

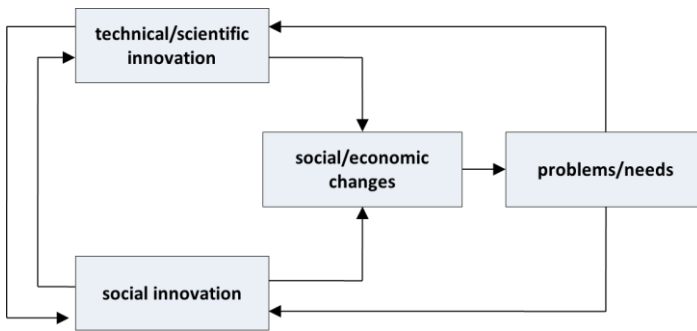
### **The relationship between social and technical innovation**

In 1970, Dénes Gábor examined several types of innovations, and attributed the backlog of efforts to increase social welfare to the predominance of technical innovations. In his opinion, social initiatives can be identified as reforms controlling innovation (Gábor, 1970). Drucker (1985) emphasized the importance of novelty in innovation. His starting point was the fact based on empirical observations that there was a shift in the focus in the US economy. Drucker stated that the economy typically being controlled until then had shifted towards the working principle of so-called entrepreneurial economy. As a result of the entrepreneurial economy there was not a stagnant period in the American economy, which was due to the descent of the Kondratyev cycle. According to his reasoning, the development of the entrepreneurial economy was primarily due to social innovations, therefore Drucker had already emphasized the importance of social innovations in the 1980s. He argues that innovation is needed in all areas of life, innovation must not be limited to technical or economic areas, but it is also a social category. Expressing this theory he made the concept of social innovation more important.

Smeds (1994) identifies technological innovations as prerequisites and causes of social change. According to Introna et al. (1999), technological innovation cannot occur without the renewal of the society. Innovation is an "expanded" interpretation of a new or significantly improved product, process, marketing method, or organizational method in business practice, organizations or in relationships motivating cooperation (EC, 2006). The definition primarily means guidelines for technical and economic innovation, however, the European Union's research and development and innovation policy (Horizon 2020) already pays particular attention to defining social innovations. Murray and his co-workers (2010) investigated novel social co-operation and, in their opinion, new structures are developing new social solutions to address social problems through technological development. Franz et al. (2012) examine technical and social innovations separately, and emphasize the importance of the question whether innovations with new technological achievements are needed (desirable) for the society in every case. In their view, the new is not necessarily a good and desirable category, and social innovation efforts mean a wide range of practices that are widespread and accepted in the society.

The different types of innovation interact and lead to the transformation of economic and social relations.

Technological and economic innovations cannot respond to all social challenges. Natural and material resources are becoming more and more scarce, so it is necessary to use investment assets, maximizing social and economic efficiency. It is a major task to address the backwardness originating from regional disparities and to create opportunities for catching up in peripheral regions.



**Figure 1** Embeddedness of social innovation. Source: Kocziszky-Veresné Somosi, 2016

Social innovation can be interpreted as a concept that results in meeting the needs of society, along with new or novel cooperations and structures. Social innovation efforts lead to the renewal of society while encouraging members of society to act.

After a structured review of the literature, it can be stated that the theoretical field of social innovation is divided into six basic approaches.

Approach, emphasis	Author	Main results
meeting community needs	Fairweather, G. W. (1967), Bagnasco, A. – Sabel, C. F. (1995), Hazel, C. – Onaga, E. (2003), Mulgan, G. et al. (2007), Murray, R. et al. (2012), Neumeier, S. (2012), Bulut, C. et al. (2013)	social and behavioural changes
creative problem solving, innovative cooperation	Whyte, W. F. (1982), Zapf, W. (1989), Bagnasco, A. és Sabel, C. F. (1995), Mumford, D. M. et al. (2002), Phills, J. et al. (2008), Jégou, F. – Manzini, E. (2008), Moulart, F. et al. (2013), Balaton, K. – Varga, K. (2017)	new social relationships, renewed social organisations
addressing social challenges	Kemp, R. et al. (1998), Rotmans, J. et al. (2001), Phills, J. et al. (2008), Voss, J.-P. et al. (2009), Witkamp, M. J. et al. (2011), Weerawardena, J. – Mort G. S. (2012)	special solutions, social and technological changes
improving the quality of life and well being	Hazel, C. – Onaga, E. (2003), Mulgan, G. et al. (2007), Pol, E. – Ville, S. (2009), Peyton Young, (2011), CRISES (2012), Cajaiba-Santana, G. (2013), Kocziszky, Gy. et al. (2017)	social and technological innovations, community-related innovations
local (community-related) development	Bagnasco, A. – Sabel C. F. (1995), Moulart, F. et al. (2005), Swyngedouw, E. (2005), Gerometta, J. (2005), Membretti, A. (2007), Jégou, F. – Manzini, E. (2008), MacCallum, D. (2009), Moulart, F. et al. (2010), Bouchard, M. J. et al. (2013)	strengthening social cohesion, social change
link with further innovations	Gábor, D. (1970), Drucker, P. (1980), Zapf, W. (1989), Pot, F. – Vaas, F. (2008), Franz, H.-W. et al. (2012), García, M. et al. (2015)	solutions generating further innovations

**Table 1** Main focus of the concept of social innovation. Source: own compilation

### Social innovation as a means of catching up

Social challenges requiring long-term solutions (e.g. unemployment, migration, disadvantaged areas) require new social cooperation. Social innovation is a necessary step towards improving development and competitiveness, where the role of innovators is emphasized. Innovators are members of the local community or, more broadly, of the society, who meet the needs of new or novel solutions in response to their needs. In our research, we pay special attention to the most disadvantaged areas and explore the opportunities for catching up. In the case of lagging settlements, it is absolutely necessary to introduce novel co-operation, to identify and accurately meet local needs, to involve inhabitants in local decisions, and to analyze the impact of social innovation efforts on raising the standard of living.

The research emphasizes the importance of exploring new social innovation efforts in the process of recording good practices in the database, as novel cooperations in certain settlements and between settlements serve as examples for other disadvantaged settlements. Presenting and learning about local, regional, and international experience and practices

is useful both to the example-giving and later to the example-taking parties. The former can expand their knowledge of sustainability, while the latter can examine the challenges of adaptation and the opportunities offered by new structures.

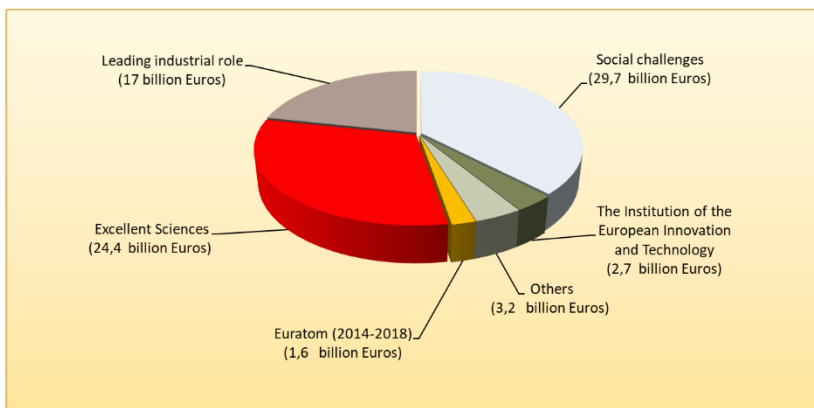
It is a major task to address the backwardness originating from regional disparities and to create opportunities for catching up in peripheral regions. Until the 1980s, innovations that were primarily aimed at increasing the well-being of a society and a particular community, appeared alongside with technical and natural science innovations. The peripheral settlements and their need for catching-up have come to the fore. One of the reasons for this lagging behind is the failure of the international product cycle concept for Vernon. According to Vernon's (1966) theory, the production of innovation-based products is constantly shifting to less developed and later developing countries (depending on resources, expertise and cost differences).

Nowadays, the majority of the production does not work that way. R&D costs and increased computer integration do not allow for cost savings in wages as much as in the 1950s and 1960s (at the time of the conception), so there is no relocation of production while it is moving along the product life cycle. This process determines the fixation of the development disparities, the reduction in (or, in some cases, the total absence of) the chances to catch up due to social disparities. The social disparities, the reduction in the chances to catch up, the lower level of the competitiveness of the peripheries, together and also separately, require a solution that should support the chances to catch up and the reduction in the disparities (Varga, 2017).

In this catching-up process, local innovative community-level ideas and social innovations played an important role. It should be emphasized that besides the process of social innovation, it is natural sciences, engineering and economic innovation that are also of great importance, because they are able to increase the welfare of the given community together. The relationship between technical and economic innovation as well as social innovation is described by Farkas as "the latter process means the boundary condition, the working space and the medium of the previous one" (Farkas, 1984, p. 11).

There is a correlation between the economic capacity of the given region and its ability of innovation (Kocziszky-Veresné Somosi, 2016). However, innovation (the search for new and innovative solutions) needs to be interpreted more broadly than before. In line with social changes, the European Union pays more attention to the context of social innovation than before.

There is a need for a paradigm shift; besides the R&D activities in technical and natural sciences, which require more and more investment, there is a need for new, innovative solutions to address the social and economic problems of a given community (settlement, region).



**Figure 2** H2020 budget (2014-2020). Source: EU

### Process-oriented analysis of social innovation

García et al. (2015) identify social innovation as a broad-spectrum process the results of which are as follows:

- resources, services are provided to meet social needs,
- confidence builds up and activity supporting marginalized groups increases,



- social relations are changing, and transformation creates new governance measures.
- Bacon et al. (2008) identified three determining factors that explain the dynamics of the social innovation process:
  - willingness to change (based on fear of threat or opportunity for innovation),
  - efficient activation of (internal) resources available for change,
  - effective achievement of available (external) resources for the implementation of the transformation process.

Resources (people, money, skills, and networks) in this interpretation represent the resources that provide positive feedback from the community for renewal.

The main areas of the social innovation process (CRISES, 2012) are as follows:

- a product and/or manufacturing-based social innovation process (employee involvement and participation in organizational processes, matching of workers and workplace regulations),
- social innovation process related to consumers / users (involving consumers, introducing new services, encouraging responsible consumption),
- an enterprise-based social innovation process (cooperation, social responsibility),
- an area-based social innovation process (new forms of governance, community development).

Bund and authors (2015) emphasize that there are the following aspects in the focus of social innovation efforts:

- identification of unsatisfied social needs,
- understanding these needs,
- the responsibility of society,
- and combinations of these factors.

The basic criterion of the social innovation process is that it should be a novel initiative. This does not necessarily mean a completely new solution, but a novel combination of previously well-functioning routines that meet the occurring social needs, thus creating new skills. In the case of social needs, it is an extremely important criterion how urgent the need is and how sustainable the proposed solution is. Social innovation is not a linear but a spiral process due to feedback. The level of occurrence, the sector where the initiative can be observed, and the examination of further developing (generating) opportunities are basic questions to be answered.

Social innovation is a dynamic process. Feedback and temporal relevance are of key importance in certain activities of social innovation.

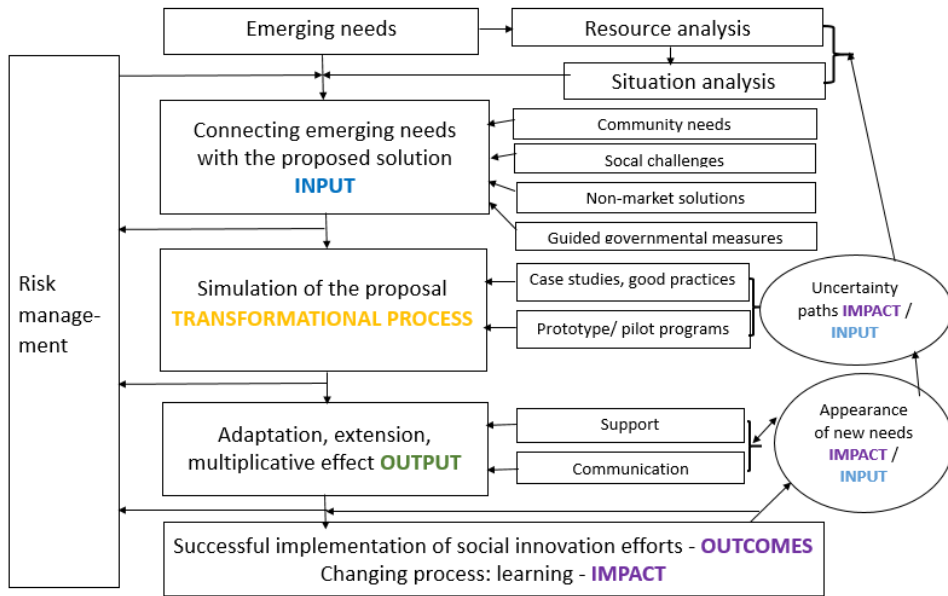


Figure 3 The dynamic process of social innovation. Source: own compilation. (Varga, based on 2018)

The initial step in the process of social innovation is the examination of emerging needs, the satisfaction of which requires prior resource analysis and related situation analysis. Connecting community needs, social challenges, non-market solutions and guided governmental measures, as well as novel responses to them, means the input factors in the social innovation process. Efforts are basically not market based solutions, but they are initiatives that also result in the renewal of the society that form the community in the long run. Risk management can also be seen as an input factor at this stage. The following step is to examine the possible and proposed solution with the help of the Falcon model, which involves the introduction of prototypes and/or pilot programs after examining case studies and good practices. This is the most uncertain phase of the social innovation process, which is constantly challenging those concerned. After practical compliance, social efforts become adaptable, then extension takes place and multiplicative effect appears. At this point in the process, the supportive atmosphere (resources, institutions, political and social framework conditions) and proper communication are important factors. At this stage of the process, either new needs can emerge or new efforts can be proposed to the community with the help of well-functioning communication channels. Successful implementation of the social initiative leads to a changing process (learning) as a result. During the process, it is necessary to consider and evaluate the risks, to develop strategies for their reduction or elimination. Following the successful implementation, new needs emerge that can be met by the socially innovative community along the above process. Therefore, social innovation is a dynamic process that results in social learning through feedback loops and constant risk assessment.

Social innovation efforts can be a proposed solution for meeting social needs and handling the challenges of peripheral regions. Social needs and challenges facing the community can be grouped in three ways:

Social Needs	Challenge	Economic Needs	Challenge	Political Needs	Challenge
involving citizens, social services (healthcare, education, etc.), mobility, community	emigration, ageing, disadvantaged groups, inequality between levels of education	security, stability, employment, sustainability, trust	housing conditions, unemployment, financial resources, expertise	awareness, mobilizing power, political participation	government transparency, independence of decisions, commitment

Table 2 Social needs and challenges of peripheral regions. Source: own compilation

The lack of financial resources is a critical point in the feasibility of the social innovation process. If individual or community ideas provide new, innovative solutions for disadvantaged areas, more organizational and financial support is needed to implement the project. At the local level, the various programs of the European Union (LEADER, GINOP) provide support for economic development and innovation for municipalities with catching-up needs.

### **Characteristics of the system supporting the development of social innovation**

In our research, we have come to the conclusion that the phase involving the development of social innovation should be supported due to the huge amount of data to be processed, i.e. the introduction of a supporting system is needed. To set up the model, we first determined the aspects and conditions that can be applied to the input data and what we would like to achieve. In order to select the right system, we reviewed the needs hierarchy of social innovation, selected the proper aspects (e.g. inhibiting factors, organizations to be involved, potential implementers, etc.) and developed the settlement statistics database.

Our aim was to create a framework where huge amounts of data can be managed on the basis of different aspects. The data that are available for us include statistics, i.e. objective data, as well as the results of interviews, which can be considered subjective data, therefore we chose to use fuzzy logic.

The fuzzy system is able to manage several data types at a time and can be perfectly combined with decision trees, which is the basis of our model. Fuzzy applications have already appeared in medical biology, insurance risk assessment, and many other areas of life. In this regard, our approach to use them in generating social innovations is a novelty. Following fuzzy logic, other sub-symbolic artificial intelligent methods have emerged: primarily neural networks, evolutionary programs, genetic programs etc., which are often combined and are commonly known as soft computing. The advantage of the fuzzy control system is that the model can be set up directly by observing input-output pairs and can be installed by tuning the quasi-optimal control algorithm. The disadvantage is that such a model can only be approximate. After studying several neuro-fuzzy models, we chose the Falcon method, which is capable of learning both parameter and system rules. In the construction of Falcon's pre-loaded network, the fuzzy weights characterizing the input and output member functions are embedded in neurons, therefore it has three hidden layers instead one.

In our study, the neuro-fuzzy model, i.e. the fuzzy logic controller based on neural network has a:

1st layer: (the input functions of the model) the area of the settlement; the number of inhabitants and their distribution by age; marital status; economic activity (workers, number of unemployed people); level of flat equipment, being the part of the sewerage or water supply system

2nd layer: whether the settlement has facilities for medical care and entertainment, such as cinema, library, museum etc.

The first step was the creation of a knowledge base, a database of existing good practices. It contains objects with their structures, fields, and attributes that are connected by fuzzy functions.

Certainly this database should constantly be updated with new good practices and statistical data. The good practices shown in the knowledge base need to be categorized, which in our case took place in line with:

- the form: technology, product, service
- the aim: enhancing the quality of life (according to a needs hierarchy)
- the level: mezo
- the way of financing: state, private, funded
- the innovator: civil organisation

The input functions of the model are the area of the settlement, the number and age distribution of the population, marital status, economic activity (workers, unemployed people, dependents), the level of equipment of the flats, agricultural area, forest. In the second round, we examined whether there are facilities for medical care and entertainment.

### **Case study – Social and economic challenges and solution in Mezőszemere**

Hereinafter we present a social innovation initiative in a structured way, which, in response to local challenges, enhances the well-being of the population, helps disadvantaged groups, and identifies the stages of the innovation process outlined above. This case as "good practice" is the part of our knowledge base. The establishment and operation of the oil plant in Mezőszemere can be identified as a social innovation effort.

Mezőszemere is a beneficiary settlement in terms of social, economic and infrastructural issues [Gov. Decree No.105/2015. (IV. 23.)]. It is located in Füzesabony district, which is also a region to be developed (i.e. it is in a beneficiary situation). A settlement that is considered to be a beneficiary area in terms of social, economic and infrastructural aspects, or is considered to have major unemployment, and is located in the district to be developed as defined by the Governmental Decree on the classification of beneficiary districts, will receive the same treatment as areas to be developed and will have an access to grants for development.

In the course of the analysis, the establishment of the oil plant in Szeged was classified as good practice. The basic purpose of presenting good practices is to identify the tools and methods that are more effective in achieving the set goals than previously known methods. Novel and constructive approaches, techniques that can contribute to the quality standards of a given organization, can also serve as an example for other organizations (Szabó-Nagy, 2014). Among the evaluation criteria for good practices were the following:

- innovativeness,
- possibility of success,
- sustainability,
- possibility of development,
- adaptability,
- possibility of documentation
- multiplicative effect
- the process of change.

Taking the above aspects into account, we have documented good practices on three main issues. The questions focused on general information, a descriptive presentation of the practice and the reasons for good practices. This documentation principle has made it possible to fully analyze and judge the success of the exemplary practice.

The main activity of Saldo Sys Social Cooperative is to educate a healthy lifestyle among the disadvantaged young generation. The primary manifestation of their activities covers the organization of sports programs and leisure activities, their main area of activity is the settlements of the Northern Hungary region, Miskolc and its agglomeration. In order to provide the necessary resources, the Cooperative has decided to launch a business activity involving the production of cold pressed seed oil - in line with its original mission, involving disadvantaged people in employment, promoting a healthy lifestyle through the production and sales of healthy raw materials. The activity was launched with the support of the GINOP-5.1.3-16-2017-00017 "Promotion of Social Enterprises" program in a settlement called Mezőszemere in the district of Füzesabony, Hungary, in cooperation with the local government and institutions.

The municipality gave the co-operative a property in the form of a rental property, which, after renovation, became the venue of implementation. The program started with the involvement of 10 people, 6 out of which were recruited as new employees. In order to help disadvantaged workers to integrate into the economy, the Cooperative provided various training sessions for those concerned – in IT training, sales promotion and marketing communication.

The preparatory activities included the purchase and installation of the necessary equipment and machinery, training, and arranging the cooperation with business partners. The aim of forming a network was to involve organizations operating in the Northern Hungary region, this way improving the local economic activity, but due to the limited availability of special machinery, equipment and raw materials, the scope of stakeholders was extended nationwide.

The sales of the finished product take place through several channels. In the direct supply chain, the supplier of raw seeds is a company in Szarvas, whose main activities include the cultivation of oil seeds. Seed processing and oil production are carried out by the Saldo Sys Social Cooperative while the primary buyers of the finished products are a food wholesaler and an agricultural and food cooperative, so the products made by the Cooperative are used both for further sales and for the production of other products.

The Cooperative is trying to reach final consumers for direct sale by enhancing its marketing communication activities, so they are also represented at fairs and exhibitions, and they also organize product tasting events. Online presence also plays an important role – they promote the products by online advertising on their own website, as well as through offline channels, like brochures.

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<b>General information</b>	<b>Name / Title</b>	Oil plant in Mezőszemere
	<b>Contacts</b>	Saldo Sys Social Cooperative
	<b>Objective</b>	Educating young people to lead a healthy life, employing disadvantaged workers
	<b>Target group</b>	The inhabitants of Mezőszemere (especially disadvantaged groups)
	<b>Target region</b>	Mezőszemere
	<b>Necessary human resources</b>	10 people
	<b>Financing</b>	Project funds, municipal support
	<b>Necessary infrastructure</b>	IT training, courses supporting sales promotion and marketing communication

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<b>Description of practice</b>	<b>Short description/needs recognition</b>	Employing disadvantaged workers from the region, helping them integrate into social and economic life
	<b>Realization</b>	The finished product is sold through several channels, in the direct supply chain, the supplier of raw seeds is a company in Szarvas. Saldo Sys Social Cooperative carries out seed processing and oil production; while the primary buyer of the finished products is a food wholesaler and an agricultural and food cooperative, so the products made by the Cooperative are used both for further sales and for the production of other products.
	<b>Results, outcomes, future prospects</b>	10 employees (6 people are disadvantaged), IT training, sales promotion, marketing communication course, purchase and installation of machines and equipment necessary for implementation, carrying out the necessary trainings, and arranging cooperation with business partners.
	<b>Problems and lessons learned</b>	The aim of the network was to involve organizations operating in the Northern Hungary region, improving local economic activity, but due to the limited availability of special machinery, equipment, and raw materials, the scope of stakeholders was extended nationwide.

**Why is it good practice?**

<b>Area-based approach</b>	Similar businesses in Northern Hungary are often engaged in creating jobs and helping disadvantaged people, while the economic and social integration of workers is slow. Social cooperatives need to generate the amount of revenue that allows the business to be maintained, so it is logical to put business activities at the forefront.
<b>A bottom-up approach</b>	The practice clearly focuses on local needs, involving the local population in the implementation.
<b>Partnership approach</b>	Self-government, Hatvani-Projekt Ltd.
<b>Innovation</b>	Socially innovative solutions based on real social dialogue and partnership have emerged, in which the partnership goes beyond the usual forms and engages in active brainstorming.
<b>Integrated approach</b>	The individual measures and development programs are closely related.
<b>Publicity / Networking</b>	Publication, website, thesis, fairs.
<b>Sustainability</b>	The project responds to real needs, adjusts to needs, and cooperates with the municipality.
<b>Transferability</b>	Local factors, barriers and priorities can be identified as important factors. Framework conditions for improving living conditions at the local level will result in catching-up. The identification of stakeholders in the process, the role of communication (informing), the planning of financial resources, attempts to change attitudes and institutional background are all of particular importance.

Table 3 Mezőszemere – Oil plant as good practice in social innovation. Source: own compilation. (based on Szabó-Nagy, 2014 and Varga, 2018)

Comparing the results of testing with the help of the developed model, we can conclude that the social innovations implemented in the examined settlements in the recent period are compatible, i.e. our system is capable of generating new social innovations based on its knowledge base.

**Conclusions**

Social innovation factors are key factors in the the catching-up process of peripheral regions. While emphasizing the role of local and regional innovators the concept of social innovation deals with the novel initiatives based on the involvement of inhabitants.

In order to improve the well-being of the community, social innovation gives new answers to the everyday problems of the certain community, and as a means to respond to challenges results in a novel approach to handling regional disparities.

In seed areas technical innovations mean solution for developing life quality, however, in disadvantaged peripheral regions it is necessary to take novel initiatives such as social innovations into account. Reducing regional disparities and enhancing regional competitiveness are important factors in the innovation efforts of settlements. In our opinion the starting point for examining social innovation is the precise formulation and answering of the questions that analyse the definition, its connection with technical innovation and the territorial characteristics. One of the possible ways of the conceptual clarification of social innovation is examining the implementation of good practices.

Modelling on the basis of neuro-fuzzy logic also determines further development opportunities. With the help of good practices and expertise, proposals can be made that lead to professional advisory activity following a cost/benefit analysis.

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## Management Accounting Maturity Levels Continuum Model: a Conceptual Framework

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### Abstract

Until now, in the financial domain, there were only few attempts made to develop maturity models – a useful tool to identify strengths and weaknesses of certain domains of an organization. The aim of this paper is to present a maturity model for management accounting. The method used to develop the model is an interpretive approach, in which an exploratory sequential mixed method research design was applied to broadly explore and understand data on management accounting systems in various settings and in its historical perspective. This study extends my previous research on development of management accounting and financial leadership (Lebedev, 2014, 2015, 2016, 2018, 2019b, 2019a). The framework traces 10 prototype roles of management accounting along their continuum of maturity (from “non-existent” to “strategic leadership”). Each maturity level reflects the extent to which management accounting creates value for its users based on the support provided for “conversations” among stakeholders, the deepness of leadership “embodied” into the management accounting function, and the effectiveness of management accounting principles and management accounting practices (MAPs) employed. This study contributes to the theory of management accounting by offering a framework for understanding of the evolution of financial function and management accounting. In practical terms, the results of the research could be applied to support decisions in transformation of financial function along its maturity continuum (both conducted internally by managers and/or with external support of consultants and advisors), supporting the process of reconciliation of current practices of a company being transformed to a proposed transformational strategy and chosen direction of implementation.

**Keywords:** management accounting, maturity model, leadership

### Introduction

Maturity models are an established means to identify strengths and weaknesses of certain domains of an organization (Marx, Wortmann, & Mayer, 2012). They have been designed to assess the maturity (i.e. competency, capability, level of sophistication) of a selected domain based on a more or less comprehensive set of criteria (De Bruin et al., 2005). The literal meaning of the word maturity is “ripeness”, which assumes the development from some initial state to some more advanced state, implying evolution or ageing and passing through a number of intermediate states on the way to maturity (Fraser, Moultrie, & Gregory, 2002). Maturity models are high in number and broad in application. They have proliferated across a multitude of domains, resulting in more than 150 maturity models, including, the maturity of IT Service Capability, Strategic Alignment, Innovation Management, Program Management, Enterprise Architecture and Knowledge Management Maturity (De Bruin, Freeze, Kaulkami, & Rosemann, 2005).

Until now, in the financial domain, there were only few attempts made to develop maturity models. A costing maturity framework aims to support accountants in applying professional judgement and objectivity in the process of cost management and internal managerial analysis (Cokins, 2012). This framework was developed as a complementary resource to the International Good Practice Guidance “Evaluating and Improving Costing in Organizations”, published by the Professional Accountants in Business Committee of the International Federation of Accountants (The International Federation of Accountants, 2009). Marx et al. (2012) developed a Maturity Model for Management Control Systems (MCS), focusing on IT perspective MCS and consisting of three partial models for reporting, planning, and consolidation, which were integrated into one holistic MCS maturity model. IT-specific domain also boasts a Value Governance Maturity Model and Investment Management Maturity Model representing a part of The Val IT Framework 2.0 “Enterprise Value: Governance of IT Investments” (IT Governance Institute, 2008).

Despite the numerous attempts to investigate the evolution of management accounting, no holistic framework exists to evaluate its dynamics and maturity. During the last few decades, the paradigm of management accounting has noticeably changed from “number-crunching”, assuming mostly a technical role of an accountant, towards strategic partnership within a management team. At a company level, the practice of management accounting varies across different organizations.



The process depends on the context and everchanging needs and priorities of various parties. It is important to have a tool for assessment of the state of maturity of management accounting in terms that are consistent with best-practice frameworks and approaches. This tool could enrich both our understanding of the development of management accounting within a scientific domain of enquiry and support a practice of management accounting by offering a decision-support solution. While achieving the best-practice is the ends, sometimes idealistic, both in theoretical and practical terms it is important to understand the dynamics of financial transformation, which includes driving forces for change and various states or maturity levels of financial function and management accounting in a company.

In this paper I present a framework which traces 10 prototype roles of management accounting along their maturity levels continuum (from “non-existent” to “strategic leadership”). Each maturity level reflects the extent to which management accounting creates value for its users based on the support provided for “conversations”<sup>1</sup> among stakeholders, the deepness of leadership embodied into the management accounting function and the effectiveness of management accounting principles and MAPs employed.

The rest of the paper is organized as follows: Section 1 provides a short summary on the best-practice understanding of management accounting as the basis to consider while developing the maturity model; Section 2 explains a general methodology for building maturity models; in Section 3, the methodology used for this study is discussed in detail; Section 4 provides descriptions of each level of maturity of management accounting; Section 5 provides a discussion of the key points of the study.

### **1. The Essence of Management Accounting: Best-Practice Approach**

Management accounting experiences constant changes (Napier, 2006). The tools and practices of management accounting and the context in which management accounting and control is practiced all have undergone substantial change especially during the last decades (Otle, 2016). From a historical perspective, this transformative path could be traced from a calculative technical low value-added role (a bean-counter) to a more advanced internal advisory role (those of a business-partner). Although previous studies demonstrate that in many cases, “this is a rather idealistic position reflecting wishful thinking” (Lebedev, 2018, p.1202), referring to the best-practices as such is a good starting point for bench-marking and continuous process improvement.

A noticeable systematic attempt to understand the evolution of management accounting began in 1989, when the International Federation of Accountants (IFAC) issued a statement on scope, purposes, and concepts of management accounting. It was revised in 1998 and released as Management Accounting Concepts – the first publication in the series of International Management Accounting Practice Statements, the framework which has an authority by virtue of the massive constituency that IFAC represents (Abdel-Kader & Luther, 2006). Referring to the leading edge practice internationally, IFAC defines the four stages of evolution of management accounting:

Stage 1: “Cost determination and financial control” (pre-1950)

Stage 2: “Information for management planning and control” (by 1965)

Stage 3: “Reduction of waste in business processes” (by 1985)

Stage 4: “Creation of value through effective resources use (by 1995) (IFAC, 1998)

The critical differences between stages are the advancements in the financial function with a visible shift from a technical role of the information provider to the management support in achieving effectiveness and efficiency (resource planning, waste reduction) and further to the support of the value creation process. Given the authority of the study and its international scope and longitudinal nature, the model presented in the report could serve as a prototype for building a maturity model.

The Global Management Accounting Principles (GMAP) adopted in 2014 by two of the world’s most prestigious accounting bodies, The American Institute of Certified Public Accountants and The Chartered Institute of Management Accountants (CIMA), extensively address both the change within the profession and state of the art attributes of management accounting. Management accounting is defined as “the sourcing, analysis, communication and use of decision-relevant financial and non-financial information to generate and preserve value for organizations” (CIMA, 2014, p.8). Further stated, that “[b]eing forward and outward-looking, management accounting brings structured solutions to unstructured problems

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<sup>1</sup> “Strategy development and execution is a conversation” (CIMA, 2014, p.9) that is supported by management accounting. Management accounting begins and ends with conversations” (CIMA, 2014, p.14).

providing people with decision-relevant data, rigorous analysis and informed judgement to make better decisions and to communicate them with impact” (CIMA, 2014, p.6).

Because decision-making approaches and styles vary between individuals and organizations, management accounting should address this complexity without assuming a linear decision-making process. The 4 formulated principles (influence, relevance, value and trust) assist in this, and they guide the best-practice and focus on the desired outcomes from the well-functioning system of management accounting (CIMA, 2014). The principles set out the fundamental values, qualities, norms, and features that represent management accounting in a case of best-practice. A summary of GMAP is presented in Table 1.

Table 1. Summary of GMAP

Principle (short)	Principle (full)	Principle (ex plained)	Value created
Information	Information is relevant	Help organizations plan for and source the information needed for creating strategy and tactics for execution	<ul style="list-style-type: none"> <li>– information is the best available</li> <li>– information is reliable and accessible</li> <li>– information is contextual</li> </ul>
Communication	Communication provides insight that is influential	Drive better decisions about strategy and its execution at all levels	<ul style="list-style-type: none"> <li>– strategy development and execution is a conversation</li> <li>– communication is tailored</li> <li>– communication facilitates better decisions</li> </ul>
Value	Impact on value is analyzed	Simulate different scenarios that demonstrate the cause-and-effect relationships between inputs and outcomes	<ul style="list-style-type: none"> <li>– simulations provide insight into options</li> <li>– actions are prioritized by their impact on outcomes</li> </ul>
Stewardship	Stewardship builds trust	Actively manage relationships and resources so that the financial and non-financial assets, reputation and value of the organization are protected	<ul style="list-style-type: none"> <li>– accountability and credibility</li> <li>– sustainability</li> <li>– integrity and ethics</li> </ul>

Source: adapted from (CIMA, 2014).

GMAP “are applied by *people* to the management of organizational *performance* and to the *practices* of the management accounting function” (CIMA, 2014, p.15). To achieve the goals of management accounting, the principles should be consistently applied to the following 14 main practice areas of the management accounting function (Table 2).

Table 2. Summary of the Core MAPs and Their Contribution to Value Creation

Management accounting practice areas	Value to the organization
1. Cost transformation and management	Improved customer satisfaction through the provision of product and service value for money. Increased organizational competitiveness and increased stakeholder value, achieved through the establishment of a lean culture and investment in innovative products and services
2. External reporting	Helps the organization to engage with a wide stakeholder base and explain the organization’s strategy, business model, and performance
3. Financial strategy	Value of the organization is optimized for owners and other stakeholders. Organization’s capital requirements are balanced with expectations of owners and other stakeholders. Investment opportunities are thoroughly appraised, robustly implemented, and appropriately governed
4. Internal control	Provides reasonable assurance that tangible and intangible assets are safeguarded and financial and non-financial resources are correctly accounted for. Reduces the risk of error and fraud and the likelihood of financial loss, thereby enhancing trust in an organization’s financial stewardship. This leads to reliable reporting, which in turn enables sound decision-making and better financial management
5. Investment appraisal	Prioritizes opportunities for funding that generate value for stakeholders and avoids those which are likely to erode value
6. Management and budgetary control	Helps organizations evaluate performance against targets and take improvement actions. Provides a means for accountability and control to be decentralized, so that performance can be proactively managed by those managers closest to the execution of planned activity
7. Price, discount, and product decisions	Enhances profitability of products and services and helps organizations position their products and services within their target market

8. Project management	Provides controls over projects to increase the chance of benefits from projects being realized and risks minimized
9. Regulatory adherence and compliance	Helps to preserve value and mitigate losses through avoiding the direct and indirect costs of enforcement activity
10. Resource management	Helps organizations to manage transformational or continuous improvements to products and processes, efficiently, and effectively
11. Risk management	Awareness and management of these risks can help the organization address uncertainty by increasing the probability of success and reducing the probability of failure in executing its strategy and meeting stakeholder expectations
12. Strategic tax management	The organization is aware of and understands the implications of relevant tax legislation in the jurisdictions in which it operates
13. Treasury and cash management	The organization has sufficient cash to meet its obligations and fund prioritized opportunities. Provides risk management of the organization's exposures to currency fluctuations
14. Internal audit	Provides assurance that key financial and non-financial risks, including reputational, environmental and social risks, are being adequately controlled by the organization and its long-term value is protected. Internal auditors assist the external auditors with their procedures. It is a systematic approach to evaluating and improving the effectiveness of risk management, control and governance processes

Source: adapted from (CIMA, 2014).

The abovementioned is consistent with opinions of other respected professional bodies. According to the Institute of Management Accountants, the worldwide association of accountants and financial professionals in business, "[m]anagement accountants are vital to the financial health of organizations. They make critical decisions, safeguard a company's integrity, and plan for business sustainability" (Institute of Management Accountants, 2019, p.1). Internationaler Controller Verein eV – a professional association of controllers (the term "controlling" emerged in German-speaking environment to address the similar domain as management accounting) states, "Controlling is the whole process of defining objectives, of planning and controlling (in the sense of steering and regulating) and includes all relevant financial and commercial aspects" and "while the manager runs the business and is responsible for the result, the controller has the economic meaning and takes the responsibility for the results transparency" (Internationaler Controller Verein eV, 2019, p.1). The Association of Chartered Certified Accountants – a global professional accountancy body – refers to the profession as to "professional accountants in business" suggests that their role will rebalance away from traditional stewardship towards being a catalyst for creating value (The Association of Chartered Certified Accountants and Institute of Management Accountants, 2013).

In summary, the overall best-practice aspirations and expectations from the transformation of finance function and management accounting in organizations are the expectations of a significant contribution of the profession to the value creation process based on sound ethical and sustainability attitudes and values. A maturity model for management accounting should primarily address these dimensions to support, enrich and extend the efforts being undertaken by professional community.

## 2. Maturity Models: General Methodology

Maturity approaches have their roots in the field of quality management (Fraser, Moultrie, & Gregory, 2002). Since then, practitioners and academics have developed numerous maturity models for many domains allowing to measure competency, to assist organizations in gaining and retaining competitive advantage, and to be used as an evaluative and comparative basis for improvement (De Bruin et al., 2005).

De Bruin et al. (2005) argue that although there are many maturity models in application, "there is little documentation on how to develop a maturity model that is theoretically sound, rigorously tested and widely accepted" (p.3). They have suggested a general framework for developing maturity models applicable across a range of domains, which is summarized in Table 3.

Table 3. Model Development Phases

Phase	Goal	Factors to consider
Scope	To set the outer boundaries for model application and use	<ul style="list-style-type: none"> <li>- Focus of model (domain specific, general)</li> <li>- Development stakeholders (academia, practitioners, government, combination)</li> </ul>
Design	To determine the needs of the intended audience and how these needs will be met	<ul style="list-style-type: none"> <li>- Audience</li> <li>- Method of application</li> <li>- Drivers of model application</li> <li>- Responders / Users</li> <li>- Application scope (geography, sector, number of entities etc.)</li> </ul>
Populate	To determine the content of the model	<ul style="list-style-type: none"> <li>- What needs to be measured in the maturity assessment?</li> <li>- How this can be measured?</li> </ul>
Test	To test both the construct of the model and the model instruments for relevance and rigor	<ul style="list-style-type: none"> <li>- Validity (to ensure the results measure what it was intended)</li> <li>- Reliability (to ensure results obtained are accurate and repeatable)</li> <li>- Generalizability</li> </ul>
Deploy	To ensure that the model is available for use and to verify the extent of the model's generalizability	<ul style="list-style-type: none"> <li>- The first step in determining the critical issue of model generalizability</li> <li>- Initial application of the model with an involved stakeholder</li> <li>- The second step is to apply the model within entities that are independent of the model development</li> </ul>
Maintain	To track model evolution and development	<ul style="list-style-type: none"> <li>- Evolution of the model will occur as the domain knowledge and model understanding broadens and deepens</li> <li>- The continued relevance of a model will be ensured only by maintaining the model over time</li> </ul>

Source: adapted from (De Bruin et al., 2005).

Key elements of a maturity model include dimension, level, and assessment instruments and approaches (Marx et al., 2012). This information is summarized in Table 4.

Table 4. Key Elements of Maturity Models

Element	Description
Dimension	Dimensions are specific capability areas, process areas, or design objects structuring the field of interest. Each dimension is further specified by several measures (practices, objects, or activities) or by qualitative descriptions for each maturity level
Level	Levels are archetypal states of maturity of a certain dimension or domain. The number of levels is to some extent arbitrary and depends on the ability to identify suitable labels or descriptive text which clearly differentiate one level or stage from the next. Each level should have a descriptor clearly providing the intent of the level and a detailed description of its characteristics. The characteristics of each level should be distinct and empirically testable and the relationship of each level to its predecessor and successor should be well defined
Assessment instrument	The assessment instrument can either be qualitative or quantitative (e.g. using Likert-based questionnaires and scoring models). Maturity assessments can be performed by an external auditor, or by self-assessment

Source: adapted from (Fraser et al., 2002; Marx et al., 2012).

Maturity models can be organized in a form of maturity grid, which describes in a few phrases the typical patterns of the subject of the maturity model at a number of levels of maturity. For each of several aspects of the area under study, the maturity grids allow to codify what might be regarded as good practice (and bad practice), along with some intermediate or transitional stages (Fraser et al., 2002).

### 3. The Management Accounting Maturity Model Construction

#### 3.1. A Framework for Management Accounting Maturity Levels Continuum

The Management Accounting Maturity Model was developed following 5 key steps:

Formulation of the models' assumptions

Determination of the models' domains

Specification of measures for the dimensions of the model

Questionnaire development, data collection, pilot-testing

Qualitative descriptions for each maturity level were specified

These steps are disclosed in detail further in their respective sections. Tables 5 and 6 present, respectively, the key points of the framework applied for development of the maturity model and comments on the key elements of the model.

Table 5. The Management Accounting Maturity Model: Key Points of the Phases of the Project

Phase	Key points
Scope	The model focuses on the management accounting in general and on core domains of management accounting as determined by: a) principles of management accounting b) MAPs These sets the outer boundaries of the model. Key stakeholders of the model are academia and practitioners
Design	Drivers of the models' application include the changing nature of organizational requirements for the relevant information, the need for extraction of value from information, tailored communications and need of building trust within and beyond the organization. The model may be applied by: a) academia – using a framework for understanding of evolution of financial function and management accounting based on the assessment on how the [mainly informational] needs of the key stakeholders are served; b) practitioners – using as a tool that supports decisions in evaluation the state of and transformation of financial function along its maturity continuum (both conducted internally by managers and / or with external support of consultants and advisors) The scope of application is universal: the model may be used in any geographic sector, industry sector, entity type etc.
Populate	The model intends to measure the extent to which the system of management accounting in a company: a) contributes to the goals of management accounting, as determined by GMAP b) executes leadership roles in supporting decision-making processes. These can be measured by qualitative assessment at the initial stage of the application of the model. If required and practically feasible, it can be further measured by means of a questionnaire addressing the application of MAPs and their relation and contribution to the management accounting principles at a later stage
Test	The model was initially tested on the evidence from the data collected in a course of my research on management accounting representing: a) the data collected as a part of my historical studies based on archival methods (Lebedev, 2014, 2019b) b) the data collected as a part of an extended-survey based study (Lebedev, 2018) The subsequent testing (beyond the scope of this part of the research) will include both application of the model in a number of field studies and a practical usage of the model as a part of advisory services
Deploy	Internally, refer to the section "Test" above Independent usage of the model will be promoted by presentations to practitioners and scientific community
Maintain	To ensure the continued relevance of the model over time, it will be maintained and, if needed, updated by monitoring: a) the practice of the usage of the model internally and externally and received feedback from the independent parties b) the development of MAPs and principles c) the development of theory of management accounting

Source: own work.

Table 6. Key Elements of The Management Accounting Maturity Model

Element	Description
Dimension	The basis for the dimension's selection is GMAP. Each dimension is specified by measures – core MAPs and by qualitative descriptions for each maturity level
Level	The model has 10 levels (9 levels of maturity and a "zero" level, where management accounting in a company is not existent). These levels are grouped into 3 layers (level groupings). The descriptors of levels apply a metaphor label expressing the corresponding archetypal role of management accounting at each level (e.g. "historian", "reporter", "expert" etc.), level groupings are labeled expressing the core role of management accounting typical for the all levels included into the group ("supplying of information", "sense-making", "sense-giving"). The characteristics of each level are based on management accounting principles and MAPs employed corresponding to each level
Assessment instrument	Application of the model assumes both qualitative and quantitative assessment, depending on the cost-benefit trade-off determined by the goals of the intended usage of the model. Qualitative (and more subjective) assessment, which is based on evaluation of artefacts corresponding to

	a certain level of management accounting maturity, may be performed at an initial stage of its application. Quantitative assessment, which is based on a Likert-based questionnaire, may be performed to refine the preliminary assessment obtained by application of qualitative approach.
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Source: own work.

### 3.2. The Management Accounting Maturity Levels Continuum Model Assumptions

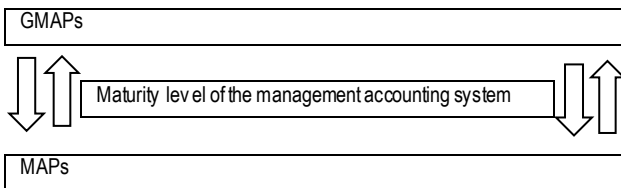
Three fundamental assumptions underpin The Management Accounting Maturity Levels Continuum Model:

Each level of the continuum characterizes the extent, to which the system of management accounting in a given company contributes to the goals of management accounting as determined by GMAP. Namely, it investigates interrelations between principles of management accounting and practices of management accounting by assessment of how management accounting principles are applied across practices and to which extent the practices in use realize the respective principles (Figure 1).

Consistent with the first assumption and with the definition of management accounting, each level of the continuum characterizes the extent to which the system of management accounting in a given company executes the leadership role in supporting decision-making process.

Any company may move along continuum in both directions. It is contingent to various contextual factors.

Figure 1. Principle Logic of the Maturity Model



Source: own work.

### 3.3. The Model Domains: GMAP

The basis for the dimensions' selection for the maturity model is GMAP. Table 7 summarizes the management accounting principles applied at each level of maturity continuum.

Table 7. Summary of the management accounting principles applied at different maturity levels of management accounting

Level group	Level	Level name (metaphor)	Principles of management accounting			
			I <sup>1</sup>	C <sup>2</sup>	V <sup>3</sup>	S <sup>4</sup>
	0	Non-existent	No	No	No	No
Supplying of Information	1	Bean-counter	No	No	No	No
	2	Historian	Yes	No	No	No
	3	Reporter	Yes	Yes	No	No
Sense-making	4	Expert	Yes	Yes	Yes	No
	5	Consultant	Yes	Yes	Yes	No
	6	Advisor	Yes	Yes	Yes	Yes
Sense-giving	7	Trusted advisor	Yes	Yes	Yes	Yes
	8	Financial leader	Yes	Yes	Yes	Yes
	9	Strategic / Transformational leader	Yes	Yes	Yes	Yes

Source: based on data from authors' research.

### 3.4. The Measures for the Dimensions of the Model: MAPs

At the initial stage of analysis, application of certain principles was attributed to each of maturity levels, as presented in Table 7. This attribution does not take into account the extent to which the respective principle is applied, which is measured at a subsequent stage. It is stipulated that in the practical application of the principles of management accounting, "People need to use appropriate tools and techniques: these must be adapted and continually refined as objectives change" (CIMA,

<sup>1</sup> Information.

<sup>2</sup> Communication.

<sup>3</sup> Value.

<sup>4</sup> Stewardship.

2014, p.7). Accordingly, each dimension of the maturity model is specified by measures, including core MAPs (as summarized in Table 2) and by qualitative descriptions for each maturity level.

### 3.5. *Questionnaire Development, Data Collection, Pilot-testing*

An approach for operationalization and measurements of the models' dimensions followed 2 stages. Initially, a qualitative evaluation of each level was performed based on the data collected during my earlier research on the evolution of management accounting. These studies were historical studies based on archival methods, in which evidence was obtained from sources varying from related literature to personal field notes and reflections arising from observations and experience gained in my more than 2 decades as a consultant and educator in the field of management accounting. Analysis followed an interpretive approach. Narrative analysis of evidence used the model of thematic analysis to arrive at the findings (Lebedev, 2019b). Based on obtained classifications of concepts and categories, draft qualitative descriptions for each maturity level were developed.

At the subsequent stage, I used the data obtained in course of the survey-based study, which I conducted during 2015-2016. It was a joint project in a cooperation with the Center for Financial Management and Education of the National Guild of Professional Consultants of Russia, where I served as a Director of the Center (Lebedev, 2018). The study investigated the state of MAPs in mid-sized private Russian companies in comparison to the global framework. During this study, 756 representatives of financial and economic departments from 231 companies and organizations were surveyed.

To address the research questions, the following approach was taken for the operationalization of management accounting principles: 14 sub-sections of the questionnaire were developed, corresponding to each of the practice areas of management accounting. The definition of each practice area was adopted from GMAP to reconcile respondents' understanding of what is included in each practice area. Each subsection was divided into 4 parts, corresponding to each of the four management accounting principles. In each part, statements of best-practice, outlining how the principles could guide the practice, were suggested.

A Likert scale, ranging from 0 to 5, was offered to respondents for them to evaluate the extent to which certain practices were being applied in their companies. Data analysis produced integrated scores for each area of practice and for each principle of management accounting. For each respective area of practice, the results indicated the state and intensity of MAPs. For each respective management accounting principle, it indicated the extent to which management accounting principles are applied across practices. Comparisons to the maximal scores corresponding to the best-practice cases allowed to account for maturity levels.

### 3.6. *Specification of the Qualitative Descriptions for each Maturity Level*

Three principles determine the application of qualitative descriptions for each maturity level:

the characteristics of each level are based on the extent management accounting principles and MAPs are employed, corresponding to each level;

the metaphor of "conversation" is fundamental to each level; advancement in the level means advancement in the level of conversation;

the more advanced the level, the greater the extent of leadership is embodied into the management accounting function, hence an archetypal role metaphor (e.g. "historian", "reporter", "expert" etc.) is used to label the levels. Level groupings are labeled to express the core role of management accounting typical for the all levels included into the group.

The model has 10 levels – 9 levels of maturity and a zero level, where management accounting in a company is nonexistent. These levels are grouped into 3 layers (level groupings). This information is summarized in Table 8.

Table 8. Levels of Maturity of Management Accounting

Level group	Level	Level name (label)	Summary of the level
	0	Nonexistent	Management accounting in a company is nonexistent
Supplying of Information	1	Bean-counter	Basic retrospective management reports
	2	Historian	Information generated within management accounting is supplemented with past-looking "stories" stating what has happened
	3	Reporter	"Stories" are supplemented with explanations and interpretations of a technical nature
Sense-making (Business partners)	4	Expert	Professional judgement and expertise are added to the "stories" and interpretations of the past
	5	Consultant	Sense-making of the information by looking at it in the context of present challenges that the company is facing, based on that solutions are offered
	6	Advisor	Perspectives of different stakeholders and issues of accountability, credibility, sustainability, integrity, and ethics are taken into account
Sense-giving (Leadership roles)	7	Trusted advisor	It is insured that information is viewed within a greater picture and context of recipients' values and beliefs reconciled to the corporate values
	8	Financial leader	Shared visions and beliefs are created. Mastering change, effective and efficient coaching are occurred. Strategic, organizational, and personal trust are cultivated
	9	Strategic / Transformational leader	Advanced financial leadership level, where sustainability of management accounting system itself is ensured. Core components of transformational leadership are applied

Source: based on data from authors' research.

#### 4. Levels of Maturity of Management Accounting

##### *Level 0: Nonexistent*

At this level, management accounting in a company is nonexistent. The company complies with minimal external reporting requirements. There are not any management accounting tools in practice, nor there is any demand from the management team for value-added informational support, or any financial assistance or expertise required. Accordingly, GMAPs are not applied.

##### *Level 1: Bean-counter*

At this level, some basic retrospective management reports are produced within a company. These reports formally describe what has already happened, using solely the language of numbers and calculations. The distribution of this reports happens with a formal system of communications, when the reports are kept available at the department in charge of their production and are presented on domains if such demand occurs. They are also occasionally sent to management without ensuring that they are understood and without expectations of any feedback. Although there might be some value in the information available, GMAPs are not applied at this level, and the relevance of the information cannot be verified and ensured.

##### *Level 2: Historian*

At this level, the management accounting system in a company expands beyond formally produced reports. Information generated within management accounting is supplemented with past-looking stories<sup>1</sup>, or explanations, regarding the substance of the reported numbers, including formal variance analysis. These stories provide for adding some value to the information produced. However, stories only try to comment on what had happened, without attempting to explain why it

<sup>1</sup> Extending the metaphor of conversations, I use the word "stories" to refer to the information provided by a management accountant to the interested parties.



happened and what must be done. This is the first maturity level, when one GMAP is applied. GMAP "Information" assumes the preparation of relevant information to support decision-making processes. Despite the fact that relevance is still needed to be achieved, systematic attempts to enrich the existing information are an artefact of management accounting systems that take into account the informational perspective of GMAPs.

#### *Level 3: Reporter*

This level distinguishes itself from the previous levels by adding interpretations supplementing the information produced by management accounting system. At this level, the second GMAP, "Communication", is also applied. The reporter not only presents information but creates a story around it. This is a noticeable attempt to communicate the information. However, it is often one-way communication. Moreover, the reported story comments on the past, without any consideration for the present and future and does not consider the organizational context.

#### *Level 4: Expert*

At this level, a management accounting system shifts from its role of a pure information provider to the more complex role of sense-making. Additional value to users of information is provided by financial expertise, which is contributed to ensure understanding, reflections, and insights to drive better decisions and execution. At this level, the third GMAP, "Value", applies. This principle assumes that the management accounting process supports value creation by the organization, thus it should inform the decision-making process. Experts distinguish themselves from reporters in that they enrich statistically-originated stories with evaluations and comments based on expertise and professional judgement. This change contributes to making information more relevant and tailored, allowing for synergies between the GMAPs already applied. More relevant information is more valuable to users. This fosters communications and dialog, which, in turn, creates a demand for new information. This is when the first step to forming business partnerships is completed. The expert aims to become a partner of the management in decision-making process. However, partnership ties are thin as trust is low in these relationships. Accordingly, this is a very basic level of corporate sense-making. The expert works in his paradigm of the past, although trying to apply it to the present. Experts do not offer solutions, but they provide a deep analysis of reasons and preconditions for past events.

#### *Level 5: Consultant*

Consultants overcome some of the shortcomings of the previous level. They not only provide professional expertise and judgement in the course of retrospective analysis, but they also look into the future. Consultants make sense of the information produced by management accounting systems by understanding it in the context of challenges that the company is facing and offering solutions to the arising problems. Thus, consultants provide a company with options, potentially contributing to value creation. However, this is mainly a mechanistic, rather than an organic approach because it doesn't take into account factors at a deeper level, including values, attitudes, and sustainability. Technically or theoretically correct solutions are expected and provided at this level. Although the solutions are formally correct given the input factors, they may be inappropriate in a given context.

#### *Level 6: Advisor*

Transition to the level of advisor is marked by the conformity to the fourth GMAP, "Stewardship". Professional advice at this level is not limited to technically and/or theoretically correct solutions. It also considers perspectives of different stakeholders and issues of accountability, credibility, sustainability, integrity, and ethics. The advisor actively supports and facilitates corporate conversation and is oriented to the future. Management accounting at this level is an integral part of the management process, well-understood and appreciated by key players in organization. Furthermore, management accounting at this level is not static. Instead, it constantly adjusts to changing needs and aspirations. Generally speaking, this level represents a good practice of management accounting corresponding to current definitions of profession.

#### *Level 7: Trusted Advisor*

This is the first level at a "sense-giving" or a leadership part of maturity continuum of management accounting. Sense-giving assumes that information is not only understood by recipients, but rather it is viewed by them within a larger context of their values and beliefs reconciled to the corporate values (Lebedev, 2019a). The difference between the advisor level and the trusted advisor level lies mainly in their attitude to their counterparties (customers). While advisors provide the highest level of expertise and see the purpose of their jobs as solving clients' problems by applying technical and professional skills, the trusted advisors' jobs are, "to be helpful, and to provide guidance, input, and counseling to the clients' own thought and decision-making process" (Maister, 2008, p.79). Thus, while advisors simply lead transactions by providing answers (transactional leadership would be a right type leadership to describe the paradigm of an advisor), trusted advisors lead relationships. They ensure long-term relationships for sustainable value creation. They ask questions to stimulate correct answers. All the four GMAPs are applied at this level, with advancements on application of GMAPs "Value" and "Stewardship".

#### *Level 8: Financial Leader*

Trusted advisers have all necessary prerequisites to become champions of "financial leadership" in a company. At this level, management accounting takes on a trusted leader role. In this role, in addition to the characteristics of the trusted advisor, the financial leader is proactive in creating shared visions and beliefs, flexible and successful in learning and development of new skills and capabilities across the finance function and beyond and becomes a master of change management, and effective and efficient in teaching (coaching) (Lebedev, 2019a). For this to occur, the three critical types of trust that leaders need to master are necessary: strategic trust (the trust employees have in the top people of the organization, the trust in their capability to set and execute the right course) organizational trust (the trust people have not in any individual but in the company itself), and personal trust (the trust employees have in their own managers) (Galford & Drapeau, 2003). This ensures that the objective of the principle, "Stewardship builds trust", which means, "to actively manage relationships and resources so that the financial and non-financial assets, reputation and value of the organization are protected" (CIMA, 2014, p.11) is fully achieved.

#### *Level 9: Strategic / Transformational Leader*

This is the highest level of maturity, where not only the objectives of the all principles of management accounting are achieved and all necessary GMAPs are effectively applied, but sustainability of management accounting system itself is ensured. Additionally, at this level, the core components of transformational leadership, including idealized influence, inspirational motivation, individualized consideration, and intellectual stimulation (Bass & Riggio, 2006), are fully embodied into the management accounting function:

Management accounting serves as an ideal role model for followers in the process of value creation and sustaining of value. In its leadership role, it embodies the qualities of integrity, prudence, and due care, which makes it easy for the followers to believe and trust.

Management accounting can inspire and motivate followers through having and presenting a vision help in self-actualization for followers is ensured by developing trust among the organization's members and their authority figures.

Management accounting challenges followers to be innovative and creative. It encourages their followers to challenge the status quo.

It should be noted that this highest level of maturity is rather an idealistic vision. Its importance, however, is that it is a benchmark for assessment of dynamics of the best-practices.

## **5. Outlook**

The maturity model presented in this paper is a systematic attempt to offer a framework for assessment of the state of management accounting in any company along the maturity continuum. The objective need for such a framework is determined by the constant changes in management accounting and in organizational contexts, which lead to a great

number of possible configurations of GMAPs and MAPs given certain influential contextual factors. This is especially important as management accounting and the idea of the role of contingency theory of management accounting underlying this research is beginning to change. The research over the past four decades has suggested an extended list of possibly significant contingencies that are faced by organizations, many of which suggest conflicting recommendations (Otley, 2016). A systematic assessment of maturity of management accounting may offer at least a partial solution to consider arising conflicts.

## Conclusion

This study contributes to the theory of management accounting by offering a framework for understanding the evolution of financial function and management accounting based on the assessment on how the [mainly informational] needs of the key stakeholders are served. In practical terms, the results of the research could be applied to support decisions in transformation of financial function along its maturity continuum (both conducted internally by managers and / or with external support of consultants and advisors). Namely, the results could inform the process of reconciliation of current practices of a company being transformed to a proposed transformational strategy and direction. Being an organicist, rather than a mechanistic framework, it welcomes further extensive testing in theoretical and practical environments to address possible inefficiencies and provide for necessary improvements.

All reasonable efforts to ensure relevance and rigor of the model were taken at the design and initial testing stages. However, some limitations of the research are determined by its qualitative, hence subjective nature. To address these possible shortcomings, the prototype model was discussed with three focus groups comprising of financial executives. Generally positive feedback was received, and minor improvements were advised and considered. Similar results were obtained during application of the model in the course of advisory practices, including cases of various industries and companies facing different situations and contingencies.

Directions for further research and development of the model could include case-based applications of the model, which could further ensure its generalizability and validity and provide additional insights to enrich the descriptions of the levels with certain patterns. Operationalization and measurement of models' dimensions could be supplemented with additional descriptions, specifying tools, practices, patterns, and artifacts. Alternative operationalization and measurement of models' dimensions could be suggested and tested. Integrative application of the model could be performed, looking into the groupings of similar companies (e.g. SME, same industry, same geographic location etc.). A study assigning specific tools to certain levels of maturity could be the next step in detailing the MAPs assigned to each level of maturity.

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# A Linear and Non-Linear Causality Analysis between Military Expenditures and External Debt in NATO Member Countries

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## Abstract

This paper deploys the linear and non-linear Granger causality methods in order to determine the causal relationship between military expenditures and external debt in NATO countries for the time period 1960-2015. Its innovative feature lies in the empirical application of the Francis et al. (2010) nonlinear causality test. To our knowledge, this is the first study to employ the specific test in order to explore the existence of potential nonlinear links between military spending and debt. The empirical results indicate the existence of linearity in the cases of Greece, Italy, UK and USA and the existence of nonlinearity in the cases of Turkey and USA. The paper aims to provide valuable input to the regulators and decision makers.

**Keywords:** military expenditures, external debt, NATO countries

## 1. Introduction

The relationship between military expenditures and external debt has attracted the interest of many economists and policy makers. The significance of the topic lays to the impact of military expenditures on the indebtedness of both developed and developing countries. Especially, nowadays, with the advent of the economic crisis and the need for shrinking public spending, the issue has become more relevant than ever. Military expenditures burden the level of external debt in a threefold manner (Shahbaz et al. 2013; Günlük-Senesen, 2004; Wolde-Rufael, 2009); they cause pressure for borrowing (internal and especially external), increase imports of defence equipment or technologically advanced intermediate goods - to internally produce defence equipment. In all previous cases, countries resort either to foreign borrowing or to the reduction of their foreign exchange reserves.

The causal relationship between military expenditures and debt can be classified into four categories: a unidirectional causality running from military spending to debt, a unidirectional causality running from debt to military spending, a bidirectional causality between military spending and debt and the complete absence of causality. Since the late '80s, researchers have conducted causality tests to explore the presence and direction of causality between military spending and external debt either in country groups or in individual countries. The empirical investigation has yielded mixed results on the direction of causality, which are mainly attributed to differences in data sets, leading to different policy implications.

The aim of the present paper is to investigate the relationship between military expenditures and external debt by employing linear and non-linear causality methodologies in the NATO member countries during the time period 1960-2015. The innovative contribution of the study is the implementation of one of the most advanced econometric methods, the nonlinear Granger causality test developed by Francis et al. (2010). The potential existence of nonlinearity will reveal a far more complex relationship between these two variables that has never previously been recognised and it will push economic and defense policy makers to revise their military spending decisions for internal and external security purposes.

The remainder of the paper is organized as follows: Section 2 reviews the literature on the military expenditures-external debt nexus, Section 3 provides an overview of the empirical methodology, Section 4 presents the data and the empirical results of the study and section 5 provides the concluding remarks and suggestions for future research.

## 2. Literature Review

The topic of a potential causal relationship between the military expenditures and external debt was initially introduced by Brzoska (1983), who primarily acknowledged the significance of military spending to the external debt of many indebted developing countries. Subsequently, Looney and Frederiksen (1986) explored the relationship in resource-constrained and resource-unconstrained countries. Since then, many researchers examined different countries or groups of countries, in

different time periods, using different explanatory variables and different empirical methodologies in order to determine the causality flow of the relationship.

Among the multi-country studies, Alexander (2013) was the one that applied a dynamic panel model in a sample of high-income OECD/NATO countries, over the period 1988-2009 and found that the defence burden is a statistically significant and economically important determinant of public debt. There is a number of other multi-country studies that employed panel data analysis and investigated the military spending-debt nexus in EU or OECD countries. Zhang et al. (2016) examined a panel of 11 OECD countries and found a unidirectional flow running from military spending to external debt for the US and the opposite flow for Canada and the UK. Caruso and Di Domizio (2017) explored 13 EU countries and US and validated the fact that US military spending affects European sovereign debt. Similarly, Paleologou (2013) concluded to a large positive impact on the share of general government debt in the 25 EU countries.

Our analysis, though, focuses individually on each country, shaping more with the country-specific studies. Kollias et al. (2004) found that military expenditure adversely affects central government debt and external debt in the case of Greece. In the same spirit lays the study of Dimitraki and Kartsaklas (2017), that determined military spending as a primary cause of debt growth in Greece. Karagol (2005, 2006) acknowledged a unidirectional causal flow from defence expenditure to external debt for Turkey, whereas Sezgin (2004) found no clear evidence of the defense-debt relationship for the same country. Norrlof and Wohlforth (2016) ended up with the fact that military spending is not a significant determinant of public debt in the US.

### 3. Methodology

In this section, the definitions of the linear and the non-linear Granger causality tests are discussed. In the first part, we briefly describe the traditional linear Granger causality approach and in the second part, we present the statistical technique for non-linear Granger causality, developed by Baek and Brock (1992), modified by Hiemstra and Jones (1994) and revised by Francis et al. (2010).

#### 3.1 The Linear Granger Causality Test

A time series  $X_t$  causes another time series  $Y_t$  in the Granger sense (Granger, 1969) if present  $Y$  can be predicted better by using past values of  $X$  than by not doing so, considering also other relevant information, including past values of  $Y$ . If this exists,  $X_t$  is said to linearly Granger cause  $Y_t$ . Bidirectional causality exists if Granger causality runs in both directions.

The test for linear Granger causality between military expenditures and external debt involves the estimation of the following equations in a vector autoregression (VAR) framework:

$$R_{1,t} = \sum_{i=1}^{\theta_1} \alpha_i R_{1,t-i} + \sum_{j=1}^{\theta_2} \beta_j R_{2,t-j} + \varepsilon_{1,t} \quad (1)$$

$$R_{2,t} = \sum_{i=1}^{\theta_3} \delta_i R_{2,t-i} + \sum_{j=1}^{\theta_4} \phi_j R_{1,t-j} + \varepsilon_{2,t}$$

(2)

$R_{1,t}$  and  $R_{2,t}$  indicate, respectively, the military expenditures to GDP and external debt to GDP in the year  $t$ ;  $\alpha$ ,  $\beta$ ,  $\delta$ , and  $\phi$  indicate the parameters to be estimated;  $(\varepsilon_1, \varepsilon_2)$  are zero-mean error terms with a constant variance-covariance matrix. With the use of the Bayesian information criterion (BIC), we determine the optimal lag lengths.

Equations (1) and (2) identify the linear causal relationships. By examining the statistical significance of the individual  $\beta$  and  $\phi$  coefficient estimates, we test for linear Granger non-causality at specific lags. By testing the null hypothesis that  $\sum \beta_j = 0$  in Equation (1) or  $\sum \phi_j = 0$  in Equation (2) using a T-statistic, we check for cumulative linear Granger non-causality (Francis et al., 2010).

#### 3.2 The Non-Linear Granger Causality Test

Baek and Brock (1992) propose a non-parametric statistical method for detecting non-linear causal relations that cannot be uncovered by equivalent linear tests. Their approach employs the correlation integral, which provides an estimate of

spatial dependence across time. Consider two stationary and weakly dependent time series  $R_{1,t}$ , that stands for military expenditures to GDP and  $R_{2,t}$  that stands for external debt to GDP. Let the  $m$ -length lead vector of  $R_{1,t}$  be designated by  $R_{1,t}^m$ , and the  $Lr1$  and  $Lr2$  be the lag vectors of  $R_{1,t-Lr1}^{Lr1}$  and  $R_{2,t-Lr2}^{Lr2}$  of  $R_{1,t}$  and  $R_{2,t}$ , respectively.

For given values of  $m$ ,  $Lr1$ , and  $Lr2 \geq 1$  and for  $d > 0$ ,  $R_{2,t}$  does not strictly Granger cause  $R_{1,t}$  if:

$$\Pr \left( \left\| R_{1,t}^m - R_{1,s}^m \right\| < d \mid \left\| R_{1,t-Lr1}^{Lr1} - R_{1,s-Lr1}^{Lr1} \right\| < d, \left\| R_{2,t-Lr2}^{Lr2} - R_{2,s-Lr2}^{Lr2} \right\| < d \right) \\ = \Pr \left( \left\| R_{1,t}^m - R_{1,s}^m \right\| < d \mid \left\| R_{1,t-Lr1}^{Lr1} - R_{1,s-Lr1}^{Lr1} \right\| < d \right), \quad (3)$$

where  $\Pr(\cdot)$  denotes probability and  $\left\| \cdot \right\|$  denotes the maximum norm for vector  $X \equiv (X_1, X_2, \dots, X_k)$  and  $s, t = \max(Lr1, Lr2) + 1, \dots, T - m + 1$ .

The probability on the left hand side of Equation (3) is the conditional probability that the two arbitrary  $m$ -length lead vectors  $R_{1,t}$  are within a distance  $d$  of each other, given that the corresponding  $Lr1$ -length lag vectors of  $R_{1,t}$  and two  $Lr2$ -length lag vectors of  $R_{2,t}$  are within  $d$  of each other. The probability on the right hand side of Equation (3) is the conditional probability that two arbitrary  $m$ -length lead vectors of  $R_{1,t}$  are within a distance  $d$  of each other, given that their corresponding  $Lr1$ -length lag vectors are within a distance  $d$  of each other.

If we express the conditional probability in terms of the ratios of joint and conditioning probabilities, the test in Equation (3) takes the form of Equation (4):

$$\frac{CI(m + Lr1, Lr2, d)}{CI(Lr1, Lr2, d)} = \frac{CI(m + Lr1, d)}{CI(Lr1, d)} \quad (4)$$

The correlation-integral estimators of the joint probabilities, which are discussed in detail by Hiemstra and Jones (1994), are given in Equation (5):

$$CI(m + Lr1, Lr2, d) \equiv \Pr(\|R_{1t-Lr1}^{m+Lr1} - R_{1s-Lr1}^{m+Lr1}\| < d, \|R_{2t-Lr2}^{Lr2} - R_{2s-Lr2}^{Lr2}\| < d), \\ CI(Lr1, Lr2, d) \equiv \Pr(\|R_{1t-Lr1}^{Lr1} - R_{1s-Lr1}^{Lr1}\| < d, \|R_{2t-Lr2}^{Lr2} - R_{2s-Lr2}^{Lr2}\| < d), \\ CI(m + Lr1, d) \equiv \Pr(\|R_{1t-Lr1}^{m+Lr1} - R_{1s-Lr1}^{m+Lr1}\| < d), \\ CI(Lr1, d) \equiv \Pr(\|R_{1t-Lr1}^{Lr1} - R_{1s-Lr1}^{Lr1}\| < d). \quad (5)$$

In order to test the condition in Equation (4), we use the correlation-integral estimators of Equation (5). Supposing that  $R_{1,t}$  and  $R_{2,t}$  are strictly stationary, weakly dependent and satisfy the mixing conditions of Denker and Keller (1983), under the null hypothesis that  $R_{2,t}$  does not strictly Granger cause  $R_{1,t}$ , the test statistic  $T$  is asymptotically normally distributed and it is determined by Equation (6):

$$T = \left[ \frac{CI(m + Lr1, Lr2, d, n)}{CI(Lr1, Lr2, d, n)} - \frac{CI(m + Lr1, d, n)}{CI(Lr1, d, n)} \right] \sim N \left( 0, \frac{1}{\sqrt{n}} \sigma^2(m, Lr1, Lr2, d) \right) \quad (6)$$

where,  $n = T + 1 - m - \max(Lr1, Lr2)$  and  $\sigma^2(\cdot)$  is the asymptotic variance of the modified Baek and Brock test statistic. The test statistic in Equation (6) is applied to the two estimated residual series from the VAR model in Equations (1) and (2),  $\varepsilon_{1,t}$  and  $\varepsilon_{2,t}$ , respectively. Therefore, if the null hypothesis of Granger non-causality is rejected, the detected causal relationship between the two variables must necessarily be nonlinear.

## 4. DATA AND EMPIRICAL RESULTS

### 4.1 Data

The present analysis has been carried out using annual data for NATO member countries<sup>1</sup> for the time period 1960-2015. The data concerning debt to Gross Domestic Product (GDP) ratio is obtained from the *Historical Public Debt Database* published by the International Monetary Fund (IMF, 2019). Military expenditures as percentage of GDP data are obtained from the *SIPRI Military Expenditure Database* (SIPRI, 2018). All data used are expressed as percentage of GDP and in current prices. The implementation of non-linear causality tests requires the use of current prices, in order to avoid the filtering caused by the transformation of time-series in constant prices.

#### 4.2 Results of the Linear Granger Causality Test

Before we proceed to the implementation of the linear Granger causality test, stationarity tests should be performed for each of the relevant variables. Unit roots need to be removed, in order to obtain stationary series. For this purpose, in the present study, the augmented Dickey-Fuller (ADF) test procedure (Dickey and Fuller, 1979) was employed. The findings from the ADF test suggest that the series have been proved to be stationary in the first differences at 10% significance level. The Schwartz Info criterion rule has been employed for the selection of the lag parameters. Subsequently, we carry out the linear Granger causality test. The null hypothesis suggests that no Granger causality exists between military expenditures and debt. The alternative hypothesis declares that a linear Granger causality exists. If the probability is greater than the critical value, the null hypothesis is considered as significant and we accept it as the true case. If the critical value is greater than the probability, the null hypothesis is not considered to be significant and we accept the alternative hypothesis. Table 1 provides a view of the linear Granger causality results.

The findings indicate the existence of a unidirectional causality running from military expenditures to external debt in the UK and the USA as well as a unidirectional flow running from debt to military expenditures in the cases of Greece and Italy. No causality is observed in all other cases. Overall, the results indicate that, in some countries, as military expenditure grows there is a tendency for external debt to grow and vice versa. The results of the study are comparable to the study of Sezgin (2004), that found no signs of linear causality for Turkey, but contradictory to the study of Karagol (2005, 2006), that determined defence burden as a statistically significant and economically important determinant of external debt. Our findings also contradict to the findings of Kollias et al. (2004) and Dimitraki and Kartsaklas (2017) for Greece, that indicated a positive effect of military spending on sovereign debt in Greece. Additionally, Norrlof and Wohlforth (2016) found that military spending is not a significant determinant of debt in the USA, in contrast with our conclusions that declare the existence of a unidirectional flow from military expenditures to debt. These opposing results could be attributed to the fact that different studies have focused on different time periods, proxy variables and alternative econometric methodologies to elaborate the external debt and defense spending relationship.

Table 1: Linear Granger causality test results

Countries	Null Hypothesis	Probability	Results
Belgium	DEBT does not Granger Cause ME	0.6545	
	ME does not Granger Cause DEBT	0.3362	
Canada	DEBT does not Granger Cause ME	0.0965	
	ME does not Granger Cause DEBT	0.7400	
Denmark	DEBT does not Granger Cause ME	0.6720	
	ME does not Granger Cause DEBT	0.8216	
France	DEBT does not Granger Cause ME	0.6518	
	ME does not Granger Cause DEBT	0.6826	
Germany	DEBT does not Granger Cause ME	0.1400	
	ME does not Granger Cause DEBT	0.8845	
Greece	DEBT does not Granger Cause ME	0.0140	DEBT → ME
	ME does not Granger Cause DEBT	0.8407	
Italy	DEBT does not Granger Cause ME	0.0420	DEBT → ME
	ME does not Granger Cause DEBT	0.3838	
Netherlands	DEBT does not Granger Cause ME	0.0947	

<sup>1</sup> NATO consists of 29 independent member countries. In our study, we have included 14 of the NATO member countries (namely, Belgium, Canada, Denmark, France, Germany, Greece, Italy, Netherlands, Norway, Portugal, Spain, Turkey, UK and USA), since for the rest of the countries, the data was incomplete and the time series required for the implementation of the specific methodology were limited.



	ME does not Granger Cause DEBT	0.1332	
Norway	DEBT does not Granger Cause ME	0.5097	
	ME does not Granger Cause DEBT	0.3449	
Portugal	DEBT does not Granger Cause ME	0.1832	
	ME does not Granger Cause DEBT	0.2623	
Spain	DEBT does not Granger Cause ME	0.7213	
	ME does not Granger Cause DEBT	0.6027	
Turkey	DEBT does not Granger Cause ME	0.7821	
	ME does not Granger Cause DEBT	0.8109	
UK	DEBT does not Granger Cause ME	0.0592	
	ME does not Granger Cause DEBT	0.0003	ME → DEBT
USA	DEBT does not Granger Cause ME	0.6583	
	ME does not Granger Cause DEBT	0.0345	ME → DEBT

Notes: 1) Debt stands for external debt as percentage to GDP and ME for military expenditures as percentage to GDP. 2) The critical value is 0.05

### 4.3 Results of the Non-Linear Granger Causality Test

Given that the existence of linearity does not rule out the existence of nonlinearity (Kyrtsov and Labys, 2006), our study goes one step further and applies the nonlinear causality test developed by Francis et al. (2010). To begin with, we remove any potential linear dependence by applying a Vector Autoregression (VAR) model. We, then, use the estimated residual series as inputs to the nonlinear test. The test has been applied in both directions and a common lag length of 1 to 5 lags has been used ( $Lx=Ly=1, \dots, 5$  and lead length  $m=1$ ). The study also uses common scale parameter of  $e=1.5\sigma$ , where  $\sigma$  denotes the standard deviation of the standardized time series. The analytical results of the  $p$ -values of the nonlinear test are reported in Table 2.

Table 2: NonLinear causality test results

Countries	Lx=Ly	p-value		Results
		ME → DEBT	DEBT → ME	
Belgium	1	0.41	0.02*	
	2	0.08*	0.07*	
	3	0.11	0.42	
	4	0.18	0.61	
	5	0.36	0.44	
Canada	1	0.55	0.47	
	2	0.61	0.43	
	3	0.48	0.47	
	4	0.12	0.22	
	5	0.28	0.26	
Denmark	1	0.36	0.48	
	2	0.05*	0.65	
	3	0.05*	0.46	
	4	0.24	0.07*	
	5	0.45	0.23	
France	1	0.03*	0.98	
	2	0.28	0.82	
	3	0.30	0.69	
	4	0.09*	0.55	
	5	0.45	0.67	
Germany	1	0.46	0.09*	
	2	0.59	0.09*	
	3	0.26	0.15	
	4	0.23	0.49	

	5	0.60	0.45	
Greece	1	0.43	0.35	
	2	0.32	0.17	
	3	0.56	0.50	
	4	0.30	0.58	
	5	0.49	0.72	
Italy	1	0.06*	0.50	
	2	0.04*	0.51	
	3	0.29	0.28	
	4	0.50	0.08*	
	5	0.74	0.37	
Netherlands	1	0.88	0.15	
	2	0.94	0.45	
	3	0.47	0.42	
	4	0.59	0.88	
	5	0.46	0.49	
Norway	1	0.46	0.14	
	2	0.03*	0.30	
	3	0.04*	0.17	
	4	0.13	0.58	
	5	0.26	0.40	
Portugal	1	0.54	0.27	
	2	0.60	0.19	
	3	0.51	0.31	
	4	0.44	0.45	
	5	0.48	0.31	
Spain	1	0.33	0.67	
	2	0.34	0.38	
	3	0.19	0.60	
	4	0.10*	0.60	
	5	0.07*	0.66	
Turkey	1	0.69	0.25	ME → DEBT
	2	0.08*	0.24	
	3	0.03*	0.35	
	4	0.05*	0.25	
	5	0.12	0.81	
UK	1	0.08*	0.17	
	2	0.21	0.10*	
	3	0.38	0.30	
	4	0.39	0.30	
	5	0.20	0.17	
USA	1	0.30	0.01*	DEBT → ME
	2	0.21	0.05*	
	3	0.43	0.02*	
	4	0.59	0.18	
	5	0.23	0.18	

Notes:

The null hypothesis suggests that ME does not cause DEBT and DEBT does not cause ME, respectively.

\* denotes  $p$ -value statistical significance at 10% level.

The findings support the existence of a strong unidirectional nonlinear causality running from military expenditure to external debt in Turkey and the existence of the opposite nonlinear flow in the USA. The first finding denotes that a shock in military spending is expected to have disproportionate effects on external debt, due to the existence of nonlinear causality. This fact indicates that an abrupt change in military spending is expected to affect debt in a non-proportionate way and policy makers cannot ex ante detect the results of this shock in the state budget. The results also indicate the existence of a unidirectional nonlinear flow running from external debt towards military spending in the case of USA. This finding indicates that an abrupt change in debt is expected to disproportionately affect military expenditures and policy makers are unable to know ex ante the results of a shock they may cause in the economy. Although, the specific non-linear methodology cannot determine the magnitude of the engendered change, yet it reveals that the presence of nonlinearity decreases predictability in the co-movements of the variables and raises sensitivity of variables responses to economic shocks. In the rest of the countries, there are no signs of nonlinear causality either because non-linear flows cannot be detected or because such flows do not exist in these specific set of countries. The results of the non-linear test cannot be compared to any other studies, since the specific non-linear technique has never been applied before.

A summary view of the empirical findings from both linear and nonlinear tests is displayed on Table 3. Greece and Italy have a significantly strategic geographical position. The fact, though, that they are highly indebted countries, determines, to a large extent, the level of their military spending, which is predictable due to the existence of linearity. Turkey also occupies a strategic geographical position and its military spending may well be used for both internal and external security purposes. The existence of non-linear causality suggests that policy makers are unable to forecast the exact size of the debt change due to a modification in the military expenditure level. Therefore, military expenditures cannot be used as means of policy making, since their impact on external debt cannot be detected. UK is the third highest-spending NATO member, and its defence expenditure comes right behind Greece and the US. In the UK, military spending is a major contributor to the volume of external debt, but the magnitude of its change is predictable. USA is an exceptionally big defence spender and it could be characterized as one of the most militant countries with a strong presence in warfare all around the world. Its military spending affects its external debt in a predictable and proportional way, but simultaneously the level of its debt its policy makers are unable to forecast the exact size of the debt impact on the modification of the military expenditure level.

Table 3: Linear and NonLinear causality test results

Countries	linear		non-linear	
	ME→DEBT	DEBT→ME	ME→DEBT	DEBT→ME
Belgium	-	-	-	-
Canada	-	-	-	-
Denmark	-	-	-	-
France	-	-	-	-
Germany	-	-	-	-
Greece	-	√	-	-
Italy	-	√	-	-
Netherlands	-	-	-	-
Norway	-	-	-	-
Portugal	-	-	-	-
Spain	-	-	-	-
Turkey	-	-	√	-

UK	√	-	-	-
USA	√	-	-	√

## 5. Conclusions

In the present study, we investigate the nexus between military expenditure and external debt in the NATO member countries for the time period 1960-2015. The linear causal analysis has been conducted with the use of the traditional linear Granger causality test, whereas the non-linear with the implementation of the non-linear Granger causality technique, developed by Baek and Brock (1992), modified by Hiemstra and Jones (1994) and revised by Francis et al. (2010).

The findings of the linear causality test provide signs for the existence of a unidirectional causality running from military expenditures to external debt in the UK and the USA and a unidirectional causal flow running from external debt to military expenditures in Greece and Italy. The empirical results of the non-linear causality test indicate the presence of a strong unidirectional causality flow from military spending to external debt in Turkey and the existence of the nonlinear flow from external debt to military spending in the USA.

The presence of non-linearity should raise the concern of economic and defence policy makers regarding the expansive or restrictive policies they intend to apply in the field of defense spending, in conjunction with budgetary considerations. Future research can be pursued by determining the sign and the magnitude of the relationship between these two variables. Yet, this purpose escapes from the potential of this non-linear test.

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## The Impact and Effects of Financial Reporting in the Public Accounting Econometric Analysis Model: Revenue and Expenditures for Period 2007-2017

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### Abstract

This scientific paper it aims to look at the importance and effects of financial reporting in public accounting by analyzing incomes (receipts) and expenditures (payments) in the money cash during the period 2007-2017. The impact and effects of globalization and the numerous changes in various economic activities, in particular financial reforms in transition countries with particular emphasis on the state of Kosovo, added the need for application and harmonization of accounting standards and financial reporting standards. The importance of applying these standards is to increase the importance and effects on financial reforms by applying a set of uniform and rigorous rules for financial reporting in the annual, nine-month, six-month, quarterly, and monthly financial statements. Thus, the purpose of this scientific paper is the econometric analysis of financial statements for receipts and payments based in the cash money ,which include public revenue and public expenditures during the 10 year period ,using statistical analysis and tests such as: regression, anova, t-test, intercept, degree of freedom, multiple R, square R, F, and others models that coincide this research for each variable, proving hypotheses or not, how important and what have been the effects on financial reforms during 2007-2017. Findings from this research will be help the state of the Kosovo look at financial reforms and comparability between the years for each variable.

**Keywords:** Financial reporting, accounting standards, financial reporting standards, revenue (receipts), expenditures (payments), public accounting, financial reforms etc.

### I. Introduction

The primary legislation in Kosovo's jurisdiction that regulates financial management and reporting in relation to the Kosovo budget is the law on public financial management and accountability, together with the administrative financial guidelines or Financial Rules that are subsequently issued. The financial administrative Instruction No. 2005/15 is of special importance, which states that the financial statements will be prepared in accordance with international accounting standards for the public sector for reporting based on the cash basis. The financial statements are those statements that aims to meet the needs of general purpose users who are not in the position to require special reports for their particular needs. General purpose financial statements include those disclosed separately or within another public document such as an annual report or a prospectus. This Standard does not apply to the structure and content of the abbreviated financial statements prepared in accordance with IAS<sup>1</sup>. The financial statements are a structured presentation of the financial position and financial performance of an entity. The objective of the financial statements for general purposes is to provide information about the financial position, financial performance and cash flow of an entity that is useful to a wide range of users in making economic decisions. The financial statements also show the management results related to the management of the resources entrusted to them. To achieve this objective, the financial statements provide information about these entities: assets, obligations, net equity, income and expense, including gains and losses, other changes in equity, and cash flows.

### II. Purpose of Research

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<sup>1</sup> IAS-34 Intermediate Financial Reporting.

The purpose of this research is to look at the impact and effects of financial reporting in public accounting. The other purpose of this research, are financial reforms and the relationship between variables during period 2007-2017 .Which have been years and financial items with the most significant financial effect, based on the annual financial reports and financial statements based on cash (receipts and payments). Based on these purposes, will analyzing the raised hypotheses, and it will be provide recommendations for the coming years.

### III. Methodology

The empirical study or the model of econometric analysis is realized in public accounting, concretely in the revenues and public expenditures for the period 2007-2017 based on the annual financial statements, to see how financial reforms have affected the country's economic development from year to year. The data from the annual financial statements are processed through econometric and statistical models with SPSS and R program. The test and methods that are used are (annual financial statements correlation, multiple R, F, anova, degree of freedom, intercept, least squares regression equation predicted values, regression statistics for variables square ,residuals output, trend analysis and growth rates of receipts in cash, trend analysis and growth rates of payments in cash, periods 2007-2017 etc.).

### IV. The Hypotheses

#### 4.1. The main hypothesis:

H0: There is an important relationship between financial reporting and public accounting (revenues -receipts and expenditures - payments)?

#### 4.2. Auxiliary hypotheses:

H0<sub>1</sub>: There is significant relationship between taxes, self-incomes, grants and other revenues to growth general incomes?

H0<sub>2</sub>: There is significant relationship between operations, transfers, capital expenditures and other payments to growth general expenditures and economic development?

### V. Literature Review

#### 5.1. Financial Reporting and Public Accounting Theories

Financial reporting and public accounting is intended to manage and protect public money and to hold responsibility and accountability. Modern leadership for financial reporting in relative and absolute aspect. More money requires more financial accounting to improve economic development.<sup>1</sup> Accounting principles allow a budget organization, whether state or private, to recognize revenue only on the basis of negotiated and conditional services. The government offers general goods and services, which are funded through taxes. Public services are consumed collectively and non-payers cannot be excluded by requiring them to pay taxes. These features spoil the relationship between revenue recognition and service delivery, making it impossible to match revenue and expenses.<sup>2</sup> International Public Sector Accounting Standards (IPSAS) are used by public institutions around the world to compile financial statements. These standards are based on the International Financial Reporting Standards (IFRS) approved by the International Accounting Standards Board (IASB).<sup>3</sup> Between IPSAS and International Financial Reporting Standards (IFRS), there is a close connection to the fact that IPSAS standards are based primarily on IFRS principles in order to ensure comparability between private and public sector reporting, when similar transactions are accounted.<sup>4</sup> Accounting and financial reporting standards should be relevant to users of public sector financial statements. The financial statements prepared in accordance with IPSAS should adequately present the financial performance, financial position and cash flows of an institution to enable the users of financial statements to report accurately and timely.<sup>5</sup> The adoption of the IPSAS opens the way for the full disclosure of financial information that serves the needs of different users.<sup>6</sup> Public accounting with particular emphasis, public spending to be implemented with

<sup>1</sup> World Bank 1997.

<sup>2</sup> Sunder, 1997

<sup>3</sup> Accounting Standards and financial statement, book 2015.

<sup>4</sup> Ibid.

<sup>5</sup> Ijeoma and Oghoghomeh, 2014.

<sup>6</sup> Ozugbo, 2009

administrative honesty and fiscal responsibility. Thus, the fiscal responsibility act should be improved so that public spending is not only transparent but also efficient and effective.<sup>1</sup>

## **5.2. Financial Statements for State of the Kosovo -According to International Public Sector Accounting Standards,Based on Cash Money**

### **5.2.1. Basis of preparation**

The financial statements have been prepared in accordance with LPFMA no. 03 / L-048, as amended by Law 03 / L-221, Law 04 / L-116, Law 04 / L / 194, Law 05 / L-063 and Law no. 05 / L-007 as IPSAS based on cash.<sup>2</sup> Financial Reporting according the accounting principles based on the cash. The notes to the financial statements form an integral part of the meaning of the statements and should be read together and in relation to the statements.<sup>3</sup>

### **5.2.2. Accounting Policies**

The basis of accounting and reporting in the Government of the Republic of the Kosovo according the LPFMA is the cash basis. On this basis, the information presented in these financial statements presents cash receipts and payments and the cash flow movement.<sup>4</sup> Money management is organized in form of single account of Treasury. The single account of Treasury is a system of banking account which is used to collect incomes and realization of expenses, which are supervised by single institution–Treasury Department.<sup>5</sup> Receptions (incomes) are acknowledged only when are under Government control. This means money which is transferred into Treasury account at CBK<sup>6</sup>, money which stands by on commercial banks to be transferred to Treasury account in CBK and collected money from an official of budgetary organization standing by to be transferred to Treasury account in CBK.<sup>7</sup> Payments (expenses) are acknowledged when are paid by single account of Treasury and expenses of tiny money are acknowledged when justifying account of tiny money<sup>8</sup> Transactions between budgetary organizations so called “Inter-parliamentary transactions” aren’t consolidated into these financial clearances, aiming to save information consistence reported by individual financial clearances of budgetary organizations.<sup>9</sup>The expenses are categorized according to economic classification which reflects Financial Government Statistics of IMF, which are modified version of SQF, based on cash money of 1986 including elements of SQF 2001.<sup>10</sup> Accounting policies are applied continuously during whole period.<sup>11</sup>

### **5.2.3. Reporting subject**

The financial statements present the financial activity of the Government of the Republic of Kosovo as specified in Law no.03/L-048, as amended by Law 03/L-221, Law 04/L-116, Law 04/L/194, Law 05/L-063 and Law no. 05/L-007, which includes all budget organizations that consolidated and reported from treasury at the level of the general government.<sup>12</sup>

### **5.2.4. Payments made by third parties**

Payments made by third parties are not considered receipts or payments in cash, but are benefits of the Government. These payments are disclosed in the payments by third parties section of the consolidated statement of cash receipts and payments.<sup>13</sup>

### **5.2.5. Money Cash**

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<sup>1</sup> Piancastelli and Boueri, 2005.

<sup>2</sup> Annual financial report ,2007

<sup>3</sup> Annual financial report, 2008.

<sup>4</sup> Annual financial report, 2009.

<sup>5</sup> Annual financial report, 2010.

<sup>6</sup> Central bank of the Kosovo.

<sup>7</sup> Annual financial report, 2008.

<sup>8</sup> Ibid.

<sup>9</sup> Annual financial report, 2011.

<sup>10</sup> Annual financial report, 2012.

<sup>11</sup> Annual financial report, 2012.

<sup>12</sup> Annual financial report, 2017.

<sup>13</sup> Annual financial report, 2013.



Cash is comprised of funds held at the Central Bank of Kosovo, commercial banks, and as the coffers of budgetary organizations and money cash equivalents.<sup>1</sup>

**5.2.6. Reimbursement of expenditures (payments) from previous year** Payments returned to BRK from previous years in the current year are evidenced as revenue.<sup>2</sup>

**5.2.7. Reporting currency**

The reporting currency is Euro (€) and while the state debt is disclosed in SDR.<sup>3</sup>

**5.2.8. Reporting amount**

Reporting amounts are per units `000 (thousand) Euro (€).<sup>4</sup>

**5.2.9. Date of authorization**

The authorization is valid on date of signing of statement about Financial Report by Minister of Finance and Treasury Director.<sup>5</sup>

### 5.3. Identification of Financial Statements

The financial statements should be clearly identified and distinguished from other information in the same published document. The IFRS-s apply only to the financial statements, and not to any other information presented in the annual report or other document. It is therefore important that users can distinguish the information prepared using IFRSs from other information that may be useful to users.<sup>6</sup>

### 5.4. International Accounting Standard

**5.4.1. Public incomes**

During preparation and presentation of financial statements, incomes is determined as an increase in the economic benefits during the accounting period in the form of inflows or increases in assets or decreases in liabilities that result in an increase in net equity, other than those related to contributions from participants in net equity.<sup>7</sup>

**5.4.2. Public expenditures**

Public spending indicates amounts spent for different purposes by public authorities as state and local governments as capital goods, consumption goods and personnel expenditure etc.<sup>8</sup>

## VI. ECONOMETRIC ANALYSIS MODEL: REVENUE AND EXPENDITURES FOR PERIOD 2007-2017

In this scientific paper, becomes combination of statistical analysis, tests and econometric models in financial statements based in money cash for the period 2007-2017. Based on the hypotheses raised will be used tests and analyzes through the SPSS and R program.

$$Y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \dots + \beta_p x_p + e \dots \dots \dots (I)$$

$$TRevCach = \beta_0 + \beta_1TAX + \beta_2SINC + \beta_3GRA + \beta_4CAP.AD + \beta_5OR + e \dots \dots \dots (II)$$

Where:

- TrevCash - Total revenue (receipts) in cash
- Tax - Taxes

<sup>1</sup> Annual financial report, 2014.

<sup>2</sup> Annual financial report, 2015.

<sup>3</sup> Annual financial report 2017.

<sup>4</sup> Ibid.

<sup>5</sup> Annual financial report 2015.

<sup>6</sup> International Accounting Standard 1 - Presentation of Financial Statements -Ministry of Finance.

<sup>7</sup> International Accounting Standard 18 – Income.

<sup>8</sup> Hy man 2014, Paine 2001.

- Sinc – Self-incomes
- Gra - Grants and assistances
- Cap.ad- Capital admissions
- Or - Other reception
- e – Error term

$$n = N/1 + N(e)^2 \dots\dots\dots (III)$$

Where:

- n- Sample size (period 2007-2017) , n=.091
- N- Financial reporting in public accounting (revenue-receipts)
- e – Error limit (0.05 on the basis of 95% confidence level).

6.1. Financial Statements of Receipts Based in Money Cash

YEARS	X1-Tax <sup>1</sup> '000 €	X2-Self incomes <sup>2</sup> '000 €	X3- Grants and assistances <sup>3</sup> '000 €	X4-Capital admissions(receipts) ,Other ,Borrowing <sup>4</sup> '000 €	X5-Other reception <sup>5</sup> '000 €	Y-Total receipts in cash '000 €
2007	714,133	54,961	11,643	255,484	134,145	1,170,366
2008	805,030	71,850	12,845	5,823	93,578	989,126
2009	815,805	77,950	13,880	3,425	249,637	1,160,697
2010	893,603	100,480	45,342	24,451	130,632	1,194,508
2011	1,057,952	115,534	28,208	5,076	106,483	1,313,253
2012	1,093,939	120,531	48,738	166,990	120,417	1,550,615
2013	1,104,843	94,953	12,588	83,835	148,947	1,445,166
2014	1,141,157	99,746	12,092	113,836	95,748	1,462,579
2015	1,248,937	112,703	13,310	166,719	165,704	1,707,373
2016	1,459,513	136,962	163,147	9,018	9,268	1,777,908
2017	1,553,270	128,298	220,246	21,221	326	1,923,361

Tab.1. Statement of cash receipts<sup>6</sup>

Based on table no.1. Financial statements of receipts in money cash for the period 2007-2017. In this table we can see all the variables of the receipts. These variables are divided in dependent variables or total receipts, and independent variables that effect the dependent variable, such as: taxes, self-incomes, grants and assistances, capital admissions (receipts), other reception. During the 10-year period, we see that the largest receipts are: from taxes in 2015 (1,553,270), from self-income in 2016 (136,962), from grants and assistance in 2017 (220,246), capital admissions (receipts), other, borrowing in 2007 (255,484), from other reception in 2009 (249,637). The highest total receipts are in 2017 (1,923,361), while with the lowest values are in 2008 (989,126).<sup>7</sup>

<sup>1</sup> Tax (Tax administration state of the Kosovo, customs).

<sup>2</sup> Self-incomes (municipalities, the central budget organizations).

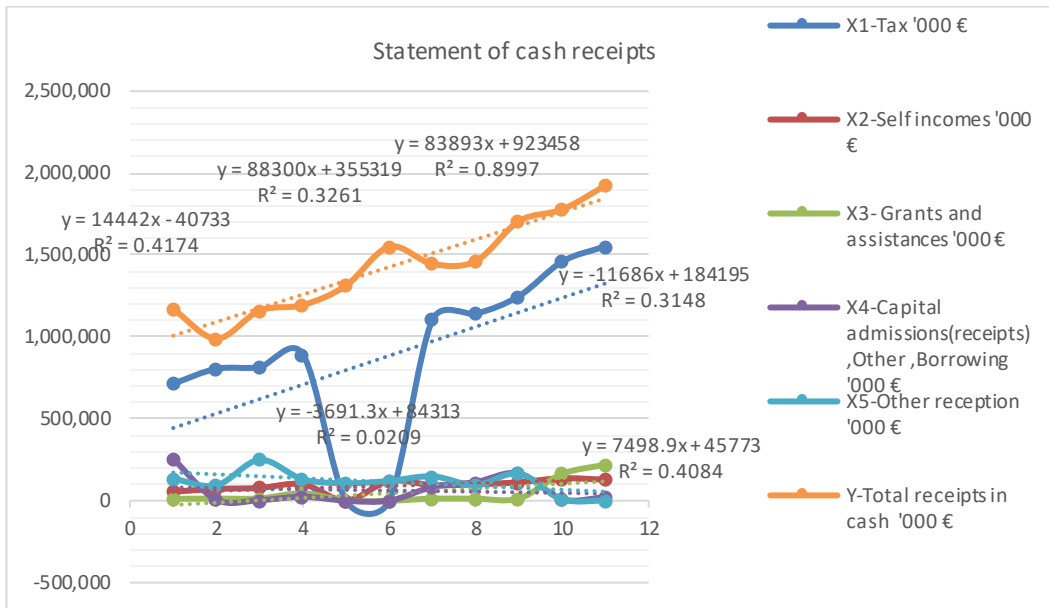
<sup>3</sup> Grants and assistances (donor grants, budget support grants).

<sup>4</sup> Capital admissions (receipts), Other, Borrowing (domestic borrowing and external borrowing. Explanation: in some years there is no borrowing

<sup>5</sup> Other receipts-revenue (deposit fund, fines and fees, bank interest, dividends, immediate financing of the KPA, return of lending, others).

<sup>6</sup> Author, w with SPSS program.

<sup>7</sup> Ex planation for all v variables for cash receipts in money cash.



**Graf.1. Statement of cash receipts for all variables<sup>1</sup>**

**6.1.1. Linear Regression For Variable X1- Tax**

		Least squares regression equation predicted values y			
YEARS	X1-Tax '000 €	Y-Total receipts in cash '000 €	$y=1.0485x+293658$	Residual $\hat{\wedge}$	$\hat{\wedge} (y-y)^2$
2007	714133	1170366	1042426.5	127939.5	163685283
2008	805030	989126	1137732.0	-148606.0	220837298
2009	815805	1160697	1149029.5	11667.5	136129564
2010	893603	1194508	1230600.7	-36092.7	130268627
2011	1057952	1313253	1402920.7	-89667.7	804029140
2012	1093939	1550615	1440653.0	109962.0	120916323
2013	1104843	1445166	1452085.9	-6919.9	47884815.0
2014	1141157	1462579	1490161.1	-27582.1	760773040
2015	1248937	1707373	1603168.4	104204.6	108585893
2016	1459513	1777908	1823957.4	-46049.4	212054544
2017	1553270	1923361	1922261.6	1099.4	1208691.35
				<b>Sum of Squared Residuals</b>	<b>73811999127</b>

**Tab.2. Least regression predicted<sup>2</sup>**

<sup>1</sup> Author, w with R program.

<sup>2</sup> Author with SPSS program.

**SUMMARY OUTPUT**

**Regression Statistics**

Multiple R	0.956149483
R Square	0.914221835
Adjusted R Square	0.904690927
Standard Error	90561.21253
Observations	11

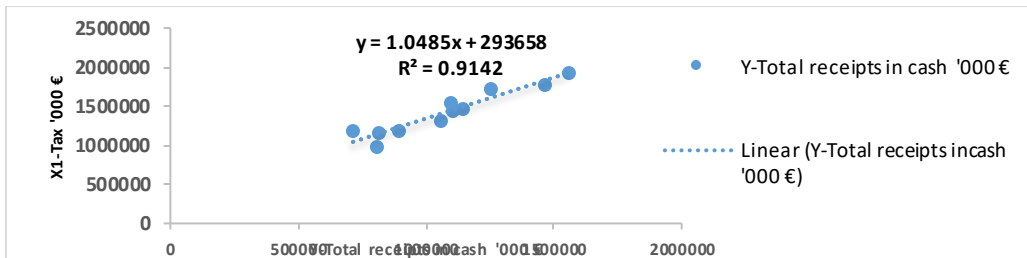
**ANOVA**

	df	SS	MS	F	Significance F
Regression	1	7.86687E+1	7.86687E+1	95.9218	4.2541E-06
Residual	9	738119989	820133321	1	
Total	10	8.60499E+1	1		

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	293657.8009	118877.763	2.47025005	0.03555	24737.6173	562578	2	562578
X1-Tax '000 €	1.048496414	0.10705532	9.79396781	4.25E-06	0.80632044	1.29067	0.80632	1.29067

**Tab.3.Regression Statistics for tax<sup>1</sup>**

Table no.3. Regression statistics for tax. In this table we can see that the t-test (9.79) is a significant variable, which means that taxes have an important role and represent a relevant influence within the overall public revenue. R.Sq is 0.91 or 91% is statistically acceptable. So, taxes have impact on revenue growth of about 91% .<sup>2</sup>



**Graf.2.Linear regression for Tax<sup>3</sup>**

**6.1.2. Linear Regression for Variable X2- Self Income**

**SUMMARY OUTPUT**

**Regression Statistics**

Multiple R	0.82665463
R Square	0.68335789
	3

<sup>1</sup> Author with SPSS program.

<sup>2</sup> 91% is statistically acceptable.

<sup>3</sup> Author with R program.

Adjusted R Square	0.64817543
Standard Error	173995.567
Observations	11

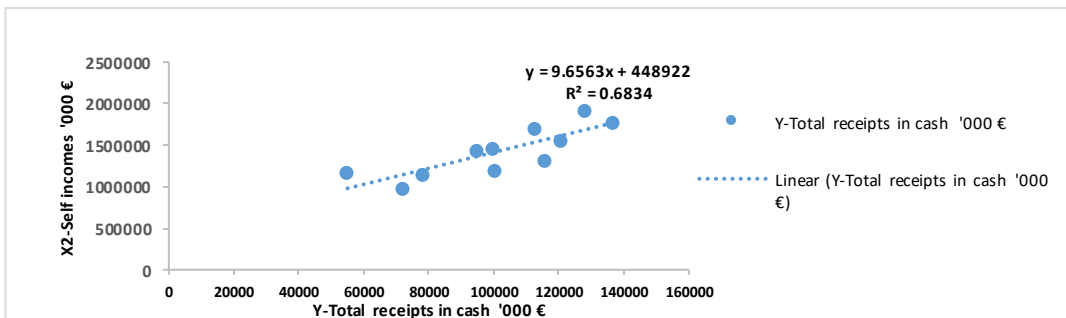
ANOVA							
	df	SS	MS	F	Significance F		
Regression	1	5.88029E+11	5.88E+11	19.42326	0.001702537		
Residual	9	2.7247E+10	3.03E+10				
Total	10	8.60499E+11					

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	448921.528	228003.599	1.96892	0.08048	66858.446	964701.50	66858.446	964701.50
X2-Self incomes '000 €	9.65630537	2.19103826	4.40718	0.00170	4.6998324	14.612778	4.6998324	14.612778

**Tab.4. Regression Statistics for self-incomes<sup>1</sup>**

Table no.4. Regression statistics for self-incomes. In this table we can see that the t-test (4.407) is a significant variable, which means that self- incomes have an important role and represent a relevant influence within the overall public revenue. R.Sq is 0.68 or 68 % is statistically acceptable. So, self – incomes have impact on revenue growth of about 68% .<sup>2</sup>



**Graf.3.Linear regression for Self-incomes<sup>3</sup>**

**6.1.3. Linear Regression for Variable X3- Grants and Assistances**

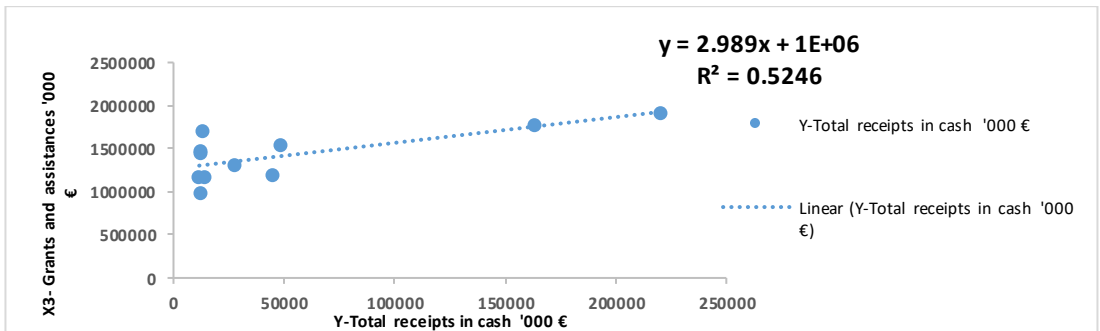
SUMMARY OUTPUT	
Regression Statistics	
Multiple R	0.72432
R Square	0.524639
Adjusted R Square	
Standard Error	213189.5
Observations	11

<sup>1</sup> Author with SPSS program, tab5.  
<sup>2</sup> 68 % is statistically acceptable.  
<sup>3</sup> Author with R program.

ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	4.51E+11	4.51E+11	9.932972	0.011706			
Residual	9	4.09E+11	4.54E+10					
Total	10	8.6E+11						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1268656	81547.87	15.5572	8.21E-08	1084182	1453130	1084182	1453130
X3- Grants and assistances '000 €	2.989031	0.948399	3.151662	0.011706	0.843605	5.134458	0.843605	5.134458

**Tab.5. Regression Statistics for grants and assistances<sup>1</sup>**

Table no.5. Regression statistics for grants and assistances. In this table we can see that the t-test (3.151) is a significant variable, which means that grants and assistances have an important role and represent a relevant influence within the overall public revenue. R.Sq is 0.52 or 52 % is statistically acceptable. So, grants and assistances have impact on revenue growth of about 52% .<sup>2</sup>



**Graf.4.Linear regression for grants and assistances<sup>3</sup>**

**6.1.4. Linear Regression for Variable X4-Capital Admissions (Receipts), Other, Borrowing**

SUMMARY OUTPUT	
Regression Statistics	
Multiple R	0.0452075
R Square	0.0020437
Adjusted R Square	-
Standard Error	308894.09
Observations	11

<sup>1</sup> Author for v variable x3.  
<sup>2</sup> 52 % is statistically acceptable.  
<sup>3</sup> Author with R program.

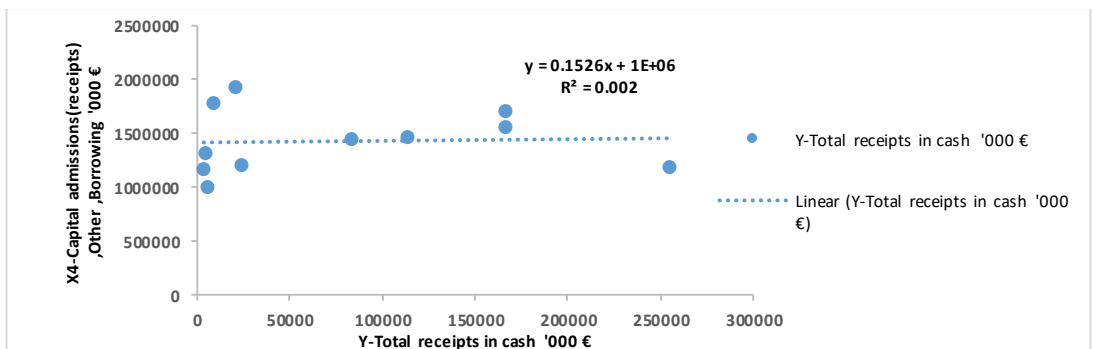
	df	SS	MS	F	Significance F				
Regression	1	175861949.9	175861949.9	0.01843116	0.894997961				
Residual	9	8.5874E+11	954155633.17						
Total	10	8.60499E+11							

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1414942.601	127750.557	11.07582334	1.5193E-06	1125950.763	1703934.44	1125950.76	1703934.44
X4-Capital admissions(receipts), Other Borrowing '000 €	0.152572437	1.123827744	0.135761408	0.89499796	2.38970254	2.69484742	2.3897025	2.69484742

**Tab.6. Regression Statistics for Capital admissions (receipts), Other, Borrowing<sup>1</sup>**

Table no.6. Regression statistics for capital admissions, other, borrowing. In this table we can see that the t-test (0.002) is not an important variable, which means that capital admissions, borrowing do not play an important role in increasing revenue.<sup>2</sup>



**Graf.5. Linear regression for Capital admissions (receipts), Other, Borrowing<sup>3</sup>**

**6.1.4.1. Linear Regression for Variable X5-Other Receipts**

SUMMARY OUTPUT	
Regression Statistics	
Multiple R	0.558960
R Square	0.312437
Adjusted R Square	0.236041
Standard Error	256395.306
Observations	11
ANOVA	

<sup>1</sup> Regression linear for x4.  
<sup>2</sup> 2 % is statistically acceptable.  
<sup>3</sup> Author with R program.

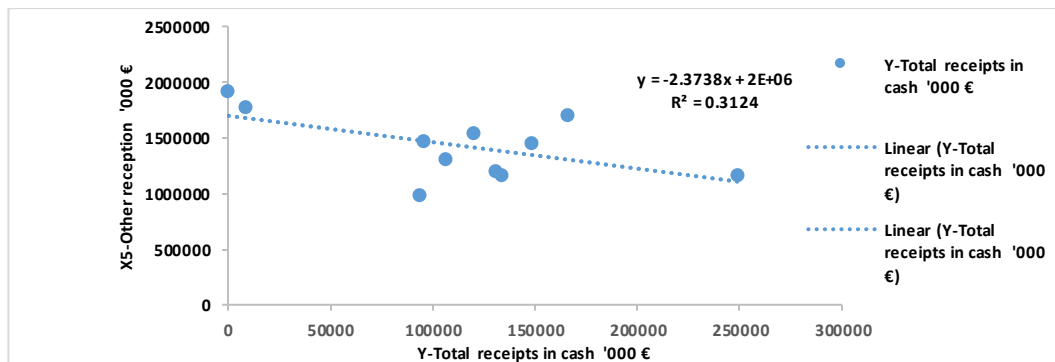
	df	SS	MS	F	Significance F
Regression	1	2.68852E+11	2.68852E+11	4.08971142	0.07384681
Residual	9	5.91647E+11	65738553122		
Total	10	8.60499E+11			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1697614.74	154620.0509	10.97926647	1.6357E-06	1347839.88	2047389.6	1347839.88	2047389.6
X5-Other receipts '000 €	2.373771	1.173795831	2.02230349	0.07384681	5.0290821	0.28153924	5.0290821	0.28153924

**Tab.7. Regression Statistics for other receipts<sup>1</sup>**

Table no.7. Regression statistics for other receipts. In this table we can see that the t is a significant variable, but not very important. R.Sq is 0.31 or 31 % is statistically acceptable but not very important. So, other receipts have impact on revenue growth of about 31%.<sup>2</sup>



**Graf.6. Linear regression for other receipts<sup>3</sup>**

**6.2. Financial Statements of Payments Based in Money Cash**

$$Y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \dots + \beta_px_p + e \dots \dots \dots (I)$$

$$TPaymCach = \beta_0 + \beta_1OPE + \beta_2TRANS + \beta_3CAPEX + \beta_4CAP.AD + \beta_5OP + e \dots \dots \dots (II)$$

Where:

- ✓ TPaymCash - Total payment (expenditures) in cash
- ✓ Ope - Operations
- ✓ Trans – Transfers
- ✓ Capex - Capital expenses

<sup>1</sup>Regression linear for x5.

<sup>2</sup> 31 % is statistically acceptable.

<sup>3</sup> Author with R program.



- ✓ Cap.ad- Capital admissions
- ✓ Op - Other payments
- ✓ e – Error term

$$n = N/1 + N(e)^2 \dots\dots\dots(III)$$

Where:

- ✓ n- Sample size (period 2007-2017), n=.087.
- ✓ N- Financial reporting in public accounting (expenditures-payments)
- ✓ e – Error limit (0.05 on the basis of 95% confidence level).

YEARS	X1-Operations <sup>1</sup> '000 €	X2- Transfers <sup>2</sup> '000 €	X3-Capital expenses <sup>3</sup> '000 €	X4-Other payments <sup>4</sup> '000 €	Y-Total of payments '000 €
2007	359,703	154,552	159,208	128,487	801,950
2008	391,131	210,006	351,651	10,596	963,384
2009	442,898	257,767	406,382	145,301	1,252,348
2010	502,884	253,484	459,272	71,884	1,287,524
2011	570,282	256,476	531,290	42,413	1,400,461
2012	603,287	280,317	554,813	37,656	1,476,073
2013	635,574	315,619	534,690	25,675	1,511,558
2014	696,824	364,526	412,920	36,587	1,510,857
2015	735,305	422,099	407,926	49,008	1,614,338
2016	751,242	475,103	449,147	87,751	1,763,243
2017	779,068	508,316	471,098	78,322	1,836,804

**Tab. 8. Statement of payments in cash<sup>5</sup>**

Based on the table no.8.Financial cash payments financial statements for the period 2007-2017. In this table, we can see all payments variables. These variables are divided into: variables dependent or total payments and independent variables such as: operations, transfers, capital expenditures, other payments. During the period of 10 years, the largest payments were made: from operations 2017 (779,068), from transfers 2017 (508,316), from capital expenditures 2012 (554,813), from other payments 2009 (145,301). The highest payments from their total are in 2017 (1,836,804), while the lowest payments are in 2007 (801,950).<sup>6</sup>

<sup>1</sup> Operations (wages and salaries, commodities and services, municipal services).

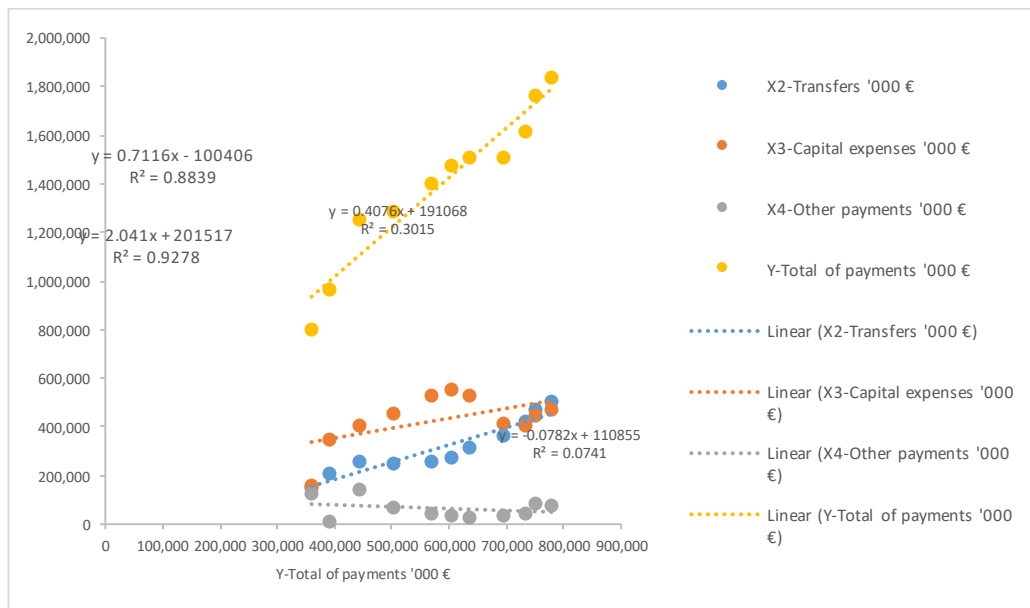
<sup>2</sup> Transfers (subsidies and transfers).

<sup>3</sup> Capital expenses (properties, plants, equipment).

<sup>4</sup> Other payments (returns from deposit funds, privatization fund, others).

<sup>5</sup> Author with SPPS program for payments.

<sup>6</sup> Explain for all variables.



**Graf.7. Statement of payments in cash for all variables<sup>1</sup>**

**6.2.1. Linear Regression for Variable X1-Operations**

**SUMMARY OUTPUT**

Regression Statistics	
Multiple R	0.96320
R Square	0.92777
Adjusted R Square	0.91974
Standard Error	88771.0
Observations	11

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	9.11001E+07	9.11001E+07	115.604926	1.9508E-06
Residual	9	709226722	78802969		
Total	10	9.81924E+07			

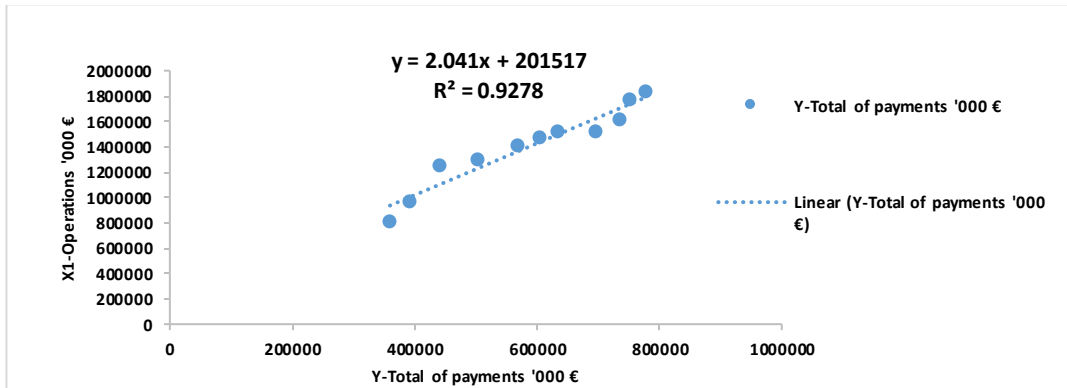
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%

<sup>1</sup> Author with R program.

	201517.	114787.17	1.755573	0.11304		461184.0		
Intercept	388	97	997	753	-58149.253	29	-58149.253	461184.029
X1-Operations '000 €	2.04103	0.1898293	10.75197	1.9508E-06	1.6116159	2.470463	1.6116159	
	967	13	312	06	3	41	3	2.47046341

**Tab.9. Regression Statistics for operations<sup>1</sup>**

Table 9. Regression statistics for operations. In this table we can see that t-test (10.751) is an important variable, which means that payments from operations have an important role in public expenditures. R.Sq. 0.92 or 92% is statistically acceptable. So, payments from operations have an impact on public expenditures about 92%. The Government realizes all payments when performing services at the operations variable.<sup>2</sup>



**Graf.8.Regresion statistics for operations<sup>3</sup>**

**6.2.2. Linear Regression for X2-Transfers**

SUMMARY OUTPUT					
Regression Statistics					
		0.928208			
Multiple R		88			
		0.861571			
R Square		72			
Adjusted R Square		0.846190			
Standard Error		122893.8			
Observations		24			
		11			
ANOVA					
	df	SS	MS	F	Significance F
Regression	1	8.45998E+11	8.45998E+11	56.01561	3.75389E-05
Residual	9	1.35926E+11	151028918	75	

<sup>1</sup> Author with SPSS program.

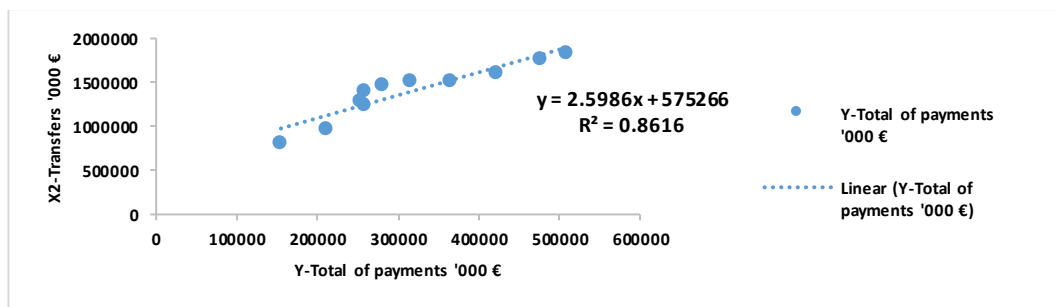
<sup>2</sup> 92 % is statistically acceptable.

<sup>3</sup> Author with R program.

		9.81924E+11						
Total	10							
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	575266.314	116470.8464	4.939144273	0.00080318	311790.9545	838741.673	311790.955	838741.673
X2-Transfers '000 €	2.59860547	0.347204856	7.484358071	3.7539E-05	1.813173513	3.38403742	1.81317351	3.38403742

**Tab.10. Regression Statistics for transfers<sup>1</sup>**

Table 10. Regression statistics for transfers. In this table we can see that t-test (7.48) is an important variable, which means that payments from transfers have an important role in public expenditures. R.Sq. 0.86 or 86% is statistically acceptable. So, payments from transfers have an impact on public expenditures about 86%. The Government realizes all payments when performing services at the transfer's variable.<sup>2</sup>



**Graf.9. Regression statistics for operations<sup>3</sup>**

### 6.2.3. Linear Regression for X3-Capital Expenditures

SUMMARY OUTPUT					
Regression Statistics					
		0.6855974			
Multiple R	3	0.4700438			
R Square	4	0.4111598			
Adjusted R Square	2	240457.10			
Standard Error	6				
Observations	11				
ANOVA					
	df	SS	MS	F	Significance F
Regression	1	4.61547E+11	4.61547E+11	7.98253667	0.019873054

<sup>1</sup>Regression for x-2.

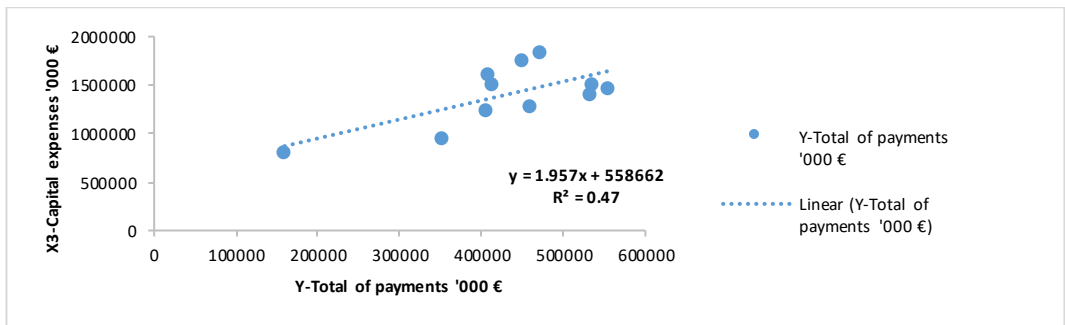
<sup>2</sup>86 % is statistically acceptable

<sup>3</sup> Author with R program.

Residual	9	5.20377E+1	578196198						
		1	84						
Total	10	9.81924E+1							
		1							
	Coefficient	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%	
Intercept	558662.45	307061.306	1.81938409	0.1022030	135958.475	1253283.3	-	1253283.3	
X3-Capital expenses '000 €	1.9570443	0.69267609	2.82533832	0.0198730	0.39010213	3.5239865	0.3901021	3.5239865	
	2	6	8	5	1	2	3	2	

**Tab.11. Regression Statistics for capital expenditures<sup>1</sup>**

Table 11. Regression statistics for capital expenditures. In this table we can see that t-test (2.82) is an important variable, which means that payments from capital expenditures have an important role in public expenditures. R.Sq. 0.47 or 47% is statistically acceptable. So, payments from transfers have an impact on public expenditures about 47%. The Government realizes all payments when performing services in this variable.<sup>2</sup>



**Graf.10. Regression statistics for transfers<sup>3</sup>**

**6.2.4. Linear Regression for X4-for Other Payments**

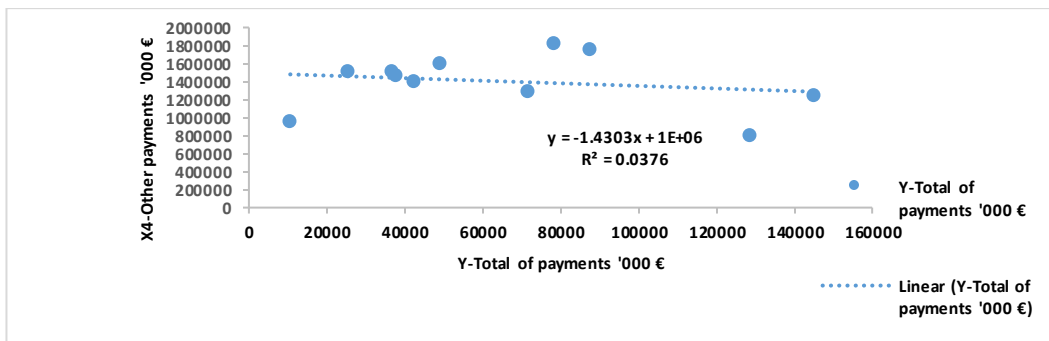
SUMMARY OUTPUT				
Regression Statistics				
Multiple R	0.1939180			
R Square	0.0376042			
Adjusted R Square	-			
Standard Error	324036.92			
Observations	11			
ANOVA				
df	SS	MS	F	Significance F

<sup>1</sup> Regression for x-3.  
<sup>2</sup> 47 % is statistically acceptable  
<sup>3</sup> Author with R program.

Regression	1	369244735 06	3.6924E+1 0	0.3516619	0.5677742 1				
Residual	9	9.44999E+1 1	1.05E+11						
Total	10	9.81924E+1 1							
		<b>Coefficients</b>	<b>Standard Error</b>	<b>t Stat</b>	<b>P-value</b>	<b>Lower 95%</b>	<b>Upper 95%</b>	<b>Lower 95.0%</b>	<b>Upper 95.0%</b>
Intercept	9	1494485.7	184484.692	8.1008661	2.0024E-05	1077152.4	1911819.1	1077152.4	1911819.1
X4-Other payments '000 €	-	1.4303381	2.41199302	0.5930109	0.5677742	6.8866454	4.0259692	6.8866454	4.0259692

**Tab.12. Regression Statistics for Other Payments<sup>1</sup>**

**Explanation:** Table 11. Regression statistics for other payments. This table is not very important. So it's not significant.<sup>2</sup>



**Graf.11. Regression statistics for other payments<sup>3</sup>**

**6.3. Trend Analysis and Growth Rates of Receipts in Cash the for Periods 2007-2017**

YEARS	Y-Total receipts in cash '000 €	Trend	Growth	Percentage Growth	YEARS	Y-Total receipts in cash '000 €	Trend	Growth	Percentage Growth
2007	1170366	1007351	1042072		2013	1445166	1408934	1417921	-7%
2008	989126	1026037	1055219	-18%	2014	1462579	1499873	1502082	-5%
2009	1160697	1137203	1160924	15%	2015	1707373	1694887	1696550	14%
2010	1194508	1217140	1234472	3%	2016	1777908	1777908	1777908	4%
2011	1313253	1324274	1337440	9%	2017	1923361	1923361	1923361	8%
2012	1550615	1422590	1432657	15%					

**Tab.13. Trend analysis and growth rates<sup>4</sup>**

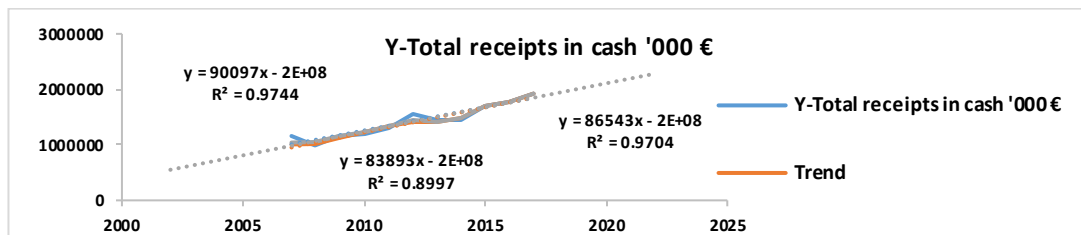
**Explanation:** The years that have had increased in receipts (revenue) from money cash are: 2009,2012,2014,2017

<sup>1</sup> Regression for x -4

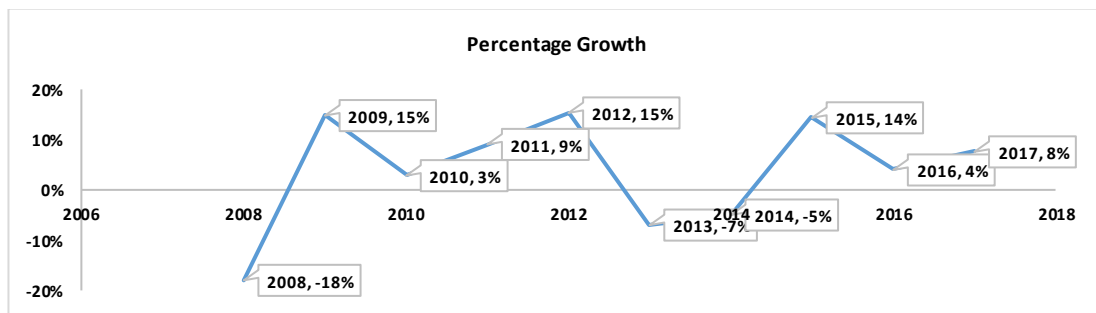
<sup>2</sup> It's not significant.

<sup>3</sup> Author with R program.

<sup>4</sup> Trend analysis and growth rates for receipts in money cash.



Graf.12.Trend analysis and growth rates for period's 07-17 according linear regression <sup>1</sup>



Graf.13.Percentage growth.<sup>2</sup>

#### 6.4. Trend Analysis and Growth Rates of the Total Payments for Periods 2007-2017

YEARS	Y-Total of payments '000 €	Trend	Growth	Percentage Growth	YEARS	Y-Total of payments '000 €	Trend	Growth	Percentage Growth
2007	801950	946347.3	961322.5		2013	1511558	1466784	1472755	2%
2008	963384	1095174	1108754	17%	2014	1510857	1512299	1515210	-5%
2009	1252348	1235188	1250811	23%	2015	1614338	1626895	1627130	6%
2010	1287524	1297067	1309388	3%	2016	1763243	1763243	1763243	8%
2011	1400461	1374817	1384992	8%	2017	1836804	1836804	1836804	4%
2012	1476073	1428656	1436769	5%					

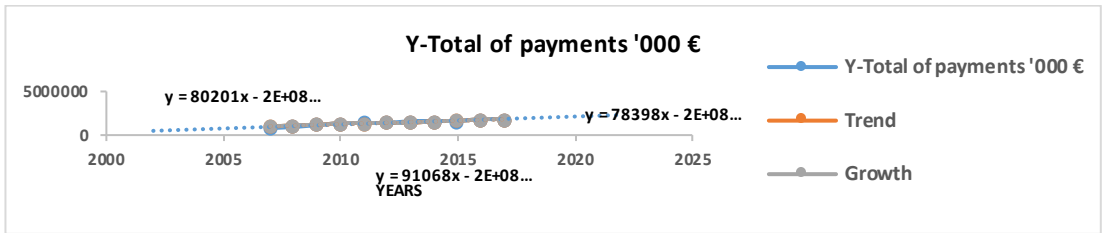
Tab.14.Trend analysis and growth rates<sup>3</sup>

Explanation: The years that have had increased in payments (expenses) from money cash are: 2008, 2009.

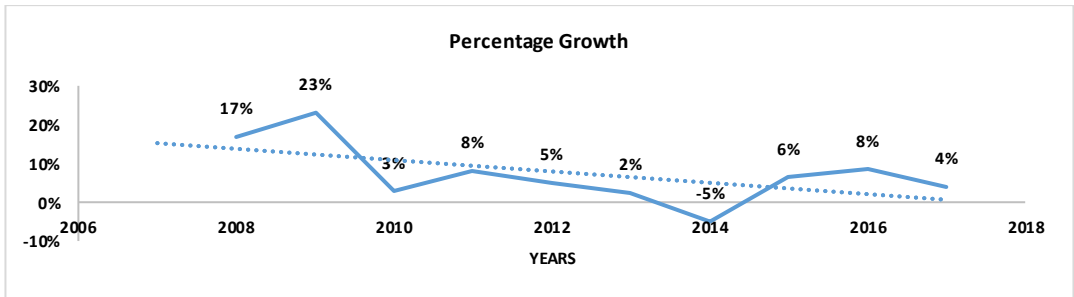
<sup>1</sup> Author with R program.

<sup>2</sup> Author with R program.

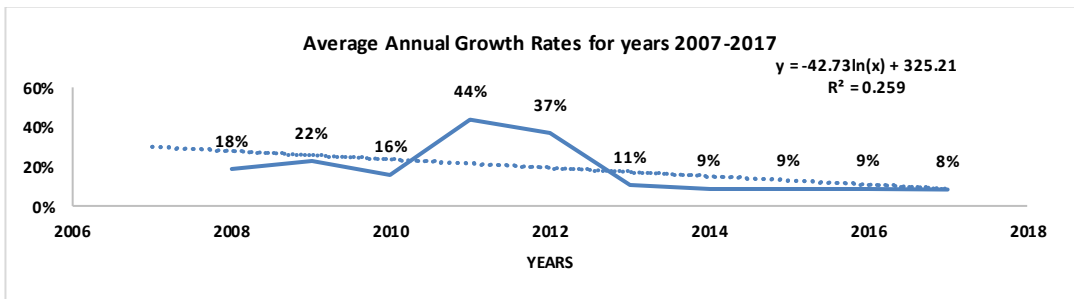
<sup>3</sup> Trend analysis and growth rates for payments in money cash.



Graf.14.Trend analysis and growth rates for period's 07-17 according linear regression<sup>1</sup>



Graf.15.Percentage growth.<sup>2</sup>



Graf.16. Average annual growth rates for years 07-17 according logarithms regression.<sup>3</sup>

## VII. Conclusions and Recommendations

The financial statements have been prepared in accordance with LPFMA no. 03 / L-048, as amended by Law 03 / L-221, Law 04 / L-116, Law 04 / L / 194, Law 05 / L-063 and Law no. 05 / L-007 as IPSAS based on cash. Financial Reporting according the accounting principles based on the cash.

The notes to the financial statements form an integral part of the meaning of the statements and should be read together and in relation to the statements.

The basis of accounting and reporting in the Government of the Republic of the Kosovo according the LPFMA is the cash basis. On this basis, the information presented in these financial statements presents cash receipts and payments and the cash flow movement. Money management is organized in form of single account of Treasury. The single account of Treasury is a system of banking account which is used to collect incomes and realization of expenses, which are supervised by single institution–Treasury Department.

<sup>1</sup> Author with R program.

<sup>2</sup> Author with R program.

<sup>3</sup> Author with R program.



Cash is comprised of funds held at the Central Bank of Kosovo, commercial banks, and as the coffers of budgetary organizations and money cash equivalents.

The financial statements should be clearly identified and distinguished from other information in the same published document. The IFRS-s apply only to the financial statements, and not to any other information presented in the annual report or other document. It is therefore important that users can distinguish the information prepared using IFRSs from other information that may be useful to users.

The first and the main hypothesis is verified on the basis of the analysis of the data on the annual financial reports for the period 2007-2017. There is significant relationship between revenue and public expenditures. Because without revenues cannot be realized payments, projects, financing etc.

Auxiliary hypothesis is confirmed. Taxes have correlation positive with total revenue (receipts) of about 91% . Self-incomes have an important relationship with total revenue of about 68% . Grants and assistances have significant relationship with total revenue of about 52% . Borrowing has no major connection with the general revenue. Other revenues have an important relationship with total revenue of about 31% . In this hypothesis it can be noted that taxes (TAK and customs) realize the largest percentage of total revenues for the period 2007-2017.

Auxiliary hypothesis is confirmed. Operations have correlation positive with total expenses (payments) of about 92% . Transfers have an important relationship with total expenses of about 86% . Capital expenses have significant relationship with total expenses of about 47% . Other payments has no major connection with the general payments. In this hypothesis it can be noted that operations (wages and salaries, goods and services, communal services) realize the largest percentage of total expenditures for the period 2007-2017.

This research recommends that financial reporting officers impose concrete measures, to ensure that financial reports are timely executed and made public for different users of accounting information in order to make useful economic decisions.

This research recommends funding useful projects for society without government distinctions.

This research recommends making proper planning for public spending at the country level.

This research recommends that accurate financial reporting enhances the country's welfare and economic development.

This research recommends that all financial statements be accurately analyzed and to improve the findings in the coming years.

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## The Rural Development and Employment in Albania

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Artur Ribaj

### Abstract

Public institutions in Albania play an important role in the functioning, regulation and development of the rural areas, including their support to the rural labor market as an important mechanism for the allocation of labor, resources and income generation. The governments' efforts emphasize the prioritization of rural employment as crucial for development of Albania. But, this paper concludes that many young Albanians from rural countryside would like to run away from their country, not because they don't love their country, but because they see no employment (and livelihood) perspective. The economic development of the country seems more as a residual rather than prosperous, despite many foreign experts and donors trying over 25 past years to present a sustainable economic development model. Informal work arrangements remain widespread across many economic activities and the division between unemployment and informal work (employment) is still blurred. Albanians from rural countryside should be drawn more to farming than in the recent past. Government institutions should reflect a clear rise in the status of farming compared to the recent past, improving the respective legal framework, addressing constraints on access to farming activities and borrowing (or financing) and adapting fiscal policies which will motivate and incentive them to be drawn more to farming than in the recent past.

**Keywords:** The Rural Development and Employment in Albania

### 1. Introduction

About<sup>1</sup> 560,000 Albanians have been granted residence permits for the first time in European Union countries during these last ten years, according to data published by Eurostat estimated to be as much as 19.5% of Albania's current population. Albania has recorded the highest number of residence permits compared to other Balkan countries. The record of residence permits issued for the first time in the last 10 years was marked in 2008 where Eurostat was granted a residence permit of nearly 100 thousand Albanians. Then the number of permits went downward, where in 2013 it reached the lowest level of 31,000 applications. After 2013, the number of residence permits increased again, from 2014 to 2017, with a residence permit for the first time, about 200 thousand Albanians. This coincides with the new wave of immigration, where asylum applications in 2015 reached over 60,000. In the region, the lowest number of residence permits has Montenegro for only 2500 citizens according to Eurostat in 2017. Of those acquiring citizenship of an EU-28 Member State in 2016, the largest groups were Moroccans (101 300, or 10.2 %), followed by Albanians (67 500, or 6.8 %), Indians (41 700, or 4.2 %), Pakistanis (32 900, or 3.3 %) and Turks (32 800, or 3.3 %). Most Albanians received Italian citizenship (55 %) or Greek citizenship (42 %) and the majority of them where from rural areas because there used to live more than 56% of Albanians.

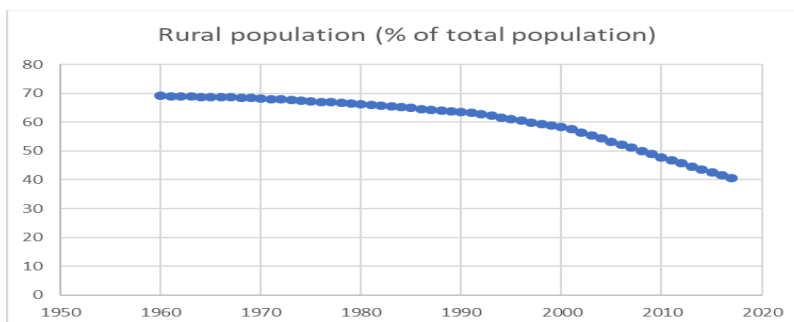


Figure 1: Rural population (% of total population) 1960-2017. Source: INSTAT

However, the contribution of rural activity to Albanian GDP accounts for about 18.965%<sup>1</sup> of the GDP in 2017. Seemingly on the contrary, the employment in the agricultural sector engage more than 55% of the workforce in the country (INSTAT), thus indicating the relevance of the rural labor market in the national labor market.

Employment by main sectors	2011	2012	2013	2014	2015
<b>Agriculture, forestry and fisheries (%)</b>	<b>45.4</b>	<b>46.1</b>	<b>44.0</b>	<b>42.7</b>	<b>41.3</b>
Industry (%)	10.6	9.1	9.7	11.0	11.6
Construction (%)	8.2	8.2	7.1	6.4	6.9
Services (%)	35.7	36.6	38.8	39.4	40.2

Table 1. Data for employment as per INSTAT Reports

Living standards of rural residents - 46.5% of the population (INSTAT, Census 2011<sup>1</sup>) largely living under sub-standards levels compared to the urbaners. Distribution of the Albanian population across the wealth quintiles shows that about 8 out of 10 people living in urban households are in the two highest wealth quintiles, while 7 out of 10 people living in rural households are in the two lowest wealth quintiles.

As per Commission Staff Working Document, Albania 2016 Report: "Strengthening economic activity improved labor market conditions but unemployment, especially of young people, remained high. The economic recovery created jobs and the employment rate rose to 52.9 % in 2015 from a low of 49.9 % in 2013 (15-64 years). Over 40 % of the workforce is employed in agriculture, mostly in low-skilled jobs, and informal employment remains widespread. Labor force participation also increased, to 64.2 %, possibly reflecting improved employment prospects and a decreasing trend in remittances. Active labor market policies expanded from a low base, but they still covered only around 4 % of the unemployed. The unemployment rate (15-64 years) fell from 17.9 % in 2014 to 15.9 % in mid-2016. The unemployment rate for young people (15-29 years) also declined but remained very high at 29.9 %, highlighting substantial skill mismatches. A relatively high minimum wage might also act as a disincentive for hiring low skilled and young people. Agriculture, forestry and fisheries remain the main job providers, with 41.3 % in 2015 (against 42.7 % in 2014). A strategic approach needs to be developed to tackle labor market challenges such as youth unemployment and informality. The law on employment promotion program was finalized but remains to be adopted by the Council of Ministers."

## 2. Methodology

This paper is based on the reviews and analysis of existing national and international reports regarding rural employment in Albanian and the region by analyzing available data on the magnitude, depth and structure of the rural economy/employment in Albania. Opinions about the aspirations of young people and attitudes toward farming were collected using focus group discussion and interviews. Almost 50 people participated in the primary data collection by interviewing and/or focus groups, including young people, their parents, and key informers from local actors implementing youth programs in rural countryside of Albania. Direct interviews with farmers of different ages from 4 regions, Shkodër, Elbasan, Vlorë and Fier. Semi structured questions were used in discussions group for the field visits. As a result, were held 24 interviews in total, 6 with farmers groups in Shkodër district, 5 with farmers groups in Elbasan district, 5 with farmers (women groups) from Vloa district and 83 farmers groups from Fieri district.

## 3. Theoretical analyses

*The traditional distinction between urban and rural areas within a country as Albania or its neighbor countries is based on the assumption that urban areas, no matter how they are defined, provide a different way of life and usually a higher standard of living than is found in rural areas.* In many European countries, this distinction seems unclear and the principal difference between urban and rural areas in terms of the circumstances of living tends to be a matter of the degree of concentration of population. This was the case of Albania, where census data was disseminated according to civil divisions, as expressed clearly in the national census legislation. Nevertheless, because of the need to provide statistics comparable to the statistical data of the other European countries, Albania developed an additional classification of urban-rural population, based on statistical concepts, and in line with the most recent Eurostat definitions.<sup>1</sup>

The actual scholars (economists and sociologists) discussion<sup>1</sup> is the overlap between a 'crisis' in agriculture and a 'youth crisis' that is inducing the policy concerns about, among others, the skills, size and sustainability of the future workforce for smallholder food farming: will the farmers of the future have the capacities, knowledge and networks for smallholder agriculture to maximize its potential for poverty reduction and food security? These are some serious issues posed from

researchers related to youth and the agri-food system, most notably to the aspirations of young rural people that are dominated by formal sector employment and modern urban lifestyles, and a generalized reluctance, to consider farming as an employment option. The pace of economic growth and global integration, in many countries is a factor that affects the opportunities that may be available to these young people which appear to be increasing fast in several (not all) of developing countries. The rapid development of work opportunities available as a result of new technological development, new markets, transport and communications links and skills-sets means that it is difficult to know for sure which aspirations are reachable, and for whom, and which are less realistic and merely likely to lead to frustrated ambitions.

Also, better education and communications appear to have had the effect of dramatizing the hardships of a farming life: often viewing farming as a way of life rather than as a job, and 'farmer' as an identity as opposed to a job title. The lessons of such privation have been hard won for many, both parents and children. For young women, in particular, there can be very strong motivations for escaping a life as subsistence farmer or farmer's wife (depending on the context and on how women's roles in agriculture are viewed).

The idea that the farming activity is entirely unattractive is by no means the truth of history and custom for developing countries where the incomes obtained from this activity do not justify the efforts. In contrary, young people in countries where Governments have signaled a high value for agriculture through policies, measures and subsidies, are also more inclined to view agriculture as having a positive future. Increased public spending on farming and farm support programs, initiatives geared at enhancing smallholder productivity and skills and efforts that in effect improve the image of the sector through the introduction of modern technology and approaches all seem to appeal to young people. High food prices appear to contribute only to the extent that food prices are seen as high rather than volatile and where small farmers are net gainers (taking into account the higher consumer and input prices they also pay).

Agriculture is the main source of livelihood for one billion poor people living in rural areas on less than US\$1.25 a day. Over 80% of food consumed in much of the developing world comes from the smallholder sector which is consider playing a key role in poverty reduction and food security, with great potential for impacting on nutrition via higher volumes and wider varieties of food produced (IFAD 2013:6). Some argue that growth-poverty linkages in agriculture are also stronger compared to other sectors, with greater potential to reduce poverty than non-agricultural activities, in allowing more poor people to participate in growth and creating more opportunities for employment for poor people (Diao et al 2010, on Africa; Lipton 2005). *The macroeconomic figures appear to bear this out: cross country research suggests that the poverty gap is reduced by a 1% increase in agricultural GDP per capita 5 times more than it is by increased per capita GDP in other sectors (Christiaensen, Demery and Kuhl, 2011).*

However, a recent examination by Collier and Dercon of this model of smallholder-farmer focused on agriculture-based growth for economic development and poverty reduction suggests that the evidence on which it is based is not as strong as believed, and the context of contemporary global economic dynamics means this strategy is unlikely to work. Instead, a radical transformation is needed over the next 50 years, involving huge increases in agricultural production and labor productivity. In order to materialize the transformation of agriculture to fuel economic development, certain changes in scale are important focusing on a 'more open-minded approach to different modes of production', rather than focusing exclusively on smallholder farming (Collier and Dercon, 2014).

In developing countries modern and clear-cut entrepreneurial forms of agricultural production coexist with traditional forms and with combinations of the two extremes. They include economic units - households whose engagement in agriculture is consistent with informal sector activities, and households engaged in subsistence agriculture that produce exclusively for own final use or sell part of what they produce. These households that engage in 'backyard' agriculture or gardening, where what is produced is marginal to the household's consumption, are excluded from the current international definition of employment and thus from informal sector employment and from informal employment. However, when the production of 'backyard' agriculture is significant to the household's consumption, persons engaged in it are in employment. If they do not sell any product, they are excluded from the informal sector but included in informal employment.

In the near future, the need to feed a large and growing urban population will create more demands on the agriculture sector, including the demand of global markets. This means meeting 2 challenges posed by supplying rising global food needs and the need for involving more people in sustainable farming practices – at least the future offers some hope! However, this requires a transformation in productivity of the farming – in the way people cultivate (both scale and scope) and in the inclusiveness of agricultural policy towards smallholder farmers. Without significant productivity increases, innovations and/or diversification in the near future, small farms will be decreasingly viable as economic and social units (Jayne et al. 2010). Success stories from the green revolution of the 1960s and 1970s demonstrate how technological

advances and the right investments and interventions can increase productivity. Following the trend, we can conclude that improvements in agricultural technology along with modernized management practices, and the right incentives for rural people can meet the food challenge. Overcoming these challenges needs innovation, increased take-up of new technologies and farmers need to be able to engage in rapidly changing markets including factor markets. The youngsters are the well-matched human resource that will serve as an input in this transformation process. They possess the vision, skills and adaptability for following the rapidly changing trends of markets and technology.

The trend of expanding markets and increased demand for food products from a growing global population creates the ground for more incentives to engage in farming, making the sector an attractive prospect for the next generation. However, young people, even young rural people in developing countries where agriculture is still the dominant sector in terms of livelihoods, do not aspire to farming and this is potentially disastrous for the agriculture sector. This 'agriculture in peril' narrative is matched by an equally strong 'youth in peril' narrative, whereby young people are seen to be either 'victims' of the vagaries of the economy and hardest hit by unemployment or 'villains' – lazy and not willing to work hard for a living (Sumberg *et al* 2013; Anyidoho *et al* 2012a). Young people are treated as a homogeneous group, with little sense of social differentiation, and agriculture and young people are each seen to be the savior of the other.

Historically, aspirations studies from the 1960s and 1970s, mainly in West Africa, suggest that young people in these societies expressed high aspirations and expectations taking them away from farming, which was considered to be low status (Nwagwu 1976; Osuji 1976; Owuamanam 1982; Hurd and Johnson 1967; Gugler 1968; Campionvincent 1970; Imoagene 1976). More recently, low levels of wellbeing – material, relational and psychosocial – were reported by young girls working on South African fruit farms in Kritzinger (2002). While the young people interviewed in Juma's (2007) Tanzanian study considered farming to be dirty and undesirable: 'agriculture is regarded as an employer of the last resort to young people.' This sentiment of agriculture being the last resort, something one does if failing at school, or in business or as a migrant, is echoed in Getnet Tadele and Asrat Ayalew Gella's work in Ethiopia (2012) and is not peculiar to this setting. For some young people, agriculture is not even an option as pressure on resources especially land scarcity poses serious barriers to entry for young people.

Studies from many developing countries suggest a trend towards young people exiting agriculture. This is prevalent across all sizes of landholdings, but with different motivations. It has geographical as well as economic elements: it is particularly strong in villages close to urban centers and where the per capita value of agricultural production is low.

*Many of the studies of young people's aspirations towards agriculture tend to focus mainly on farming rather than other agricultural-based activities, and as a long-term prospect.* Public policies could do much to improve the attitude of young people toward small holder farming and/or the wider agricultural food system. The evidence in the literature indicates that the lack of appeal of agriculture for many young people reflects: a) lack of effective public investment in small holder farming and the public infrastructure needed to link to markets; b) declining access to land and uncertain access to inputs among young people, including decline in average farm size in many countries in past few decades but also c) social change resulting from rapid increases in mass education provision but which have often resulted in a perceived decline in the status of agriculture.

*Types of rural labor in Albania.* From the study of reports over the informal rural agricultural sector in Albania, these distinctive types of rural labor were identified:

**Family labor.** A distinctive characteristic of rural informal labor is family labor. It goes through all the sub-sectors within rural agriculture. It is predominant in producing of agricultural and livestock products, in fishing and agricultural processing. From a labor market and economic standpoint, family labor is considered crucial for the survival and viability of these farms. It is also used as a kind of training for the transfer of skills from one generation to the next. Currently, the family is the basic unit of farm production in the Albanian society. Economic role of family members in rural areas is typically more competitive than complementary. Family member plays an additional role in home care, cultivation of plants in agricultural and other jobs. Almost 0.3% of agriculture workers are paid employees, while the rest, are self-employment and use their work. Specifically, any self-employed in this case has 1-2 members depending on his family (2009<sup>1</sup> SII, Albania); Economic role of family members in rural areas is typically more competitive than complementary. Family members play the same roles in home care, cultivation of plants or cattle and other jobs.

**Casual labor.** Known in local jargon as "by-day", it is the next major type of labor in the rural informal sector. Casual labor exists under different patterns and has a high level of mobility migrating from the countryside areas of the country to work out in Greece, Macedonia or Montenegro. Many rural workers migrate to industrial areas to find a new job. In fact, informal

work in construction and service sectors without contracts and social security, absorb a large number of these workers from the countryside. These jobs offer more working days per year and pay well than work in farms. So many workers from the village combine agricultural activities and non-agricultural according different seasons. They return to their regions of origin to make use of the farming season there also. Where they are not migrant, many casual workers also have their own farms where they grow crops or the other agricultural product for subsistence;

**Permanent labor.** This constitutes a relatively small proportion of the rural agricultural labor force. Permanent jobs on rural areas are rare, as teachers, or employees by health sector and local government, etc. While referring to the LSF 2009 (INSTAT<sup>1</sup>, Albania), agriculture employed in regular employment contracts make up only 2.99% of the active labor force;

**Child labor.** This form of labor is an important component of the informal sector workforce. It is an integral part of family labor, especially in the rural set-up. Different categories of children were identified: those who had never been to school, those who had dropped out of school and those who were still in school but assisted their parents. Some children were engaged by a parent or a close family member and may be paid or not. Such children, aged between 10 and 15 years, were usually out of school and fully in the labor market. Child workers are engaged mainly in economic activities such as livestock (cattle) sector (Shahollari, 2001).

**Part-time employment** remains a female domain for the decades of transition. Changes have occurred in terms of employment of women in agriculture. In the first years after 1990, there was a withdrawal of women from agricultural works. They dealt mainly with the administration of home and other affairs of family. On the other side, later, after 2000s. Noted that the percentage of women working in agriculture exceeded the employment of men (approximately 56% of women versus 44% men) (LSF 2009<sup>1</sup> INSTAT, Albania). This new model of employment is related mainly to the removal of men from the village in emigration or in temporary or permanent work in the nearest cities.

The quality of VET (Vocational Education & Training) system. The background of informal employment variables at rural areas always raise the concerns on youth skills for formal and cost-effective jobs in this sector. The transition period towards market economy did affect the structure of education system in Albania, given higher priority to general and university education while the system of vocational education was receiving less attention from respective institutions thus abandoned in notable ratios by youngsters, contributing to less income generating employment and low level of required competences in the market.

While, for better understanding the rural sectors in Albania, a structure of informal sector activities is presenting as follows:

- (1) Agricultural activities. These are predominantly farming units depended on family labor and are made up of a large number of small farmers in the rural and semi-urban areas (Bassanini & Duval, 2004);
- (2) Fishing and fish processing activities. These are found mostly along Albanian's coastline and are mainly composed of fishing by males aged between 18 and 60 years that fish selling is basically undertaken by them individually;
- (3) Rural Agriculture based processing activities. These include processing of agricultural products on artisan basis. These activities are dominated by female workers. Their skills are acquired from within the family. Their experience of seasonal underemployment is pronounced. Mostly they are married and having children, they lack social security protection (Gueron, 2005);
- (4) Forestry activities. A lot of forests in mountain areas are destroyed from cutting without permission and without thinking for long-term sustainable activities based on forests.

#### **4. The role of Albanian public institutions for rural employment**

The evidence in the reports and academic literature indicates that the lack of appeal of agriculture for many young people reflects: a) lack of effective public investment in small holder farming and the public infrastructure needed to link to markets; b) declining access to land and uncertain access to inputs among young people; c) social change resulting from rapid increases in mass education provision but which have often resulted in a perceived decline in the status of agriculture; and one of the most important d) lack of financing.

Much of responsibilities in Albania stays with NES - National Employment Service – a government organization under the MSWY (established by the Council of Ministers Decision “On the approval of the status of the National Employment Service” No. 42, of 17.01.1998) that is the responsible agency for the provision of the employment services across Albania. Despite the fact that NES is an important government agency engaging well trained staff of around 360 persons, *its role and impact*

*in the rural labor market is rather limited as its services are almost exclusively offered to the urban areas of Albania where its regional offices are located. This spatial vacuum mostly builds on the assumption that citizens in the rural areas are self-employed in the agriculture sector and do not pronounce any need for NES employment services.*

While, some other government agencies should focus on the development of the agricultural sector as the Ministry of Agriculture and Rural Development (MoARD) are responsible for rural development with a particular focus on agricultural development. The extension services staffed by 290 employees as an important department of MoARD provide technical qualified services in the form of know-how through the regional directorates of agriculture to all farmers. The national extension service and the Agricultural Technology Transfer Centers (public institutions under MoARD) manage to disseminate information for about 20% of the farmers and agribusinesses or 70,000 farmers out of 353,000 farms and 2,000 agribusinesses/processing enterprises. More than 8,000 farmers are assisted by extension service staff to apply/benefit from the support schemes. The issue of economic diversification in the rural areas is eminent as it will bring in the contribution of other government agencies as well. Ministry of Economic Development, Tourism, Trade and Entrepreneurship was commissioned a key role to promote non-agriculture business development, and rural tourism sector which has been among the largest non-agriculture sector and potential for development in the rural areas of Albania. Actually, this task is assigned to Ministry of Tourism and Environment and to the Ministry of Agriculture and Rural Development which runs various support schemes to enhance the natural competitive advantages of Albania, the improvement of the productivity of available human and natural resources, the mobilization of underutilized potential of Albania regarding the available natural resources, agricultural land and tourism development. The Ministry of Infrastructure and Energy has an important role in administering some significant non-agriculture resources and activities which account for potential employment in the rural labor market, such as mining, renewable energies and other industries in Albania etc. With the Albanian government of 2017, the Ministry of Health and Social Protection together with the Ministry of Finances and Economy share the role in labor policy area, as well. Also, the role of the local governments is especially important in the rural areas where the activity and impact of the central government is far more limited compared to the urban areas. The agricultural sector is the main economic activity in many municipalities and villages, which calls for the necessity of preparing local economic development programs, employment policies for the sector, training program for implementing innovation and technology transfer, business promotion, as well as environmental preservation.

*Although neither these Ministries, nor other government agencies including the Department of Strategy and Donor Coordination, or ad-hoc bodies such as the Inter-Ministerial Committee for Agriculture and Rural Development, has established proper mechanisms to efficiently coordinate the cross-cutting issues of human development in rural areas. Efforts to reshape the trading mechanisms to assist rural workers, primarily farmers, to access with full rights and obligations the real market, should be led by the cooperation of these institutions.*

The Inter-sectorial Strategy for Agriculture and Rural Development in Albania<sup>1</sup>, as part of the National Strategy for Development and Integration aims to improve the living standards in rural areas, directly affecting the rural labor market by supporting higher levels of income generation and preparing the agriculture sector for EU integration. This policy document outlines government support measures in the following policy areas: Enhancing farm viability and competitiveness of agriculture and primary food-processing, while progressively aligning with the Union standards; Specific objectives for restoring, preserving and enhancing ecosystems dependent on agriculture and forestry; Specific objectives for balanced territorial development of rural areas promoting social inclusion, poverty reduction and balanced economic development in rural areas; Transfer of knowledge and innovation in agriculture, forestry and rural areas and assistance to implementation of rural development policies. *The last two measures are key inputs in enhancing skills of rural population with a special focus on rural youth.*

The draft Strategy for Agricultural and Rural Development 2013-2020 indicates that the public expenditure financed by the government for the rural development in the year 2013, was only 10 million Euro, forecasted to gradually reach up to 13.9 million Euro by the year 2020, a budget which could hardly justify the strategic objectives outlined in this strategy. In addition to the modest financing from the government's budget, the development of the rural areas in Albania might benefit also from the EU support to access IPARD funding which is the main EU assistance component on rural development. Up to now, all these incentives did not reach rural small businesses or even less rural job seekers.

The Labor Code (law 7961 date 12.7.1995, amended) is the legal backbone of the labor issues in Albania while the Law on Employment Promotion<sup>1</sup> builds the legal framework on employment. The vocational training and on the job-training are main instruments for promoting employment of job seekers and youngsters. According to the Law<sup>1</sup> "On the Vocational Training System" should not lead to social exclusion but be supportive for any vulnerable group, so the distribution mechanisms of subsidies should keep on the loop target groups<sup>1</sup> under special conditions. Career guidance is another



important aspect stipulated in this law<sup>1</sup>. *At the end, the adoption of a comprehensive approach for skills development and employment opportunities creation requires also a revision of the main legal acts regulating the rural labor market.*

### 5. Issues identified in rural employment

Over 40 % of the workforce is employed in agriculture, mostly in low-skilled jobs, and informal employment remains widespread. According to World Bank Report (2004), one of the main impacts of new economic reform after falling down the communist regime in Albania was the privatization of the land of the ex-agricultural cooperatives, within a short time the initial effect of the reform was 450,000 small farms with an average area of 1.25 ha. Farming in Albania has traditionally played an important role regarding mostly self-employment, even though most of the country is mountainous. This self-employment constitutes a source of poverty of the village because of the limited opportunities for farming and few employment opportunities outside the agricultural sector have put the Albanian agriculture at the level of semi-subsistence. Rural population (% of total population) in Albania was reported at 41.62 % in 2016, according to the World Bank collection of development indicators, compiled from officially recognized sources.

Although the GDP has doubled in less than a decade, the figures of the employed people have gone down. The unemployment rate has risen yearly, reaching 16.1 % in 2013, and it results to be even higher (21.8% in 2014) but improved by 2018 at the annual average of 13% if the new international standards in processing of the LFS data are applied. The most important deviation is related to the not consideration of the unemployed job seekers in the rural area and the massive emigration of Albanians in developed countries mainly EU countries.

While, related to the unemployment rates from 2013 to 2017, there are 2 graphics as per data in the figure 2., below:

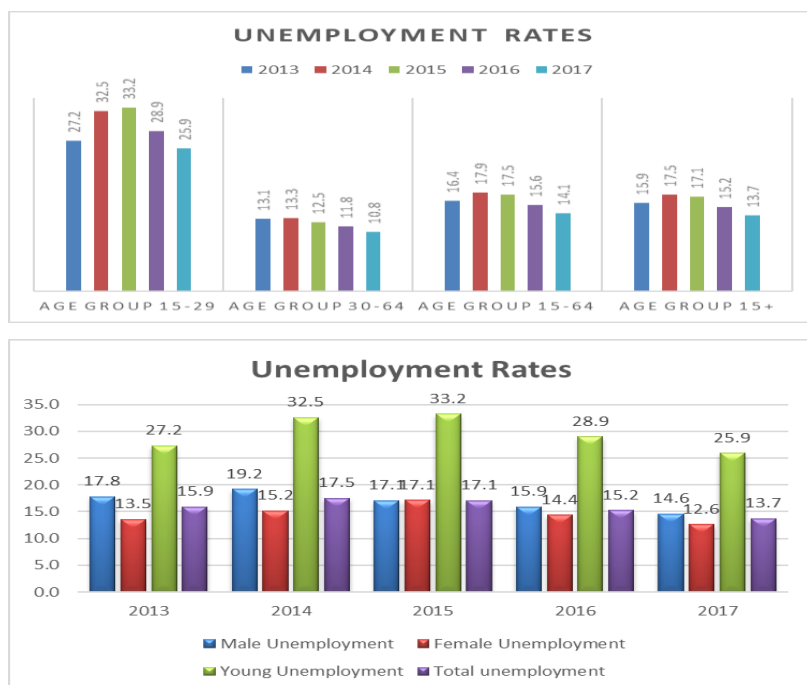


Figure 2: Unemployment rates 2013-2017. Source: INSTAT

Agriculture continues to be the sector that keeps “employed”<sup>1</sup> the majority of the population, with approximately 41.3%, whereas the private non-agricultural sector has a very low weight, being, thus, incapable of absorbing an ever-growing demand of employment that is generated by the demographic, social and economic structural changes. The majority of the jobs belong to unpaid contributing family workers (34.0%) and self-employment (24.1%). At an already lofty level, the passiveness in the labor market increased in last years, affecting twice as much the female labor force, compared to males.

*Boosting rural employment is vital to the economic wellbeing of any economy, especially for a developing economy such as the novice market economy of Albania.* In the case of Albania, where some progress has been made in terms of economic growth and poverty reduction, the multifaceted issues of rural areas still remains, where employment can be ranked as the main factor. In fact, rural areas are still the poorest areas of the country and in addition a very large portion of self-employed individuals are engaged with agriculture. It is imperative to consider the issues of employment in the rural areas, as well as identify potential rural non-farm activities that might contribute to increases in employment as well as overall development of these areas in the country. In this respect, cross-cutting themes such as youth employment, SME, green jobs, and the like should also be considered in the larger scheme of rural labor market and rural development.

Making the youth employment a priority of sustainable development ensures inclusion of a vital part of the labor force that shall be the productive force of tomorrow. Inclusion of youth into the labor force and the labor market increases the utilization of the available labor force as well as increase economic productivity. In the context of Albania, youth still makes up 25% of the population, and Albania is recognized as having a young population. In addition, almost half of youth resides in rural areas thus their livelihoods and prospective in the labor force is linked to these areas. From this assignment will feed to a baseline analysis of youth involvement in rural labor market and skills development required and will identify areas where rural development programs can be targeted to increase their contribution to employment creation. This will also suggest formulation of policy recommendations on stimulating new sources of employment, and the conditions for success in stimulating employment in rural areas.

**Regional employment aspects.** South East European (SEE) labor markets are characterized by low employment and activity rates, particularly among women and youth, as well as by high and persistent unemployment. Youth unemployment is exceptionally high by European standards and has further deteriorated during the economic and financial crisis. In addition, long-term unemployment has been a salient feature of the labor market in the region for more than a decade and carries direct consequences in terms of social exclusion and further obsolescence of skills. High outward migration and an ageing population present additional constraint on the long-term growth of the Western Balkan countries and pose long-term fiscal challenges<sup>1</sup>. Also, informal sector employment is high, with levels estimated at between 30% and 40%<sup>1</sup>. There are large imbalances between labor demand and supply in SEE. During the economic restructuring a significant part of the workforce moved from sectors that were shrinking into unemployment and inactivity. One of the main reasons behind this unfavorable development is the lack of skills and competences. Technological progress creates demand for higher-level skills, and this leads to further gaps. The existing mismatch between the competences requested by the labor market and the skills generated by the educational and training systems of SEE countries calls for a coordinated regional approach to address this acute issue.

*Labor costs and Taxes impacting the employment in SEE.* The employment problems are due to a number of factors, including the taxation on labor. One potentially important concern is whether labor taxes are a constraint on job creation and whether overall labor costs are competitive. Moreover, there is a related concern – how the Western Balkan countries can finance social protection needs (especially pension, health, and unemployment) in a fiscally sustainable fashion and with the most favorable labor market impacts. Until now, these systems have relied heavily on financing through payroll taxes levied on employers and employees. Despite high contribution rates, many pension and health care plans in the region are running deficits, in part because of the narrow tax base. To the extent that the high tax rates discourage formalization, countries of this region remained in a vicious circle. Tax reform has been a recent priority of all governments across the region. Although by 2007, four of the five Western Balkan countries radically changed their systems of labor taxation, reforms focused on personal income taxes (PIT) rather than social security contributions (SSC).

As a region, the Western Balkans has relatively high government spending and a high share of GDP collected through labor taxes. On average, government spending in the five countries accounts for about 40% of GDP, with Albania well below the FYRs. While the Western Balkans countries, as a group, are below the EU-27 average of 47% (a very high level by international standards), Bosnia and Herzegovina are well above (at 50%) and Serbia is very close (44%). The general financing strategy in the region is to increasingly rely on indirect taxes (benefiting from the successful introduction of VAT), on the one hand, and a reliance on relatively high rates of social security contributions as the predominant form of wage taxation, on the other hand. Personal income tax revenues are low, averaging only about 3% of GDP. Compulsory social security contributions account for about 10% of GDP (Albania is different, with SSC revenues representing only 4.4% of GDP). This is not because of low contribution rates but rather reflects Albania's very high rate of informality, which stands out, even in a region where the informal sector is significant everywhere.

In 2005, the last year where data were available for all countries, official mean monthly labor costs ranged from €200 (Albania) to €423 (Bosnia and Herzegovina). The average for the five Western Balkan countries is about 41% of the average

for the EU-10. However, their labor costs are more in line with the two newest EU members, Bulgaria and Romania, which had mean labor costs of €235 and €365, respectively. Although labor costs in the Western Balkans do not seem to be out of line with comparator countries, official statistics indicate that they have been rising quite rapidly. In Albania, published wage data refer to public sector wages, and they appear to be around 25% higher than official estimates of economy-wide wages. Labor tax wedges are high because of high social insurance contribution rates. They are also not progressive, with relatively heavy burdens on low-wage workers and workers with dependents.

PIT (Personal Income Tax) rates have been generally lowered in recent years with the result that the region has the lowest rates in Europe. Labor costs are much more heavily affected by social security contributions, which are among the highest. As a result, tax wedges are quite high. For a single person at the average wage level, the tax wedge is 29% in Albania; about 33% in the two BiH entities; and in the 39-42% range in the other three FYRs. A very significant feature of the labor tax regimes in these countries is the absence of deductions, credits, and wage-varying rates. The consequence is an absence of progressivity in the taxation of labor income.

Labor taxation systems seem to support the preservation of dual labor markets, instead of promoting integration and formalization. The taxation of labor at the lower and higher ends of the wage distribution has distortionary effects. By enforcing high entry costs (in terms of high minimum mandatory bases for SSC payments and modest or entirely missing zero tax brackets for PIT), the taxes discourage formalization of jobs for low-wage labor. Cross-country regressions yield a short-run labor demand elasticity of -0.21, indicating that a 10% increase in labor costs will result in a (short-run) decrease in employment of 2.1%.

Once the Western Balkan countries enter a more stable development path, the relatively high tax wedge levels will have a significant negative effect on labor demand in the formal sector, with already present high negative impact on demand for low-wage labor. This has a non-trivial impact on those sectors that employ low-wage labor and on low-skill workers themselves.

**Financing, lending to agricultural businesses.** Based on all the reports and statistics it is clear that the poorest part of the population lives in rural areas of Albania. The banking market in Albania holds over 90 % of all financial system assets, and loans to businesses and households amounting to 35 % of GDP. Banks have much scope for increasing bank lending. But we have to keep in mind credit growth has been sluggish in recent years despite the gradual fall in interest rates as a result of both a low demand for and a tighter supply of bank loans. Banks' willingness to lend was affected by the high proportion of NPLs.

Rural Credit Guarantee Fund funded by the EU, KfW and the Government of Albania. This fund over the years 2015-2017 has provided about 1,000 credits, worth over 3 million euros. This fund will cover EUR 5 million in addition of grants from the National Financial Support Scheme which is available to finance about 20 million euros. According to Minister Peleshi this guarantee fund is of particular importance, especially at this stage that is going through the agricultural sector, which is getting more and more attention from both the Albanian government and the various international bodies. Also, as per Mr. Peleshi: "Lending to the agricultural market is not so cheap if it is not supported, and there is not that there is a distinct expectation of banks for the agricultural sector at least so far. Today's attention has come back, but of course an incentive, a support from the instrument as a "guarantee fund", covers part of the risk. So, in short, this Guarantee Fund, which today is called successful because it has given over 1200 loans, makes banks more profitable and with more favorable terms and conditions. So less collateral and lower interest rates."

The main obstacles for rural development remain the uncertainties over property ownership, poor access to basic infrastructure, lack of government support and financing. According to EC Albania 2016 Report, the government has increased the level of national direct support and national investment schemes in agriculture and agro-processing, totaling EUR 14.7 million in 2016<sup>1</sup>. But, in this report there are identified some issues for lack of administrative capacities for financing the rural and agricultural businesses, in the areas of: coordination of EU integration work in the sector, including both project coordination and management, and legal analysis and approximation work; policy analysis and overall economic analysis, monitoring and evaluation; and advisory services.

Agricultural statistics are partially aligned with the EU acquis. Milk and dairy statistics are being collected by INSTAT based on monthly and annual surveys, in line with EU standards and final data of agricultural census conducted in October 2012 have not been published yet. The Farm Structure Survey has not been implemented. However, concerning organic farming, the provision of subsidies through direct schemes and training on organic production continued. The law on organic farming was adopted in October 2016. According to EC Albania 2016 Report, Albania should in particular: further strengthen the

capacity of the Albanian Investment Development Agency in providing services to investors and promoting funding opportunities for small and medium sized enterprises. Enterprise and industrial policy EU industrial policy strengthens competitiveness, facilitates structural change and encourages an enterprise-friendly environment that encourages small and medium-sized enterprises. Albania is moderately prepared in this area. Some progress was made, particularly by establishing a National Business Centre and aligning policies with the EU Small Business Act principles. In the coming year, the country should in particular further strengthen the capacity of the Albanian Investment Development Agency in providing services to investors and promoting funding opportunities for small and medium sized enterprises. Albania will continue to implement the 2014-2020 business and investment development strategy in order to facilitate the business environment.

Access to finance remains a key constraint for Albanian rural businesses, while some funding was provided by several foreign and national funds. No financing was provided through the government's innovation and women entrepreneurs funds. In all projects and engagements of many foreign and domestic institutions, their efforts to support agricultural businesses and rural employment have not been a viable success except those that have been based on the economist's idea from Bangladesh Muhamed Yunus. His philosophy was: "Finance the poor, so that they become entrepreneurs and become their own".

## 6. Economic Activity by Gender in Rural Areas of Albania

As per Commission Staff Working Document, Albania 2016 Report, there is a difference in the labor force participation of women and men with the rate for women around 18 percentage points lower than for men, highlighting large structural problems in the labor market. However, considering Albania as a developing country, we conclude that the gender gap in Albania has not been an issue even during centralized economic system. As expected, rural areas are tremendously involved in agriculture (Table 2). There is a perceptible lack of other economic activities thus the number of people engaged (formally or informally employed) in non-agricultural activities in rural areas is quite limited, which once again reinforces the idea of lack of economic diversification. The issue at hand is two-fold. On one hand, lack of diverse economic activity and economic opportunity limits the need for skill acquisition or skill diversification. On the other hand, lack of skill in the labor force limits economic activity, resulting in a classical coordination failure. Whereas rural areas are mainly directed towards agriculture, urban areas are mainly directed towards services and industry. Economic activity also shows gender differences and very limited participation of women in other activities besides agriculture. Lack of participation in paid employment and in activities that have higher pays such as industry, where women's participation is quite limited also has repercussions in terms of social security and old age pensions for women. In return, this puts them at higher risk of economic difficulties and dependency.

	AGRICULTURE + FISHING	INDUSTRY			SERVICES		Total Employment
		Agriculture	Manufacturing	Construction	Mining and quarrying & Electricity, Gas and Water supply	Market Services	
<b>Total Albania</b>	529,573	71,509	92,612	20,563	231,932	170,222	1,116,410
Male	242,811	40,279	85,924	15,408	153,567	88,165	626,152
Female	286,761	31,230	6,688	5,155	78,365	82,057	490,257
<b>Total Urban</b>	37,587	54,624	58,182	12,942	176,002	135,554	474,892
Male	18,251	28,196	51,806	8,824	110,863	65,840	283,781
Female	19,336	26,428	6,377	4,118	65,139	69,714	191,111
<b>Total Rural</b>	491,986	16,885	34,429	7,620	55,930	34,668	641,518
Male	224,560	12,083	34,118	6,583	42,703	22,324	342,372
Female	267,426	4,802	312	1,037	13,226	12,344	299,146

Table 2: Economic Activity by Gender in Rural Areas. Source: INSTAT, 2012, LFS.

Furthermore, the labor force in rural areas heavily relies on farm work. The majority of workers in rural areas are farm worker. The number of non-farm workers is quite low in rural areas. This goes to show that economic activity lacks diversification in these areas and there is need for increased rural non-farm activities. Heavy reliance in farm work may also impede demand for education and human capital accumulation, which on the other hand may reinforce activities in farm work. As a result, the need for rural non-farm activity arises, both as a way of risk diversification and demand for different skills. Although male and female farm workers are quite comparable in number in the rural areas (224,639 male and 267,098 female), there is large difference between men and women in terms of non-farm labor in the rural areas (Figure

3). These differences are indicative of lack of economic opportunities for women (even more than for rural population in general), therefore continuously trapping them into unpaid labor. Consequently, they limit women's opportunities for advancement and channeling into paid labor as well as the potential of the labor force for the rural areas. Lack of economic opportunities of women in rural areas affects social and economic development.

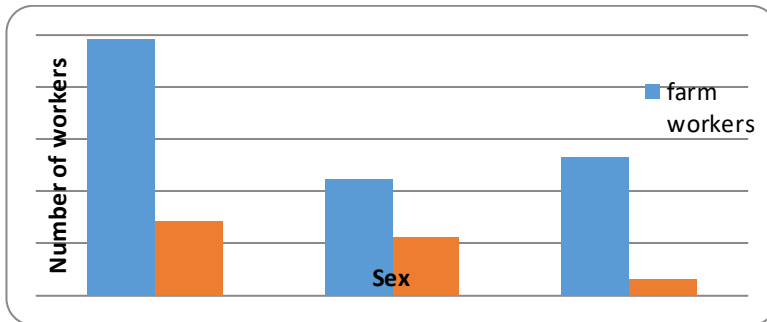


Figure 3: Farm/Non-farm workers by gender in rural areas. Source: INSTAT, 2012, LFS.

Youth has the most vulnerable position in the labor market not solely in Albania, but also elsewhere in the world. In the aftermath of the financial crisis, youth employment rate are quite low and unemployment rates are quite high in the European Union. Likewise, compared to other groups of the population, youth in Albania also have the highest unemployment rates, and lowest labor force participation and unemployment rates. On average, the number of contributors paid from self-employed in agriculture is approximately 53% of the contributions paid by self-employed in urban areas. Although farmers contribute much less than the self-employed in urban areas and their pension amount is lower than in the urban pension scheme. The direct contributions by self-employed in agriculture cover only 18.7% of the rural pension fund.

## 7. Findings from the Interviews

Prior to territorial reform each municipality had an employment office (local NES offices) covering the interests/requests for jobs in case any rural residents needed to work. Historically job seeking used a different path from these offices as males of working age use their family ties for finding jobs – firstly abroad where the majority of economic migrants live and secondly in big cities where they work in construction. After 2010 the labor offices were accommodated within regional governments (QARK) thus creating a bigger obstacle (distance) with rural dwellers. Registration in the labor offices was meant to create some benefits additional to job seeking for rural citizens – health insurance and local tax deductions. However, the registration in the labor office does not offer the above-mentioned benefits by default – the communal/village council is the body that approves the list of people who benefit such titles.

The regional labor office has no administrative power over Local Government Units (LGUs) which operate under the organic law and employment does not fall within this law. However, each municipality in Albania is responsible for managing the provision of social/economic assistance. If both offices would have cooperated in identifying, registering or assisting the re-entry into the labor market for rural dwellers the situation would have been different. Additionally, the scope of unconditional grant would have helped the LGUs to promote the local businesses thus foster local employment. Opinions were collected using focus group discussion and interview checklist topics covering the following issues: 1) Views on the work prospects of young people in the rural communities; 2) Present day occupations; 3) Reliability of farming; 4) Policies and agriculture.

Many young Albanians would like to run away from their country. This is not because they don't love their country, but because they see no employment (and livelihood) perspective. The economic development of the country seems more as a residual rather than prosperous, despite many foreign experts and donors are trying over 25 past years to present a sustainable economic development model. Opinions gathered from focus groups varied to a great deal from the dominant activity of the community, the size of the population, migrating trends in the last 25 years, vicinity with markets, the agriculture land conditions (legal and physical), the importance of the crop planted by farmers, knowledge for managing the farm and so on.

*Farmers in Elbasan* presented the agriculture work as a second option for their young children whereas their education was highlighted as a priority. The vicinity of the University (in Elbasan) may satisfy this aspiration pronounced by parents and children at the same importance. The last 3-4 years farmers have seen a more intrinsic value of their agriculture produce

due to bigger investments, a more structured marketing offer, and some agricultural processing businesses established in the region. These developments have enlarged the role of agriculture in people's livelihoods and triggered their interest. This is doubled with the lack of employment opportunities in the region and the descending trend of seasonal migration to its neighbor countries or cities. However, people in Elbasan have traditionally shown a great interest in education and this trend continues to dominate the aspiration of parents.

*Farmers in* considered their children's education a way out of survival mode – living in rural Shkodër. This region has experienced massive migration movements towards EU countries and the trend is overlooking people's dreams. Shkodër has its university. Having the university close to their living place is a potential combination of gaining a degree (back up for escaping from the village and maybe the country) but also working and getting an interest in agriculture that similarly (but in smaller pace) to Elbasan was experiencing a rise in diversity, product quality and market offer.

*Farmers in Vlorë* (all women) were involved mainly with off land activities. This background shaped their opinion for their children aspiration – leaving the village at any cost. They expressed their inability in imposing their choice for children's future. In fact, youngsters of this region (Vlorë) behave more under peer pressure than family trend. Almost no one wants his child to have "only" one skill - though he/she would have better chances for employment. The one that can financially afford to send his children to college does so. Otherwise, the parent considers himself a failure, after leaving his child in poverty. The only losers are those who haven't got a university degree, despite the low value that it has. Often these are young people from rural areas or in general young people from the poorest groups.

Farmers in all visiting sites expressed their hesitation for formalizing their activities and especially their relationship with government agencies. Also, the Rural Labor Market Survey conducted, has exposed only 21% of the interviewed businesses would expect from the NES offices to supply qualified labor force. Consequently, citizens living in rural areas are deprived from this public service and find themselves disadvantaged in the labor market. The youngsters are most impacted group of this negligence as they often fall under no category, even of unemployed.

## 8. Conclusions

Government institutions in Albania which play an important role in the functioning, regulation and development of the rural areas should orient their support to the rural labor market as an important mechanism for the allocation of labor, resources and income generation in both demand and supply forces across the various economic activities in the country.

a) Statistical references for informal employment should be clarified as per paragraph 8 of the 15th ICLS resolution which specified that, depending on national circumstances, either all own-account enterprises or else only those that are not registered under specific forms of national legislation including factories' acts, commercial acts, tax and social security laws, professional groups' regulatory acts, and similar acts, laws or regulations established by national legislative bodies should be considered informal<sup>1</sup>.

b) As per official statistics, rural areas of Albania present high levels of unemployment, which may shadow under or informal employment, typical for women and youngsters engaged in unpaid labor. High levels of unpaid farm labor in rural areas artificially increase labor force participation and employment statistics while reducing unemployment figures.

d) Agriculture is and will remain the predominant activity in rural areas but their (agriculture businesses) formal involvement in the agriculture industry is far behind. Regardless its positive trend of growing this industry is organized mostly in the form of a small scale mainly for family farming. This fact among other prerequisites has caused a limited economic diversity in rural areas. Albanian public authorities should support the transformation of the agricultural sector into a competitive sector of the economy, aiming to achieve by 2020 productivity levels similar with the other recent members of the European Union.

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## The Creation of the Convenient Investment Strategy in Forex

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### Abstract

Forex that belongs into the biggest and the most widespread financial markets in the world has the daily turnover that is assessed to more than 5 trillion USD. This fact is at the same time a temptation for investors and attracts them to trade in this market. Only the small percentage from this daily turnover is made of the business of governments and companies, that purchase in foreign countries or need to exchange foreign currency for the domestic one. The majority consists of the speculative business. Speculative business is based on the expectations of a speculator on the future rise or fall of exchange rate, that he plans to earn money on. In this case, we are talking about the market with unpredictable environment. It is controlled by the crowd of people who create the most extensive financial market of the world by their mutual purchasing and selling foreign currencies. The aim of this paper is to create the convenient investment strategy on the basis of the analysis of foreign exchange market. We have used the description for the fulfillment of this aim and consequently we have focused on business strategies as the fundamental and technical analysis and its use in the real trading. We have described the development of trading in the chosen market and period by means of fictitious account on the platform Metatrader4. Consequently, we have analysed the influence of the particular factors on the results of investing in Forex.

**Keywords:** Forex, currency pair, currency graphs, investment strategy, analysis

### Introduction

#### Theoretical background

Recently, the Forex market has been unavailable for individual investors and only big banks have been trading in this market. With the development of technical appliances and communication technologies it has been made available everywhere, where there is the internet connection. Because of this fact there is a possibility to join for smaller "players", too. Nowadays, foreign exchange market is the biggest and the most liquid financial market in the world. For this market, the international name Forex is used, that is the abbreviation for Foreign Exchange Market, i.e., the foreign currencies market. (Hrvoľová) Forex enables all participants to purchase and sell currency all around the world. It has gained the popularity thanks to the small number of barriers that stand in the way to this financial market to small investors. Despite the fact that the history of Forex extends to 70s of the last century, this market is the biggest and the most liquid market from all financial markets. It is traded by means of the Internet through brokers, banks and other tradesmen. According to BIS, there are trades performed daily in the Forex in the amount up to 5,067 trillion dollars (BIS), that one of the main reasons why is this market so interesting among tradesmen. It is possible to trade in thousands, but also in billions of dollars, that gives the chance to join also to smaller tradesmen.

Exchange rates do not stay on the same value, they change every day. This constant movement of exchange rates enables to earn money when trading. The aim of trading is to change one currency for another one with the expectation that the one that we purchase will raise in the value while the one that we sell will decrease in the value. Trading in Forex brings the possibility to earn a lot of money, however, more than a half of the beginning forex tradesmen loses their money mainly



because of underestimating the preparation and the lack of experience. Trading in this market is a very risky business and therefore it is important before entering this market to find out the most information about it.

### Advantages of Forex:

It is for everyone – it is possible to start also with the little capital;

It is flexible – it is possible to trade all around the world, 24 hours, 5 days a week;

It is highly liquid – big amount of participants of market and big volume of financial resources;

Profit potential – the possibility of earnings not only when the exchange rate of currency is rising, but also when it is falling;

The leverage effect – the possibility to do the big business also with the low capital;

Free demo account – the most brokers enable opening of demo account where tradesman can try the particular strategies before he starts to trade with the real money;

Diversification – it enables to investors to use the alternative to investments in the stock exchange market;

It is decentralized – Forex does not have Central bank;

Low fees – it is mostly paid just for the spread. However, some brokers charge fines also for a transaction;

### Disadvantages of Forex:

The leverage effect – it is advantage and also disadvantage, because with the possibility to earn a lot of money there is a big risk here and tradesman can lose everything;

Big volatility – changes in the market are very fast;

The problem in the choice of broker – it is very important to be careful when choosing a broker, it is better to choose the well-known and tried by tradesmen broker;

Human factor – human psychic plays a very big role in trading with the real money. The majority of the successful tradesmen agrees that the most difficult part of their career was to manage psychology of trade;

Forex is the biggest stock exchange market in the world, where 5 up to 7 million participants perform their transactions and trade every day from various reasons. The advantage of this market is its low regulation, that means that it is available for anyone. Commercial banks, central banks, investment companies, brokers, individual investors and speculators belong among the main participants of this market.

We place these currencies among the main currencies traded in Forex: american dollar, euro, japanese yen, british sterling and swiss frank. The currencies which are traded with but they do not have such a high liquidity are called additional. There belongs: canadian dollar, australian dollar, new zealand dollar and others. Exotic currencies are the currencies that are not liquid very much because of the little interest, what leads to higher costs in its trading. The most popular currencies, its symbols and slang expressions are shown in the table 1.

Table 1 The most popular currencies, its symbols and slang expressions

Symbol	STATE	CURRENCY	Slang EXPRESSIONS
USD	United States of America	American dollar	Buck
EUR	Members of Eurozone	Euro	Euro
JPY	Japan	Japanese yen	Yen
GBP	The Great Britain	British sterling	Cable
CHF	Switzerland	Swiss frank	Swissy

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CAD	Canada	Canadian dollar	Loonie
AUD	Australia	Australian dollar	Aussie
NZD	New Zealand	New Zealand dollar	Kiwi

Source: Own processing

### Methodology

The aim of this paper is to analyze the financial market Forex and the use of the knowledge to create the profit strategy in the speculative trading in this market. The task is to try particular trading strategies and to evaluate starting capital in the created fictitious account. To reach this aim, we have focused on the analysis of the exchange market Forex, consequently to describe the strategies of the analysis of the development of prices of currency that are the fundamental and technical analysis and its usage in the real trading. As in the applied example, we will describe 3 trades realized by means of fictitious account, in which we will use the knowledge from the analysis of exchange market that include basic information, types, forms and possibilities of trading in Forex, expressions like currency pair, pip, lot, spread etc.

We have created demo account by means of the mobile application Metatrader4. This application has provided us the direct access to the market by means of the account created directly in it. It has also been possible by means of this application the graphic display of the chosen realized trades. We have used fundamental and technical analysis in trading. These analyses are the two most used types of analysis in the Forex market, without which no tradesmen can exist and the trading would be rather a hazard than an investment.

Fundamental analysis observes economic, political and social development of particular countries that has the direct impact on the development of exchange rate. The aim of this analysis is to assess the future movement of currency pair on the basis of the new economic and financial reports. Technical analysis focuses on the analysis of graphs and the usage of various technical indicators. It is based on the concept that the history repeats, graphic patterns are created and we can predict future movements of market on its basis.

### Results

#### Fundamental analysis

We observe the development of the Forex market by means of economic and political factors in fundamental analysis. It is important for the speculator mainly the fact, what influence the newly reported news will have on the development of the currency value. However, it is important to realize that news do not influence the market, but people do, with their reactions to news. Fundamental analysis is used by tradesmen mainly for determination of a long-term development of market. Short-term development of exchange rate depends rather on the mood of tradesmen in the given moment. However, this does not mean that fundamental analysis does not have any importance to short-term trading. The most important thing is to know, when the market moves. Tradesman who does not specialize in fundamental aspects should keep away from market in the period of news publishing. The times of announcements of the most important economic statistics are (stated times are compatible with our time zone): (Vobořil, 2011)

USA 14:30 and 16:00

Europe 10:00

Great Britain 10:30 and 13:00

Switzerland 8:15 and 10:30

Australia 1:30 and 4:30

Canada 12:00, 13:30 and 15:00

Japan 0:50 and 12:30

Every month, many new economic news appear, from which the majority does not have the relevant effect and it does not move with the currency value. Primarily, those news are important for tradesmen that have the immediate and outstanding impact on its development. The most important indicators influencing particular currencies are (Vobořil, 2011):

## Interest Rates

Announcements: 8 times annually, various data, always in the evening, usually at 20:15

## NonFarm Payroll – Unemployment

Announcements: every first friday in the month at 14:30

## GDP

Announcements: every month, mostly in the fourth week in the month at 14:30

## Core CPI

Announcements: every month at 14:30

## Retail sales

Announcements: every month, in the middle of month, at 14:30

Economic calendar serves as the survey on economic statistics. It is possible to display events in current day or week. The calendar shows events that were already announced but also the ones that are being planned to be announced, what brings tradesmen the time for preparation. Economic statistics can be interpreted in the short time trading in two ways:

In the first way we investigate, if the currently announced value has positive or negative influence on the development of the particular economy in the future. We compare if the current value is in comparison with the previous one rather optimistic or pessimistic. According to this, we adopt a standpoint for the next development of currency rate of the particular currency pair.

The second, simpler way is the comparison of the expected value with the current announced value. If the change between these two values is too big, we can expect the strong movement to some direction.

## Technical analysis

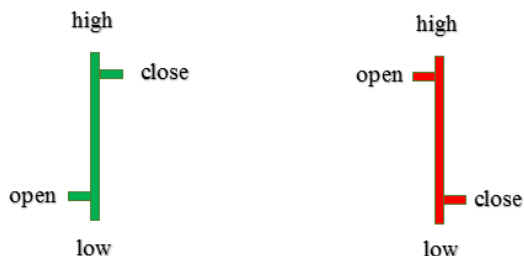
In the short-time and medium-term period mainly tradesmen and their current mood that often changes, influence the development of exchange rate. Conscious or unconscious fear from the reached results brings about instability and outstanding price movements on the exchange market. Currency rate graphs are the tool which helps to understand these movements and to work efficiently with them.

Technical analysis observes the behaviour of these graphs. It belongs among the most used tools for trading not only in forex market but also in others financial markets. Concerning market generally, nothing is guaranteed, not only in the case of technical analysis where there is not a system that would guarantee a definite success. It only helps to assess what will happen with prices.

Short-term tradesmen work mostly with the five-minute or one-hour graph, while the tradesmen who analyze price movements in the long-term period, use month graphs. Tradesmen analyze these movements on graphs to create business strategies and to make various business decisions.

Linear graph belongs into the simplest exchange graphs depicting movement of prices. It connects final prices in the given period. It is very clear but it shows only the direction which the market follows, not what happens there.

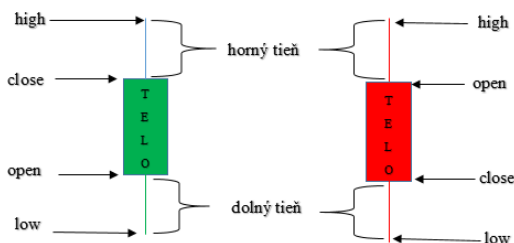
Bar graph has much bigger predicative value than linear graph. Graphs display lines that carry 4 important information regarding the price of currency value. The peak of every line represents the maximum price (HIGH) reached in the given period and on the other hand, the bottom represents the lowest (LOW). Processes on the sides determine opening price (OPEN) and closing price (CLOSE), that currency rates are traded under at the beginning and at the end of the given time period.



**Picture 1: Bars** [] Source: Own processing

In the case when buyers are stronger than sellers, the line is in green colour. If the line is red, sellers dominate over buyers.

Candle graph depicts the same information regarding the highest, the lowest open and close price than linear graph. The graph consists of candles put together from the body and shadows. The difference between open and low price is created by low shadow. Upper shadow is the difference between high and close. The body represents the activity between close and open price. The longer is the body of the candle, the more intensive is the purchasing or selling pressure. (Hartman, 2009)



**Picture 2 Candles** [] Source: Own processing

The candles are distinguished by colours as it is in bar graphs. Colour difference in bar and candle graphs provides more information and faster orientation. The appearance of these graphs provides more detailed insight to the psychology of market participants, thanks to which it is applied mainly in short-term trading.

In technical analysis, there are many different technical indicators. It concerns different mathematical calculations that help to predict the future development of the rate. They are already built in every trading platform so they do not need to be counted. The basic groups are:

Trend indicators that follow market trend. Its role is to recognize, follow and eventually determine the end of trend

The most used are:

- Moving averages
- Running averages konvergences/divergences (MACD)
- Parabolic SAR
- Average Directional Index (ADX)

Oscillators, which comes out of cyclical repetition of movements have the role to measure the strength of market. They show, when is the market prepared for turn.

The most used are:

- Stochastic Oscillator
- Commodity Channel Index (CCI)
- Momentum

- Relative Strength Index (RSI)
- Williams's Percent Range (%R)
- Indicators of volatility measure market volatility. The higher the volatility is, the bigger the volume of money we can get.
- The most used are:
  - Bollinger bands (BB)
  - Rate of Change (RoC)
  - Average True range (ATR)
- Volume indicators measure the activity of participants, strength and intensity of market.
- The most used are:
  - Money Flow Index (MFI)
  - On Balance Volume (OBV)

#### Demo account Trade no. 1

On 15 minute graph EUR/USD we observed creating, symmetrical triangle. The price of currency pair was oscillating up and down. We drew in two oblique lines connecting increasing and decreasing high prices. As it is never clear what direction will the price finally go, we observed carefully the graph. When the price got over the bottom line we entered into short position. In the time of entrance into the trade, the price of currency pair was 1,23150. We realized the sale in the value of 10 lots. We set up the stop-loss to the value of 1,23290 in case there would be a false signal. We set up the take-profit to the value of 1,23090, what was the approximate distance of the height of the triangle. The price formation really went up and the price started to plunge. The trade closed immediately when the set up take-profit was reached. The profit from the trade was 600 USD.

Picture 2 Trade no. 1



**EURUSD, sell 10.00**      2018.03.16 15:10:52  
1.23150 → 1.23090      **600.00**

Source: Own processing in Metatrader 4

Trade no.2.

We observed the creating price graph head and arms after the strong uptrend on 15 minute graph GBP/USD. We drew in the level neckline by connecting the lowest prices. We also drew in the target distance, where could the price go after getting over that level. When the price got over the neckline, we entered the short position. We have set stop-loss over neckline in the value of 1,40350. We have set take-profit somewhere in the middle of the target price in the value of 1,39750. The ratio of the risk loss and potential risk was approximately 1:5. The formation was not successful and the price began to rise gradually till it got to the level of the set up stop-loss. The loss from the trade was 535 USD. The loss from swap was 9,30 USD from the reason of keeping the position at night. The total loss was then 544,30 USD.

Picture 3 Trade no. 3



Source: Own processing in Metatrader 4

### Trade no.3

We identified the levels of support and resistance on 15 minute graph EUR/USD. We made together 4 trades. In the first trade we entered the long position after repelling the price from support. In the case of getting over some level, we always set up stop-loss, to evade big losses. The price repelled and rose. The trade was concluded by set up take-profit with the profit 235 USD. After the certain time, the price began to decrease till it got to the level of support again. After repelling, we entered to the second trade. The profit was 275 USD. The price rose till it got to the level of resistance. We entered the short position. However, the price was still rising till it got over the border of resistance. The price got to the level of the set stop-loss where the trade was concluded with the loss 230 USD. The mistake was the bad setting of the order stop-loss,

which was set immediately over the level of resistance. As the price later bounced back from the border of resistance several times, we also entered to the next short position. Finally, the price decreased to set take-profit. The profit was 310 USD. The total profit from 4 trades was 590 USD.

Picture 5 Trade no. 4



Source: Own processing in Metatrader 4

## Conclusion

In the course of research period we concluded together 10 trades, from which 7 were profitable and 3 made loss. The total profit went up to the value of 3 409,54 USD and so we managed to appreciate the starting capital by 3,4%. We tried different strategies and if we wanted to continue in trading, we would focus rather on deciding on the basis of information from the technical analysis. We regard it as more reliable as it is based on facts and not on assumptions, that can be initiated by subjectivity of investor and non-objectivism of information. Trading in Forex is the great way how to use redundant financial resources in the high degree of positive relation of investor to risk. Thanks to the flexibility and almost continuous running, Forex enables to dedicate to investing whenever, what is convenient for investors in today's impatient times. It is characteristic by the huge volume of trades and practically unrestricted liquidity. One of another big advantage is the possibility of using financial resources not only when currency rate grows but also when its value decreases. However, it is

necessary to realize that the trading here is not easy mainly for the beginning investors. As many as 95% of beginning tradesmen lose their investments on this market. This type of investment includes mainly psychological burden, regardless of timeframe, considering the fact that beginner opens his first real commercial account after the period at least 3 to 6 months of the intensive study of this financial market, its behavior and the use of demo account. More trades, more positions, more currency pairs or indices will gradually drive investor into bigger and current minus or into faster losses. Losses bring frustration that causes the impression of necessity to get the money back as soon as possible, which, at the same time pushes investor to trades that he would not conclude in considerate position. To be successful investor in Forex means at first to lose financial resources and consequently to use the possibility to join the group of investors who earn money in this risk market. Also in our case of demo account, we had profit trades as well as loss trades when using different strategies and where the balance of strategies and considerate decisions finally brought the positive result of the use of investment. The capital accessibility of this market as well as the leverage and high liquidity are the combination of factors that can bring the both effects of investing in considerate investment. Only the certain type of investor and the right strategy can influence the result.

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## The Sources of Economic Growth in Nigeria: A Growth Accounting Approach

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### Abstract

The study investigated the sources of growth in Nigeria for the period 1960 to 2017 using the growth accounting framework of the standard neoclassical production function. Specifically, the study focused on evaluating the contribution of capital, labour and total factor productivity to economic growth in Nigeria. Additionally, in order to establish the relationship between capital, labour and total factor productivity, and economic growth, correlation coefficients between the variables were estimated. The results correlation analysis showed that the growths of capital, labour and total factor productivity were positively correlated with economic growth. Furthermore, the results from the growth accounting framework revealed that capital was found to be the major driver of economic growth in Nigeria during the entire period, 1961-2017. In the case of the sub-periods, capital was the major driver of economic growth in Nigeria during the first sub-period, 1961-1980. However, during the period, 1981-2000, labour was the major driver of economic growth, followed by capital while TFP growth contribution deteriorated as it was negative. Also, TFP was the major driver of economic growth during the period 2001-2017. Based on the foregoing, the study therefore recommends that, policies that encourage physical capital, human capital and technological development through domestic and foreign investments should be adopted, nurtured, sustained and intensified, noting that capital, human capital and technological development are key to economic growth and development.

**Keywords:**Total Factor Productivity, Relative Factor Shares, Economic Growth, Growth Accounting Framework, Nigeria.

### Introduction

Economic growth rate, no doubt, is the measure of economic performance among countries. Countries with high economic growth rate are seen to be high performers while those with low growth rate are judged to be poor performers. This is why there is a lot of concern about rates of growth by countries and why there is a lot of pre-occupation with the question: why are some countries growing slowly and some growing fast? In order to answer this question, there has been a growing debate on sources of economic growth across countries since the introduction of the growth accounting method which is also known as the Solow model. The debate revolves around how much of total growth in output is attributed to factor inputs (capital and labour) or the accumulation of physical and human capital and to total productive (technical progress) (Solow, 1957). Hence, growth accounting method or sources of economic growth approach attempts to break down total output growth into its components parts- capital, labour and technical progress.

The Solow model attributes sustained long-term growth to technical progress due to the principle of diminishing marginal productivity. The technical progress or technical change, often called Solow's residual or total factor productivity (TFP) encompasses all sources of economic growth apart from those attributable to capital and labor. According to Aghion and Howitt (1992) and Romer (1990), technological progress is determined by internal forces in the economic system. They explained that technological progress depends on innovation and the incentive, while innovation depends on policies favoring competition, intellectual property rights and trade openness. Often, the final step in the growth accounting study is to relate factor growth rates, relative factor shares and TFP to such elements as government policies (such as economic reforms), openness, natural resources, and initial levels of physical and human capital. Empirically, it is observed that the growth accounting analysis allows a determination of whether growth is extensive or intensive. That is, whether economic growth is propelled by factor input growth or driven largely by productivity increases. This enables the policy makers to know whether the observed growth is sustainable or not. If growth is influenced by rapid increases in capital stock, such

growth is not sustainable in the long run but if it is influenced by increases in TFP, growth could be sustained (Iyoha, 2002). In furtherance, Solow (1957) and Denison (1962,1967) claimed from their growth accounting exercises that capital accumulation per labour accounted for between one-eighth and a quarter of the growth rates in the United States and other industrial countries, while TFP growth accounted for more than half of the growth rates in many countries. According to Young (1995), given large cross country variations in growth, TFP accounts for about 50 percent of growth in OECD countries and 30 percent in Latin American countries. This claim is consistent with O'Connell and Ndulu (2000) and Iyoha and Oriakhi (2000) growth accounting exercises, however, it is not consistent with Kim and Lau (1993), Pilat (1994), Krugman (1996) and Collins and Bosworth (1996) which argue that the spectacular growth in the East Asian countries was driven by capital accumulation while their economic slowdown could be taken as evidence of reduced rates of accumulation due to diminishing returns. In the same vein, Dike (1995) observed that the growth rate is greatly attributed to changes in factor inputs (capital and labour), with total factor productivity (TFP) playing a marginal role. Also, Matovu and Yuguda (1999) results show that growth was driven by both sizable factor accumulation and TFP growth. But TFP growth accounted less than factor input growth.

The results of growth accounting framework or sources of economic growth have been one of mixed. Therefore, it is crucial to re-examine the sources of economic growth in Nigeria using growth accounting exercise, hence, the following question is raised: What is Nigeria's source of economic growth? Is it productivity (TFP)( technology-productivity) or factor inputs(labour and capital)? This calls for an empirical investigation.

Given the average annual population growth rate of 2.4 percent between 2006 and 2017, the average growth rate of real output per capita was 2.9 percent. This revealed that Nigeria's economy experienced boost within this period. The Nigeria's average annual growth rate in real output during the period 2006-2017 stood at 5.3 percent. This falls short of China's real output growth rate of 9.3 percent within the same period, however, Nigeria's average annual growth rate in real output is higher than the growth rates of the Asian tigers- Singapore with 4.6 percent, South Korea with 3.4 percent, Hong Kong with 3.2 percent and Taiwan with 3.1 percent. Also, Nigeria's average annual growth rate in real output is higher than South Africa and Botswana except Ghana (see Table A-1 of the Appendix).

The Nigeria's growth rate was attributed to enhanced macroeconomic management, oil export boom and investment in both physical and human capital. These elements relate with factors growth rates, relative factor shares and TFP. Given the above, it is necessary to fully understand the sources of economic growth in Nigeria during the period 1960- 2017. Specifically, this study analyzes the total factor productivity, capital accumulation and labour contributions to growth using a growth accounting framework from 1960 to 2017.

The rest of the work is structured as follows; section two provides review of the related and relevant literature, section three explains the method of analysis, section four focuses on the empirical results and discussions. Lastly, section five presents the conclusion and recommendations.

## Literature Review

### Theoretical Review

The organizing principle of growth accounting is the neoclassical production function. A widely accepted framework in determining the sources of economic growth is the growth accounting. It is also known as the sources of economic growth approach and was pioneered by Solow (1957), Denison (1962, 1967) and Kendrick (1961). It has been recently revisited and expanded by Barro (1991), Elias (1992), Young (1995), Dowling (1998), Senhadji (1999) and Iwata *et al* (2003). Basically, growth accounting provides a breakdown of observed economic growth into its main components, viz., the changes attributable to the growth in capital and labour (factor inputs), and the residual or unexplained component. This residual or unexplained component is often called Solow's residual and it was originally taken as the contribution of technical change or technological progress. It has since become known as total factor productivity (TFP) because it captures all sources of economic growth apart from those attributable to capital and labor. However, Abramovitz (1956) sees TFP as not necessarily a measure of technology since it could be a function of other things like military spending, or monetary shocks, or the political party in power and institutional factors. Hence, he referred TFP as measure of our ignorance which covers many components: innovation- based technological progress, imitation-based technological progress, institutional change, efficiency change, omitted variables and measurement errors. Therefore, it is now common to examine the fundamental determinants of economic performance in any economy using the growth accounting exercise. The growth accounting exercise helps to determine whether growth is extensive or intensive, that is, whether economic growth has been driven by factor input growth or by productivity increases. The reason for this distinction is to determine if observed

economic growth is sustainable or not. If economic growth is driven by rapid increase in capital stock, such growth may not be sustainable in the long run but if growth is driven by increases in total factor productivity, such growth may be sustainable in the long run (Iyoha, 2002).

## Empirical Review

Many researchers have shown that there is no simple determinant of economic growth (Thomas and Serju, 2009). This is supported by Bosworth and Collins (2003) that examined the major contributors to growth using growth accounting framework for a period of 40 years covering 84 countries which account for 95 per cent and 85 per cent of World's GDP and population respectively. The study revealed that on average labour productivity grew by 2.3 per cent, with improvements in total factor productivity and an increase in physical capital per worker contributing to 1.0 per cent each, while human capital contributed to roughly 0.3 per cent. The study indicates that there is a significant relationship between growth and factors such as quality of institutions, geographical location, and trade openness. The study observed that while the quality of institutions worked through TFP growth, budget balance and trade openness functioned mainly through capital accumulation. Staritz et al. (2007) x-rayed the determinants of Guyana's growth from 1998 to 2004 using growth accounting exercise. The study showed that the country's growth slowdown was attributed to adverse terms of trade, weak infrastructure and exogenous shocks. But, on the other hand, it was pointed out that a perpetual decrease in factor accumulation, deterioration in political and institutional environment, massive labour migration and decrease in private and foreign direct investment were causes for persistent poor growth performance. Similarly, Klenow and Rodriguez-Clare (1997) estimated the sources of economic growth using growth accounting approach and the study revealed that differences in TFP growth account for about 90% of the variation in growth rates of output per worker across a sample of 98 countries over the period 1960-1995 after accounting for human capital accumulation. This result is consistent with Easterly and Levine (2001) which revealed that the TFP accounts for most of the cross-country and cross-time variation in growth. Wang and Yao (2001) examined the sources of growth in China using a simple growth accounting exercise during 1952 to 1999. The study showed that the accumulation of human capital in China (measured by the average years of schooling for the population aged 15 to 64) was quite rapid and contributed significantly to growth and welfare. The study also found out that the growth of total factor productivity played a positive and significant role in the reform period but it was negative in the pre-reform period.

Bunini (2017) examined the sources of economic growth in Tanzania, Uganda and Kenya using a growth accounting approach of a Cobb-Douglas production function. The study analyzed and compared the contribution to growth of TFP, capital accumulation, labour and human capital over the period of 52 years from 1960 to 2011. The results showed that variation in sources of growth over time and across countries, and that economic growth in Tanzania and Kenya was dominated by TFP, whereas in Uganda it was driven by capital accumulation. The study concluded by observing that the improved growth was as a result of the government strategies to implement appropriate economic policies that fosters domestic investment to create employment, and reduction of poverty. Similarly, Matovu and Yuguda (1999) investigated the sources of growth in Botswana using a growth accounting framework during 1982-1997. The results showed that the impressive growth since independence was made possible by both sizable factor accumulation and TFP growth. Although not as important as the increases in factor inputs, TFP growth was nonetheless significant. Collins and Bosworth (1996) analyzed the factors affecting economic growth in Ghana using a growth accounting framework during 1960-97. The result showed that during 1960-97, output per worker declined by 0.12% in Ghana. At the same time, growth in factor accumulation, measured by physical capital per worker, accounted for 0.52%, and education per worker for 0.50%; however, this positive contribution by physical and human capital was more than offset by the negative contribution of total factor productivity (TFP), measured as the residual, of 1.15%. Thus, overall, the slow rate of per capita income growth in Ghana over 1960-1997 seems to be largely attributed to productivity (TFP) rather than to production inputs. Vera-Martin (2000) estimated the sources of growth for three Sahelian economies, Mali, Niger, and Senegal using cointegration techniques. The study indicates that capital and labor force account for the bulk of growth in these economies. Error-correction models are estimated to examine the determinants of short-run dynamics. The labor force is found to contribute to growth primarily over the long run, while capital is found to be, particularly important short-run determinant of output in Mali and Niger. Erasmus and Ricci (2003) analyzed the sources of growth in Swaziland during 1980-2001 using a growth accounting framework. The analysis suggests that the country's rapid growth prior to 1994 was due to factor accumulation, but especially to capital accumulation. The poor growth performance since 1994 was due to a decline in the contribution of both factor accumulation and TFP growth, particularly capital accumulation. During 1994-2001, TFP growth accounted for half of overall output growth. Sekkat (2002) analyzed the Macroeconomic sources of growth in Morocco using the growth accounting approach. The study showed that the contribution of labor remains constant across sub-periods, while the contribution of capital and TFP decreases remarkably. The contribution of TFP decreases more than the capital and during

the 1990s it is even negative. Arora and Bhundia (2003) attempt to provide estimates of potential output growth in post apartheid South Africa using both time trend techniques and the growth accounting approach. The results from growth accounting and regression analysis suggest that an increase in trend GDP growth after apartheid in 1994 is attributable to higher TFP growth driven by trade liberalization and greater private sector participation. Moreover, the turn-around in TFP performance in the recent period reflects in part, changes in policy and institutions. Amin *et al* (2005) examined the sources of economic growth and productivity in fifty African countries using three approaches during 1960-2000, namely, the conventional growth accounting method with an aggregate production function, the translog function that estimates the second-order Taylor approximation of the general production function and the nonparametric kernel derivative estimation technique. The results from the three approaches tend to support the view that output growth in Africa is from mainly factor inputs with capital accumulation playing a more important role. It was further observed that the growth of TFP over the sample period is an important factor in the overall growth performance of these African countries. Similarly, Amin (2002) examined the sources of growth in Cameroon using the aggregate production function as the basic model for the period 1961 and 1997. Both parametric and non-parametric approaches were used. The results showed that the contribution of the growth of factor inputs is greater than the contribution of total factor productivity, with capital input playing a larger role in the economy at large. At the sector level, input growth, particularly land and capital greatly influenced the primary sector output growth. The capital input tends to be the most important factor influencing output growth in both the secondary and tertiary sectors. The results suggest that factor inputs (capital and land) play more important roles than total factor productivity (TFP) growth with emphasis on increasing return to scale and input growth both in quantity and quality. The technology factor and labour are not big contributors to growth in Cameroon, which may be because of certain constraints in the economy. Danquah (2006) examined the sources of decline in growth in Ghana from 1960- 2004 using the growth accounting framework. The results of the analysis show that average real GDP growth during sample period was driven by factor accumulation with no role for TFP. The contribution of physical capital remains the most important source of output growth, with a 2.11% share for the entire period. The contribution of labour force during the period was 0.70% while the TFP growth was negative (-0.60%) during the entire period. However, the recent pickup in growth during the reforms period (1984-2004) was made possible by an improvement in TFP growth. TFP growth contributed negatively to output growth before the reforms, but it emerged as one strong driving force of Ghana's growth during the reforms.

In Nigeria, Dike (1995) investigated the sources of growth using a growth accounting approach and the study revealed that the GDP growth is greatly attributed to changes in factor inputs, with total factor productivity (TFP) playing a marginal role. That is, labour and capital changes contributed 94.4%, leaving 5.6% to TFP. Iyoha and Oriakhi (2002) examined the sources of economic growth in Nigeria using the growth accounting framework for the period 1960 – 1997. The study decomposed growth in per capita income into its main components - the contribution of capital per worker and total factor productivity (TFP). The result showed that the average annual growth rate of per capita income was approximately 1.96 percent, the average annual growth rate of the contribution of capital (taking the relative share of capital in output equal to 35 percent) to per capita income growth was 0.33 percent while the average annual growth rate of TFP was 1.62 percent. Similarly, Iyoha (2000) examined the sources of economic growth in Nigeria using the growth accounting framework for the period 1960 – 1997. The study decomposed growth in output into its main components - the contribution of capital per worker and total factor productivity (TFP). The result showed that within the sample period the average annual growth rate of output was approximately 3.7 percent, the average annual growth rate of the contribution of capital (taking the relative share of capital in output equal to 35 percent) to output growth was 0.8 percent, the average annual growth rate of the contribution of labour to output growth was 1.7 percent, while the contribution of TFP to output growth was 1.1 percent. The study revealed that during the 1961-1970 period, TFP growth accounted for over 92 percent of the average real output growth. TFP growth performance declined during 1971-1980 when it became negative and declined further during 1981-1987. In the last decade, TFP recovered and stood at 2.1 percent while the contribution of capital declined to 0.8 percent. Thus, during 1988-1997, TFP growth accounted for 43 percent while relative share of capital and labour accounted for 14 percent and 43 percent respectively, of real output growth.

The results of the determinants of sources of economic growth have been one of mixed. Therefore, it is crucial to re-examine the sources of economic growth in Nigeria in the light of growth accounting exercise. This study uses the growth accounting framework to evaluate the contributions of capital accumulation, TFP, and labour to the growth rate of the real output. Thus, this study contributes to the output growth literature for Nigeria.

## Methodology

### Data and Sources

The annual data for this study include, real gross domestic product (GDP), capital stock, employment level (labour) and total factor productivity, and were basically from secondary sources. Specifically, the data were obtained from the Penn World Tables (PWT) website, except the TFP data which were estimated. The annual data covers the sample period, 1960-2017. The choice of the period and frequency of data was because of availability of data. The real GDP at constant 2011 national prices (in million 2011US\$) was used as a measure of economic growth, employment level was given as a number of persons engaged (in million), capital stock at constant 2011 national prices (in million, 2011US\$) was used and total factor productivity was used as a measure of technological progress/residual/unexplained factor.

### Model Specification

This study adopts the standard primal neoclassical production function of growth accounting to estimate the effect of physical capital, labour and productivity on real GDP growth. A primal production function uses changes in quantities of factors. The adoption of a primal production is predicated on the availability of data.

Consider the following neoclassical production function for the Nigeria economy:

$$Y_t = A_t K_t^\alpha L_t^\beta, \quad \text{where } 0 < \alpha, \beta, < 1 \quad (1)$$

Where  $Y_t$  is real GDP,  $A_t$  is an index of TFP,  $K_t$  is total physical capital stock,  $L_t$  is number of labour (labour force) and  $t$  indicates time. Given the paucity of the relevant data, the labour force series is not adjusted for human capital stock. Thus, in this formulation, TFP reflects educational attainment, technological change and some other omitted factors. Assuming the production function is twice differentiable and subject to constant returns to scale and technical change.

Differentiating equation (1) with time, dividing both sides by  $Y$  and rearrangement of the term yields:

$$\dot{Y}/Y = \dot{A}/A + (F_k K/Y)^* (\dot{K}/K) + (F_L L/Y)^* (\dot{L}/L) \quad (2)$$

Where  $\dot{Y}/Y$  is the continuous time rate of growth of output,  $\dot{K}/K$  is the rate of growth of capital stock,  $\dot{L}/L$  is the rate of growth of labour force;  $F_k$  and  $F_L$  are the marginal product of capital and labour, respectively; and  $\dot{A}/A$  is the Hicks-neutral rate of change of technological progress.

$$\dot{A}/A = \dot{Y}/Y - (F_k K/Y)^* (\dot{K}/K) - (F_L L/Y)^* (\dot{L}/L) \quad (3)$$

Empirically, equation (3) is not practicable since it requires the knowledge of the social marginal products,  $F_k$  and  $F_L$ . The problem, obviously, is that  $F_k$  and  $F_L$  are unknown parameters depending on the functional form and it is these parameters that are critical in calculating TFP growth and the contributions of capital and labour.

### Estimation of TFP ( $\alpha$ )

There are two approaches in deriving the unknown parameters. The first approach involves an econometric estimation of production function and the second approach involves non parametric growth accounting (Solow Residual). The first approach involves an econometric estimation of production function where growth rate of output is regress on the growth rates of capital and labour in level form. This is to avoid losing long run properties of the data. The intercept/residual of estimation provides an estimate of the rate of technical change or TFP (TFP growth is calculated as a residual) while the coefficients of capital and labour growth rates are used to calculate the respective estimates of relative factor shares.

The second approach assumes that factors are paid their social marginal products so that  $F_k$  equals the rental price of capital and  $F_L$  equals the wage rate. Hence,  $(F_k K/Y)$  is equal to the relative share of capital in output while  $(F_L L/Y)$  is equal to the relative share of labour in output (Iyoha, 2002).  $(F_k K/Y)$  and  $(F_L L/Y)$  also stand for the elasticity of output with respect to capital and labour, respectively. Under the constant returns to scale, in which the relative shares sum to unity (i.e.  $F_k K/Y + F_L L/Y = 1$  or equality of income shares of capital and labor in GDP and the elasticities of output), and switching to discrete changes in the variables. Thus, with this replacement, the growth rate of TFP may be calculated by simple subtraction. The result is what is known as the *Solow residual*.

In line with Iyoha (2000), this study adopts the second approach. According to Iyoha (2000), it was therefore decided that it would be preferable to impute the relative shares from Senhadi's (1999) cross-country analysis of sources of economic growth which includes developing countries from Africa, Asia and Latin America. In the study, it was revealed that relative capital share tends to lies between 0.3 and 0.4. A value of 0.3 was therefore chosen for Nigeria due to the state of technological development. In order to ascertain the effects of slight deviation from this relative share, a sensitivity analysis

was undertaken under which estimates of TFP were also obtain for capital share value of 0.35. hence, equation (3) may be rewritten as:

$$TFP = \Delta Y/Y - \alpha^*(\Delta K/K) - (1 - \alpha)^*(\Delta L/L) \tag{4}$$

TFP is Total factor productivity, which is the estimate of the rate of technological progress,  $\alpha$  is the relative share of capital in output and  $(1 - \alpha)$  is the relative share of labour in output. The estimated Solow residual or TFP is computed at each date by using time-series data on  $\Delta Y/Y$ ,  $\Delta K/K$ ,  $\Delta L/L$  and  $\alpha$ . From the intuition behind equation (4), it can be noted that growth accounting for the TFP is a subtraction of relative share of physical capital and relative share of Labour from the continuous time rate of growth of output but physical capital and Labour should be multiplied by a scalar equivalent to their respective shares which are  $\alpha = 0.3$ ,  $1 - \alpha = 0.7$ .

Alternatively, equation (4) may be written as:

$$TFP = (Y_t - Y_{t-1}/Y_{t-1}) - \alpha(K_t - K_{t-1}/K_{t-1}) - (1 - \alpha)(L_t - L_{t-1}/L_{t-1}) \tag{5}$$

### Method of Data Analysis

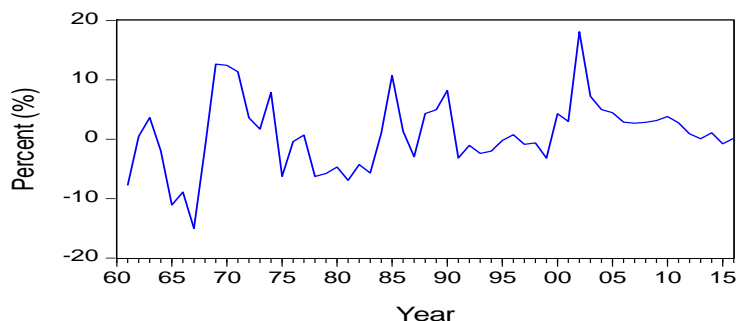
In investigating the sources of economic growth in Nigeria this study follows Iyoha (2000) who employed the standard primal neoclassical production framework of growth accounting. This framework assumes a constant return to scale, in which the relative shares sum to unity. That is, the equality of income shares of capital and labor in GDP and the output. To calculate the TFP growth and the contributions of capital and labour, the study first estimated  $\alpha$ , the relative share of capital in output and  $(1 - \alpha)$ , the relative share of labour in output. Since data for the relative factor shares are not available for Nigeria, the study followed Iyoha (2000) by imputing the relative factor shares from Senhadi's (1999) cross-country analysis of sources of economic growth which includes developing countries from Africa, Asia and Latin America. Senhadi (1999) revealed that relative capital share tends to lies between 0.3 and 0.4. In choosing the relative capital share for the calculation of TFP, the study chose a value of 0.3 as against Iyoha's (2000) 0.35. This value of 0.3 was also used to calculate the relative labour share. In order to ascertain the effects of slight deviation from this relative share of capital, a sensitivity analysis was undertaken under which estimates of TFP were also obtain for capital share value of 0.35 as against Iyoha's (2000) capital share value of 0.4. Given the values of relative factor shares, TFP is calculated as a subtraction of relative shares of physical capital and Labour from the continuous time rate of growth of output but physical capital and Labour should be multiplied by a scalar equivalent to their respective shares which are  $\alpha$  and  $1 - \alpha$ .

After the computation of the TFP or Solow residual, the average annual percentage change (growth) of output (GDP), capital stock, labour, relative factor shares and TFP were examined for the entire period- 1961-2017 and for 3 sub-period- 1961-1980, 1981-2000 and 2001-2017. Finally, the percentage contributions of capital, labour and TFP growth to total GDP growth were examined for the entire period- 1961-2017 and for 3 sub-period- 1961-1980, 1981-2000 and 2001-2017.

## Results and Discussion

### TFP Trend and Correlation Analysis

Figure 1: Nigeria's TFP Growth, 1961-2017



Source: Author's calculations based on equations (5).

Figure 1 illustrates the trend of TFP for Nigeria. It shows that in 1960s Nigeria highest TFP growth was about 13 percent, in 70s the highest TFP growth was about 8 percent, in 80s it was about 11 percent, in 1990s it was about 8 percent while

in 2000s highest TFP growth was about 18 percent, which is the highest within the sample size. However, between the 1976-1983 and 1991-1999 the TFP for Nigeria declined drastically. Between these years the country experienced a negative growth in TFP.

**Table 1: Correlation Coefficient between GDP and Other Factors of Production, 1960-2017**

Factors Production	Correlation Coefficient
Capital	0.156
Labour	0.425
TFP	0.935

**Source:** Author's Calculations Based on Equations (5).

Table1 shows that the growths of TFP, Capital and Labour were positively correlated with the GDP growth. The Table reveals that the TFP, Capital and Labour, and GDP growth have a correlation coefficient of 0.94, 0.16 and 0.41 respectively. This indicated that there is a strong positive relationship between growth of GDP and TFP in Nigeria while capital and labour have weak positive relationship with the GDP growth. This suggests that Nigeria experienced an increasing TFP, Capital and Labour productivity.

### Aggregate Productivity Growth in Nigeria

The results from the growth accounting exercise for Nigeria over the period 1960-20017 are provided below. The analysis is based on consensus relative share of capital of  $\alpha = 0.3$  and sensitivity relative share of capital of  $\alpha = 0.35$ .

#### Consensus Relative Share of Capital, $\alpha = 0.3$ .

**Table 2A: .Aggregate Productivity Growth, 1960-20017(Average Annual Percent Change)**

Factors of Production/Period	1961-2017	1961-1980	1981-2000	2001-2017
Output	4.04	3.76	2.54	6.14
Capital Stock	5.85	9.17	3.86	4.28
Labour	2.16	2.53	1.82	2.11
Relative Share of Capital	Inputs	1.75	2.75	1.16
Relative Share of Labour		1.51	1.77	1.27
Contribution of Inputs	3.26	4.52	2.43	2.76
Total Factor Productivity (TFP)	0.78	-0.76	0.11	3.38

**Source:** Author's Calculations Based on Equations (5)

#### Consensus Relative share of capital, $\alpha = 0.30$

From Table 2A, Nigeria's real GDP grew by 4.0 percent per annum on average over the period 1961 – 2017. The average growth rates of capital stock and labour are 5.9 and 2.2 percent per annum respectively over the period 1961-2017. Using consensus relative share of capital,  $\alpha = 0.30$ , Table 2A shows that the contribution of capital and labour to output growth increased at 1.8 percent and 1.5 percent respectively, thus the contribution of inputs grew at 3.3 percent over the entire period. Also, the residual or total factor productivity increased at the rate of 0.8 percent per annum. Examination of Table 2B reveals that over the entire period, capital and labour contributed about 43.3 and 37.4 percent of total real economic growth respectively while TFP contributed 19.3 percent of total real economic growth.

On the sub-period, the examination of Table 2A shows that during the period 1961-1980 capital stock grew at an average annual rate of 9.2 percent. According to Iyoha (2000), this high growth rate of capital stock is comparable with the rates of capital stock growth in the fast growing countries like China and the Asian tigers. However, this high growth of capital stock could not be sustained as it fluctuates and fell to 3.9 percent per annum during the period 1981-2000 and later increased to 4.3 percent per annum during the period 2000-2017. This could be attributed to exchange rate inflow fluctuation resulting from oil price instability. The labour grew at an average annual rate of 2.5 percent during the period 1961-1980 and later fell to 2.1 percent per annum during the period 2001-2017. Also, the TFP growth rate is -0.76 percent per annum during the period 1961-1980 and later increased to 3.4 percent per annum during the period 2001-2017. In term of percentage contribution as shown in Table 2B, capital and labour growth contributed 73.1 and 47.1 percent to economic growth during the period 1961 -1980 respectively. Their contributions fell to 45.7 and 50.0 percent during the period 1981-2000 respectively and the contribution later decreased further to about 20.9 and 24.1 percent during the period 2001-2017 respectively. The contribution of TFP growth to economic growth stood at -20.2 percent during the period 1961 -1980. It increased to about 4.3 percent during the period 1981-2000 and later increased to about 55 percent during the period 2001-



2017. The output performance was moderately high (4 percent) during the period 1961-1980, it fell to 2.54 percent in the period 1981-2000 and increased to 6.14 percent during the period 2001-2017. These differences in output performance could be attributed to the relationship between factor growth, relative factor shares and TFP, and declining/increasing efficiency arising from market reforms, economic liberalization and financial market innovations (Iyoha, 2000), as well as the level of application of scientific innovations, security and the business environment in the country. Poor economic policy and unstable political situation are disincentives to both local and foreign direct investment and have negative consequences on the economic growth (Bunini, 2017).

The results obtained may be interpreted as indicating that over the entire period, economic growth in Nigeria was attributed to improvement in capital stock, labour and TFP because all these factors have a positive contribution to the output growth. Moreover, the contribution of each factor shows that growth was dominated by capital stock growth. While the capital stock contributed to an average of about 43.3 percent or 1.8 percentage points of the output growth, labour contributed to an average of about 37.4 percent or 1.5 percentage points of the output growth and TFP contributed to an average of about 19.3 percent or 0.8 percentage points respectively. Thus, capital stock has been the main driver of economic growth in Nigeria over the period 1961 to 2017. However, the sub-periods results in Table 2B show that during the period 1961-1980 output growth was dominated by capital stock growth (73.1 percent) followed by labour (47.1 percent) while TFP could not account for output growth. The results indicate that the TFP growth has negative contribution (-20.2 percent) to the output growth. From 1981 to 2000 output growth was dominated by labour growth (50.0 percent) followed by capital stock growth (45.7 percent) and TFP growth (4.3 percent). Also, during the period 2001-2017 output growth was dominated by TFP growth (55.1 percent) followed by labour growth (24.1 percent) and capital stock growth (20.9 percent).

**Table 2B: Total GDP Growth and Factor Growth Contribution in Nigeria, 1960-20017(%)**

Factors of Production/Period	1961-2017	1961-1980	1981-2000	2001-2017
Output	100.00	100.00	100.00	100.00
Inputs	80.70	120.21	95.67	44.95
Capital	43.32	73.14	45.67	20.85
Labour	37.38	47.07	50.00	24.10
TFP	19.30	-20.21	4.33	55.05

**Source:** Author's Calculations Based on Equations (5)

Consensus Relative share of capital,  $\alpha = 0.30$

#### Sensitivity Analysis on $\alpha = 0.35$

Given the fact that the value of  $\alpha$  was assigned, it was important to carry out sensitivity analysis to ascertain the likely effect of a change in the value of  $\alpha$ . Hence, results were generated for  $\alpha = 0.35$ . The results are represented in Table 3.

**Table 3A: .Aggregate Productivity Growth, 1960-20017(Average Annual Percent Change)**

Factors of Production/Period	1961-2017	1961-1980	1981-2000	2001-2017
Output	4.04	3.76	2.54	6.14
Relative Share of Capital	Inputs 2.04	3.20	1.35	1.50
Relative Share of Labour		0.76	0.89	0.64
Contribution of Inputs	2.80	4.09	1.99	2.24
Total Factor Productivity (TFP)	1.24	-0.33	0.55	3.90

**Source:** Author's Calculations Based on Equations (5)

High Relative share of capital,  $\alpha = 0.35$ .

It is observed that while relative share of capital, relative share of labour and TFP react to changes in  $\alpha$ , the effects are conspicuous. Relative share of capital and TFP growth rise from 1.75 and 0.78 for  $\alpha = 0.30$  to 2.04 and 1.24 for  $\alpha = 0.35$  respectively while relative share of labour growth fall from 1.51 for  $\alpha = 0.30$  to 0.76 for  $\alpha = 0.35$ . Also, for  $\alpha = 0.30$ , capital stock, labour and TFP growth contribute 43.3 percent, 37.4 percent and 19.3 percent to economic growth respectively while at  $\alpha = 0.35$ , capital stock, labour and TFP growth contribute 50.5 percent, 18.8 percent and 30.7 percent to economic growth respectively. Therefore, it is obvious that for Nigeria, capital stock, labour and TFP growth are responsive to changes in the relative share of capital.

**Table 3B: Total GDP Growth and Factor Growth Contribution in Nigeria, 1960-20017(%)**



Factors of Production/Period	1961-2017	1961-1980	1981-2000	2001-2017
Output	100.00	100.00	100.00	100.00
Inputs	69.31	108.78	78.35	36.48
Capital	50.50	85.11	53.15	24.43
Labour	18.81	23.67	25.20	12.05
TFP	30.69	-8.78	21.65	63.52

**Source:** Author's Calculations Based on Equations (5)

High Relative share of capital,  $\alpha = 0.35$

### Conclusion and Policy Recommendations

This study investigated sources of economic growth in Nigeria using annual data for 1960 -2017. Specifically, the study focused on evaluating the contribution of capital, labour and total factor productivity to economic growth in Nigeria using growth accounting framework of the standard neoclassical production function. Additionally, in order to establish the relationship between capital, labour and total factor productivity, and economic growth, correlation coefficients between the variables were estimated.

The results showed that the growths of capital, labour and total factor productivity were positively correlated with economic growth. The results also revealed that TFP has a strong positive correlation coefficient of 0.92 while capital and labour have correlation coefficients that are less than 0.5. Given the sub-periods, the results showed that economic growth was fluctuating in the same direction with the TFP growth whereby the highest economic growth was realized when TFP was highest. Hence, this suggests that the TFP was the main driver of economic growth in Nigeria.

Furthermore, the results from the growth accounting framework revealed that capital, labour and TFP growth accounted for about 43.3 percent, 37.4 percent and 19.3 percent of real economic growth respectively, during the entire period. Therefore, capital was found to be the major driver of economic growth in Nigeria during the period 1961-2017. In the case of the sub-periods, capital was the major driver of economic growth in Nigeria during the first sub-period, 1961-1980. Out of total real economic growth of 3.76 percent, capital growth was 2.75 percent which signifies about 73 percent contribution to real economic growth. However, during the period 1981-2000, labour was the major driver of economic growth, followed by capital. Labour accounted for about 50 percent of real economic growth while TFP growth contribution deteriorated as it was negative. Also, TFP was major driver of economic growth during the period 2001-2017. TFP growth accounted for about 55 percent of total economic growth during the period.

Based on the findings, the study therefore recommends as follows:

**Design and Implementation of Appropriate Policies:** for there to be strong and sustained economic growth, capital stock, human capital and technological needs of the country must be addressed. Therefore, policies that encourage physical capital, human capital and technological development through domestic and foreign investments should be adopted, nurtured, sustained and intensified. Also, the policies should be geared towards encouraging investment in potential sectors of the economy in order to employ the majority of the workforce. Strong productive performance is a policy issue and it is expected that appropriate policies are adopted and implemented for efficient and effective allocation and utilization of resources or factors of production.

For further study, given that the quantity and quality of labour (labour education) is a determinant factor of labour productivity, therefore there is need for further exploration of sources of growth that incorporate human capital. Improvements in the quality of labour increase the human capital. Increases in the accumulation of human capital mean increased skills and capabilities of workers. These are acquired through schooling, experience and training, as well as improvements in health and nutrition. This accumulation of human capital tends to increase labour contribution to productivity growth.

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## Appendix

**Table A-1: International Comparison: Real GDP Growth**

Country/Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Avg % of GDP Change
<b>East Asia</b>													
Singapore	8.9	9.1	1.8	-0.6	15.2	6.2	3.7	4.7	3.3	2.0	1.7	2.2*	4.6
South Korea	5.2	5.5	2.8	0.7	6.5	3.7	2.3	2.9	3.3	2.6	2.7	3.0*	3.4
Hong Kong	7.0	6.5	2.1	-2.5	6.8	4.8	1.7	3.1	2.7	2.4	1.4	1.9*	3.2
Taiwan	5.6	6.5	0.7	-1.6	10.6	3.8	2.1	2.2	3.9	0.7	1.0	1.7*	3.1
China <sup>1</sup>	12.7	14.2	9.6	9.2	10.6	9.5	7.9	7.8	7.3	6.9	6.6	6.2*	9.3
<b>Africa</b>													
South Africa	5.6	5.4	3.2	-1.5	3.0	3.3	2.2	2.5	1.7	1.3	0.3	0.8*	2.3
Botswana	8.4	8.3	6.2	-7.7	8.6	6.0	4.5	11.3	4.1	-1.7	2.9	4.1*	4.6
Kenya	5.9	6.9	0.2	3.3	8.4	6.1	4.6	5.7	5.3	5.6	6.0	5.3*	5.3
Ghana	6.3	4.4	9.2	4.9	7.9	14.1	9.3	7.3	4.0	3.9	3.3	7.4*	6.8
Nigeria	6.7	7.3	7.2	8.4	11.3	4.9	4.3	5.4	6.3	2.7	-1.8	0.7*	5.3
<b>Latin America</b>													
Argentina	8.1	9.0	4.1	-5.9	10.1	6.0	-1.0	2.4	-2.5	2.5	-1.8	2.7*	2.8
Brazil	4.0	6.1	5.1	-0.1	7.5	3.9	1.9	3.0	0.1	-3.9*	-3.3*	0.5*	3.5
Chile	5.8	5.2	3.3	-1.1	5.8	5.8	5.5	4.0	1.8	2.3	1.7*	2.0*	3.8

**Source:** IMF World Economic Outlook 2016. \*Estimate. <sup>1</sup>Asia-Pacific

## Environmental and Social Sustainability in UK Construction Industry: a Systematic Literature Review

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### Abstract

Research on sustainability in the construction industry is common in construction journals addressing the potential adverse effects conventional practices have in the construction community. Sustainability is addressed through the environmental, social and economic impacts in literature and researchers and practitioners always drive the need for an equal attention on these three dimensions, but not so successfully at present. Sustainability covers a broad content with various suggested approaches arising from different countries all over the world. Previous studies have investigated sustainable construction issues as a global concept and in individual developed countries such as the US, Australia, and China. The aim of this research is to investigate the extent of coverage, by academia, of the sustainability concept in UK construction industry, with a focus on the environmental and social aspects of sustainability, based on the Triple Bottom Line framework. The researchers conducted a systematic literature review, searching relevant articles with predefined criteria in two major bibliographical databases, which offer great coverage of the existing academic journals in social sciences. The study utilised the PRISMA reporting approach and the search resulted in thirty-one suitable articles. The findings revealed that environmental sustainability receives much more attention than social sustainability. Added emphasis is given to green buildings and materials used. Government regulations seem to be the leading driver for adopting sustainable practices, while lack of knowledge/awareness of sustainable best practices is the leading challenge.

**Keywords:** environmental sustainability, social sustainability, UK construction industry, systematic literature review, Triple Bottom Line.

### Introduction

The sustainability issue in the construction industry have long been debated among scholars, researches, and practitioners alike since the early 1990s. The design, building and maintenance of the built environment, infrastructure works such as roads, railways and bridges are all carried out by the construction industry (Bosher et al., 2007). Operations in the UK construction industry involves several disciplines, including but not limited to architecture, engineering, consultants, builders, and surveyors, thus, Bosher et al. (2007) and Opoku & Ahmed (2014) exclaimed weaknesses in the UK construction industry through fragmentation of construction professional roles, which further hindered because some professionals are self-employed or sub-contractors. Activities within the UK construction industry were reported to account for up to 50% of energy consumption, and more than 50% of all carbon emissions can be accredited to usage of energy in buildings (Petri et al., 2015), consumption of land space (Opoku & Ahmed, 2013), consumption of 12-16% of water available, and 32% of renewable and unrenewable resources (Darko et al., 2017), and creation of up to 19% of total UK waste materials (Wang et al., 2014). Therefore, the UK construction industry is under pressure to change its current conventional practice and its sustainable practice.

Sustainable construction in practice involves various aspects, including engineering, planning, regulations, supply chain, procurement, innovation, skills, economics, market effects and many more (Ravetz, 2008). Through this, the opportunity to mitigate environmental, social and economic damages arises. Therefore, as reported by Alkhaddar et al. (2012), Khalfan (2006), Durdyev et al. (2018), Renukappa et al. (2012), Opoku and Ahmed (2013), sustainable construction pursues a balance of the environmental resources, social development, and an economic growth in the UK construction industry for current and future generations to come.

Numerous actions to deliver a sustainable development in UK construction industry includes tracking and minimising energy consumptions (Gottsche et al., 2016), reuse and recycling of construction materials (Essex & Whelan, 2010), sustainable procurement and the use of sustainable building material (Brooks & Rich, 2016; Wang et al., 2014), as well as integration of lean practice into construction activities (Ogunbiyi et al., 2014).

The drivers and potential drawbacks to sustainability practices in the UK construction industry have been reported in previous studies, concomitantly identifying (institutional) theories as a facilitator and hinderance of sustainable construction. The aim of this research is to investigate the extent to which existing literature covers the sustainability issues in the UK construction industry. To accomplish this aim, a systematic review has been conducted, searching within two major bibliographic databases and returning thirty-one relevant articles in total.

## Theoretical background

The chatters surrounding the topic of sustainability have been reported in a large number of literature articles (Edum-Fotwe & Price 2009) spanning back to the last two decades and have been captured by a global audience as reported by Hay et al. (2014) and Lindsey (2011).

There is no universal definition for sustainability nor there is a specific optimal process of criteria for assessing it (Voinov, 2006; Hacking & Guthrie, 2008; Bond & Morrison-Saunders, 2011). Sustainability can be interpreted as to sustain, maintain, or continue (Hay et al., 2014). It can also be interpreted as a process of change (Kim and Oki, 2011; Hay et al., 2014), a state of equilibrium (Heal 2012; Hay et al., 2014), a property of an entity (Wahl and Baxter 2008; Hay et al., 2014).

### 2.1 Sustainability framework – the triple bottom line perspective

Defining sustainability concepts and achieving sustainability through actions and performances separate entities on which governments, organisation and institution worldwide are working towards. As reported above, the increasing popularity among scholars and researchers on current and future tools, methods, and assessment criteria for measuring sustainability is under continuous study (Norman and MacDonald, 2004; Slaper and Hall, 2011).

The triple bottom line (TBL) paradigm is the most reported and cited framework or method for addressing organisation's sustainability activities and it encompasses the social, environmental and economic dimensions, which seek equal balance (Little, 2014). It emerged during the mid-1990s and was developed by John Elkington, who sought out a method for assessing the performance of organisations in corporate America (Elkington, 1994). Slaper and Hall (2011) reported the TBL tool that a concept that operates beyond the traditional measurement of profit and returns on investments, to include an environmental and social impact measurement for assessing sustainability. It incorporates the three widely reported dimension of performance: social, environmental and economic, and many other studies has reported the three dimensions as the three P's: people, planet and profit (Elkington, 1998; Slaper and Hall, 2011; Alhaddi, 2015).

#### 2.1.1 Environmental dimension of TBL

Matters pertaining to environmental aspect are reported as the protection and conservation of biodiversity and the environment, through reduction of waste, prevention of pollution such as greenhouse gas emissions, and efficient usage of natural resources (Alkhaddar et al., 2012). This is the *planet* section of the TBL. Generally, it requests for engaging in practice that does not compromise the environment for generations to come, by minimising ecological footprint improving an organisation's sustainability. Assessment of environmental bottom line is not restricted to any single entity but spans across various businesses, and challenges behaviour across the board. Alhaddi (2015) revealed that a study conducted to assess possible financial advantages among organisations with practices that support protection of our environment against organisations without such practices, result in favour of the former. Such financial advantage is generated from reduction in operational costs (energy, water and fuel usage).

#### 2.1.2 Social dimension of TBL

The social aspect has been reported to be the least sought-after dimension, and is often sidelined in literature (Heravi et al., 2015). It refers to *people* aspect of the TBL and aims to assess the impact of organisations on its stakeholders, based on the organisations' action to community relations, staff training, women's right, wages and working conditions (Elkington, 1998). Alhaddi (2015) further emphasise the social aspect of TBL as creating value for the community by "giving back", through fair wages or provision of health care coverage for their employees, which is seen in some organisations today.

### 2.1.3 Economic dimension of TBL

Profits, returns on investments (ROI) and other economic values generated by organisations are the main concerns to the economic bottom line. It refers to the *profit* aspect of TBL generated through producing products and providing services for customers, for a price. This is a common practice among most organisations nowadays.

Currently, large number of articles (Lemonick, 2009) reported the focus on environmental dimension through the lens of sustainability, thereby viewing the economic and mostly the social dimension at a peripheral lens (Heravi et al., 2015). But as time goes by and the knowledge of sustainable development circulates, and there is a common agreement that measuring sustainability success requires the amalgamation of TBL and assessing the balance among them (Opoku and Ahmed, 2013). Furthermore, the discussion of the TBL concept presents a controversial issue, where questions on whether the framework is quantifiable or justifiable, and if it should be seen as integral to all aspects, action and decisions made were addressed. From one perspective, TBL was traditionally about economic benefits, and has been often been reported as the only bottom line that applies to measuring organisations' sustainability (Slaper and Hall, 2011). Norman and MacDonald (2004) exclaimed that TBL is envisioned as the best marker for measuring corporation's success and assessing how sustainable the business really is, which is widely accepted by its supporters.

From another perspective, TBL lacks a certified measuring system (Slaper and Hall, 2011), as the three separate accounts cannot be easily summed up. Therefore, works by Norman and MacDonald (2004) and Voinov (2007) offered harsh critique by challenging the notion of the ambiguity surrounding the measurement parameters of the TBL, and the underlying fact that it misleads its supporters. Alhaddi (2015) dealt a subtle criticism to TBL based on the interchangeable usage of TBL and sustainability, but highlights that even though the terms are similar in nature, they are not the same and that authors should be explicit when reporting either terms.

## 2.2 Sustainability in Construction industry - Sustainable construction

As this report is aimed to explore the environmental and social impact of sustainability in the construction industry or project, a background on the sector is as follows. There are reports informing that construction industry demanding high energy and producing tonnes of waste (sometimes hazardous ones) are not rare in literature (Heravi et al., 2015). As so, the industry consumes considerable amount of money due to costs associated to project/building execution, procurement of building materials, maintenance and demolition. However, the industry helps in satisfying the basic social and physical needs through the provision of infrastructures, accommodations and consumer goods, and in doing so, stimulates and generates significant economic returns (Durdyev et al., 2018). In contrast, the industry has a detrimental effect on the environment in terms of land use, water usage, resource usage such as materials and timber consumption, and greenhouse gas emission, (Opoku and Ahmed, 2013; Durdyev et al., 2018).

As a result, the need for sustainable construction practice has been requested by scholars, with suggested approach such as the one reported by Opoku and Ahmed (2013): "*Construction that brings about the required performance with the least unfavourable ecological impacts while encouraging economic, social and cultural improvement at local, regional and global level*".

The sustainable construction (SC) concept was reported by Fernandez-Sanchez & Rodriguez-Lopez (2010) as being tactically developed to be centred specifically on buildings, but has been adopted through the civil engineering sector. Khalfan (2006) defined sustainable construction as a process carried out with the incorporation of the TBL in order to deliver a sustainable outcome, encompassing an environmental responsibility, social awareness, and economic profitability to the wider environment. Durdyev et al. (2018) who reported the term as, a holistic and integrated perception, which harmonises and creates a balance between the environment, economy and society further supported this. Some authors reported SC without thorough emphasis on TBL by mainly looking at the concept through the lens of environmental dimension. For example, the development of a healthily built environment that considers the efficient use of natural resources, the design of buildings that will allow energy savings, protecting the health of residents and ensuring their well-being (Dobrovolskiene and Tamosiuniene, 2016). In general, sustainable construction incorporates the subject of sustainable development as it

aims to reduce a building's environmental impact, ensure occupant's comfort and safety throughout their residence term, and simultaneously enhance its economic value (Opoku and Ahmed, 2013).

Some previous sustainable construction studies have observed that the environmental dimension of sustainability gained its highest attention within the construction industry (Edum-Fotwe & Price, 2009). Environmental dimension of sustainable construction is concerned with the management of the physical and natural resources and ensuring their conservation for the future (Renukkappa et al., 2012). Thus, literatures have requested for efficient use of natural resources by the construction industry. Dyllick and Hockerts (2002) reported that only when organisations strive to consume natural resources below the reproduction rate, cause emission at a rate below that which the natural system can absorb, disengage in activities that degrade, the eco-system services, then it can be deemed environmentally sustainable.

Retrospectively, the shift from addressing sustainability from the environmental and economic point of view to a social-economic view, was reported. Edum-Fotwe & Price (2009) explored the social dimension of sustainable development within the built environment and put forward a framework to articulate the social issues in combination with the environmental and economic issues.

### **2.3.1 General reported challenges of sustainability**

An effective implementation of sustainable construction was reported to be one that covers all aspects of the TBL in a uniform manner (Sev, 2009). However, according to Renukkappa et al. (2012), industries lack a collaborative definition of sustainability and its objectives throughout the supply-chain, expressing difficulty in understanding and implementing the initiatives. This was reported to be common with construction firms, resulting to lack of common and operationalised understanding on the general concept of sustainability.

Sustainability practice within the construction industry has a high complexity of execution. Hoffman and Henn (2008) conducted a series of analyses on the barriers to sustainable construction and green building. Social and psychological barriers that incur between an individual, organisational and institutional level were reported to exist inter-connectedly, whereby on an individual level, the decision makers cognitive decisions are influenced by over-discounting the future, positive illusions, assumption of a fixed-pie bias and environmental literacy. Activities at an organisational level are influenced by the internal culture and interaction, language, rewards, and organisational inertial, which was reported to shape the multifaceted problem of adoption of sustainability (Hoffman & Henn, 2008). Defined boundaries and responsibilities, as well as competing interests, see the assumption of a fixed-pie, which facilitates a decision to ignore the implementation of sustainable construction practice and as a result, prevents an organisation from potential accompanying benefits. Likewise, organisations do not like change due to the fear of the unknown, and people prefer habitual routines and an organisational structure that has been developed and seen as successful historically, even though it might not be sustainable in the long-term (Hoffman & Henn, 2008).

From the lens of Institutional Theory, research showed that three categories influence the adoption of sustainable construction, namely; regulative, normative and cognitive aspects. Regulative (or legal) institutions, seen as authoritative bodies which sanctions businesses to 'be sustainable', and as a result, excluding innovativeness and societal interest behind.

Normative (or social) institutions, expressed a 'business rule of thumb' and occupation standards, whereby standard setting bodies strain the implementation of sustainability. Reports from Hoffman & Henn (2008) show that the construction industry encompasses various organisations and have specific parameters on which a building must be constructed, along with training procedures for future professionals.

The cognitive institution presents the perceptions that are powerful, and resistant to change, which strongly influence individuals and organisations indirectly. Due to the complexity of sustainability as a concept, decision makers in the construction industry encounter various challenges and barriers. Among these is the lack of awareness, and effective approach to a sustainable development (Garbie, 2015). That is, when, where, and how should sustainability be implemented into practices and still withhold its competitive advantage?

## **Methodology**

### **3.1 Systematic Literature review**

A systematic review of the relevant literature referring to UK construction industry is the selected approach to answering the study's research question. The required information included a series of peer-reviewed journal articles and related

reports. This covered the aspects that contextualise sustainability in the construction industry, with great emphasis on the environmental and social dimension of the triple bottom line. Other relevant literature focusing on the impacts of construction managers and other decision makers on sustainable construction practice in the UK were sought for.

### 3.1.1 The search strategy

The reporting process of the systematic literature review adhere to the principles proposed by Boland et al. (2017). Scoping searches were conducted to gain an overview on the availability of published literature which relates to the research question. The University of Liverpool (UoL) digital library database was used to conduct the scoping searches. This was due to its abundance of multidisciplinary journal articles, books, case studies, magazines, conference materials and many more.

The main literature searches were accomplished through searches based on journal articles focusing on sustainability concepts. Through this, the selection of database was conducted. A general google search for “what databases is most suited for social science research” returned an article by Oppenheim (2008), which stated that Web of Science and Scopus have the best social science coverage at journal level. Therefore, the two were the selected bibliographic databases. The UoL library offered an integrated search engine, therefore, the scoping searches were conducted using UoL’s search engine only.

### 3.1.2 Inclusion and exclusion criteria

Studies included if they:

Are published in English and within 1995 to 2018

Report information about sustainable construction in UK industries only

Publish data that shows a measurement of sustainability in the UK construction industry

Include the drivers and/or challenges of a sustainable practice in UK construction

Focus on UK green building or construction

Studies excluded if:

They are published prior to 1995 - (The inception period of the sustainable construction guidelines).

They are not published in English

The sourced data are not based on the UK construction industry

Data not relatable to research topic based on the abstract section, or fails to address elements of the research question

Do not address the Triple Bottom Line framework

The search was conducted under the field of “article title, abstract and keywords”, with limits including article published date between 1995 to 2018. All types of documents were allowed for a more definitive search return.

**Table 1: Data search syntax**

Databases	Search syntax
Web of Science Scopus	TITLE-ABS-KEY ((Sustainability OR “sustainab* practice*” OR “sustainab* develop*” OR “triple bottom line”) AND (“construct* industr*” OR “construct* project*”) OR (“sustainab* construct*” OR “sustainab* buil*” OR “green construct*” OR “green buil*”)) AND (“UK” OR “United Kingdom” OR “Brit*”)) AND PUBYEAR > 1994.



The criteria shown in table 1 were applied in a systematic, step-by-step process, where additional choices were provided by the search engine in terms of full text availability and limitation of subjects searched. The search returned on both databases were exported to an excel file where they were screened and assessed for eligibility for inclusion using the PRISMA flow diagram process proposed by Moher et al. (2009). The PRISMA flow chart is presented in figure 1.

### 3.1.3 Content analysis

According to Elo and Kyngas (2008), content analysis is suitable for qualitative and quantitative data, which can be analysed in an inductive or a deductive way.

#### *Inductive analysis*

During the systematic literature review, an inductive content analysis was used to identify the concepts of literature in the field of sustainability and sustainable construction. The process involved collecting relevant data on the subject field, and comparing and contrasting the obtained data in an attempt to gain a clear overview of the concept.

According to Bengtsson (2016), the researcher analyses the obtained data with an open mind to seek out related subject that addresses the aim of the subject in an attempt to allow a generation of meaningful conclusion. This process includes de-contextualisation, re contextualisation, categorising and compilation of data obtained. This was the process used for the synthesis of the systematic literature review in this research.

#### *De-contextualising*

Due to the rising prominence of sustainability practices, vast number of articles were returned from the search criteria. To efficiently exclude irrelevant articles, the de-contextualisation process was used. This was carried out by reading through the title and the abstract section of the selected papers, gaining an overview of what the research is addressing. This process is noted to be an efficient and timesaving practice. Relevant information was recorded in a spreadsheet to be reviewed at a much deeper length.

#### *Re-contextualising*

The process entails gathering all relevant articles collected through the aforementioned stage. During this research, a colour coding scheme was implemented, where studies of sustainable *practice, operations, and perception* were allocated individual colours.

#### *Categorising and data compilation*

After the completion of the previous process, a compilation of relevant data was compared for suitability with the aim of the research study.

#### *Deductive analysis*

Due to the strict nature of the inclusion criteria, a deductive process was implemented to narrow down relevance of papers to the project aim. Elo & Kyngas (2008) reported that deductive analysis is based on the structures, concepts or theories which are already known with the study. For instance, in this research, environmental and social dimension of a sustainable construction, CSR, assessment criteria and perceptions were used as restrictions for assessing the impact of sustainability in UK construction industry.

### 3.1.4 Validity and trustworthiness

Transparency has been provided on the method of which articles were obtained for the research purpose. Bengtsson (2016) mentioned that the content analysis process is mostly judged by the process undertaken whilst retrieving articles. Thus, with guidance from the literature presented by Elo & Kyngas (2008), the results obtained from the data collection process is repeatable and can be deemed reliable.

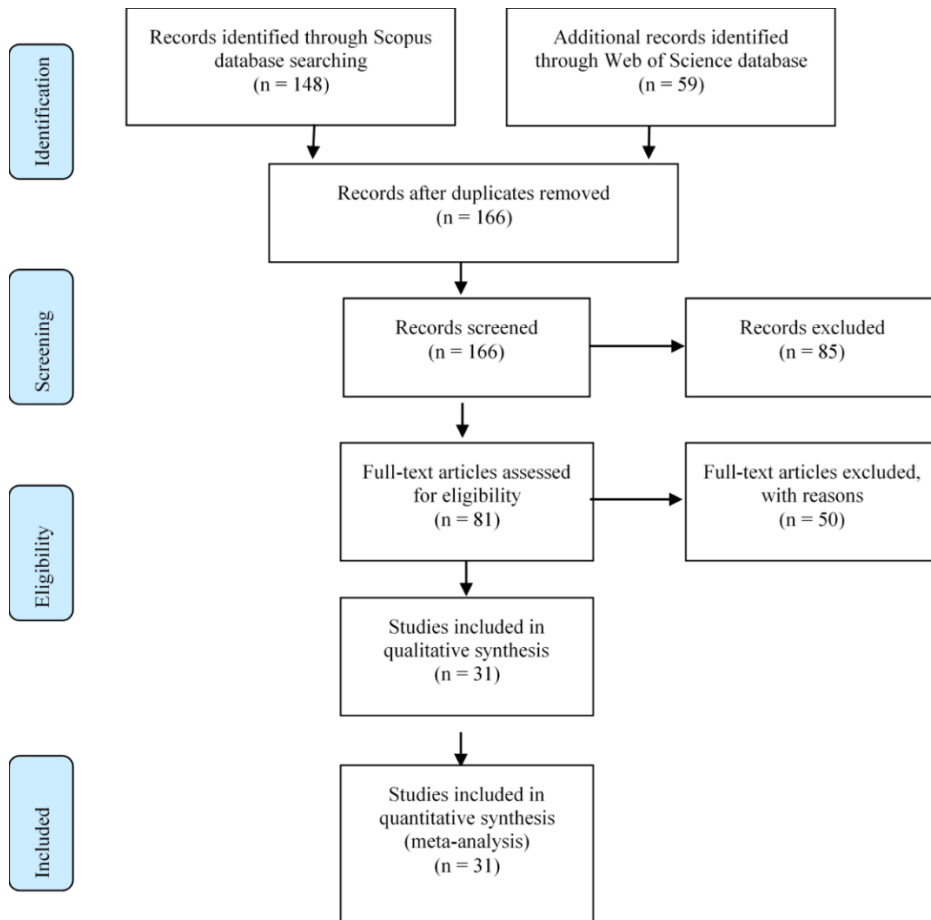
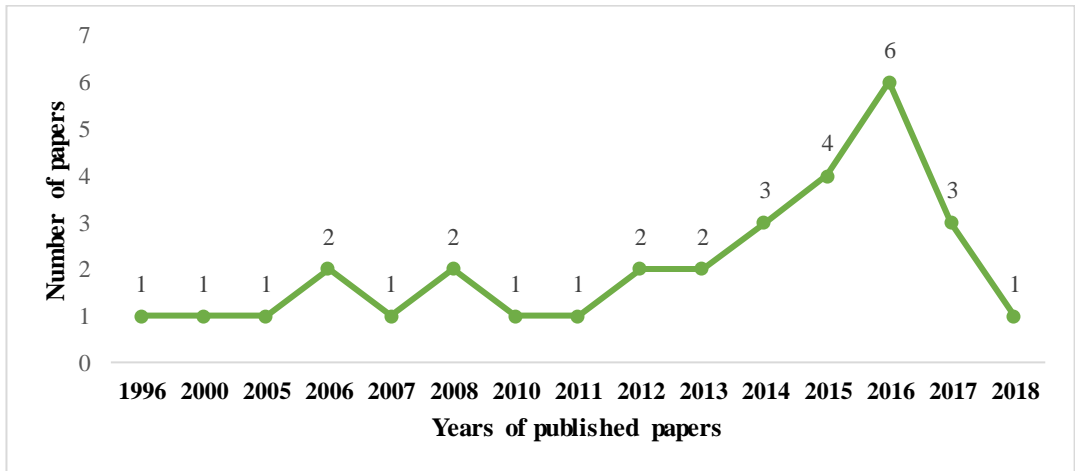


Figure 1: The PRISMAflow diagram

### Findings

This section contains the presentation of the results compilation of the selected articles. The execution of searches was through the use of two widely known databases for social science studies. Scopus and Web of Science were the databased used which returned a total number of 80 relevant articles, conference papers and reviews on the topic of sustainability in the construction industry. As the focal point of this research was based on sustainability in the UK construction industries, the guidance used during search was focused on studies relating to sustainable construction in UK construction industries. Since sustainability and sustainable development became noteworthy in the UK construction industry in the early 1990's, the search result from both databased revealed the earlier published paper to be in year 1996. This has then gained a lot of promises as a rise in number of annually published papers was seen in figure 2.

After a review of the abstracts of each paper, 81 papers were gathered to be construction related. However, after a full text review, the papers obtained was significantly reduced to a total of 31 papers. Due to the nature of the research, a limited timescale offered the implementation of strict inclusion criteria, which resulted to the use of research studies focusing on practices and operations in the UK construction industry only. This result suggests that not only has sustainability issue been growing in construction settings, it is also widely accepted across geographies.



**Figure 2: The distribution of papers published**

The included papers for the systematic literature review are covered in 22 different journals in which were categorised in construction, engineering, manufacturing, business, energy, sustainability and geographical related journals. The dominating field of study was the guidelines and assessment criteria of sustainable construction practices and a common referral to the aspect of triple bottom line in construction projects.

Concerning the location of the sourced data used in the papers reviewed, the umbrella covered a global scale. However, the research question demanded an utilisation of UK focused articles only. Table 2 presents the results of the review, listing the thirty-one returned articles.

**Results and Discussion**

The majority of the articles collected (75%) addressed the development or delivery aspect of sustainable construction, whilst the remainder (25%) glanced at the certification and energy assessment in UK construction projects.

Environmentally, authors reported the need for green buildings practices, assessment criteria and knowledge/awareness enhancement in the construction sector. Likewise, actions such as integration of sustainability to the core of business practice is revealed.

Legislation, customer requirements, corporate image and reputation enhancement, optimisation, waste elimination, financial institution, personal motivation and top management commitment were the commonly reported drivers for adopting sustainable practice in the construction industry (Akadiri & Fadiya, 2013; Ogunbiyi et al., 2014; Wang et al., 2014; Murtagh et al., 2016).

However, Darko et al. (2017) amalgamated and categorised the key drivers under the following categories:

- external drivers
- corporate drivers
- property-based drivers
- project-based drivers
- individual drivers

Information obtained from Shan et al. (2017), Opoku & Ahmed (2014), Petri et al. (2015), Murtagh et al. (2016), and Hopkins (2016) revealed the common barriers/challenges frequently reported in literature to include:

- lack of consistency in general practice
- lack of sustainability knowledge/awareness to best practice
- high upfront cost
- lack of stakeholder consideration

- lack of resources such as sustainability assessment software
- lack of incentive

### 5.1 How wide is sustainable issue being addressed in UK construction industries?

The essence of addressing sustainable issue in UK construction sector was to develop an understanding on the actions, practices, methods, tools and techniques and knowledge of sustainability in industries. A widespread approach to sustainable issues in the UK construction industry revealed by numerous authors listed in table 2.1, suggested that the topic is well studied. Approach towards examining the environmental and social concerns of conventional construction activities proposed a huge interest of the topic to academic researchers and practitioners. Interests ranged from identifying and reporting the importance of sustainable construction practice through journal articles, conference papers, short reviews, meetings and proceedings, with the attempt to increasing awareness of the sustainability issues among practitioners along construction supply chain (Higham & Thomson, 2015; Hopkins, 2016). Raising awareness of the issue is of utmost importance because it provides a benchmark for all parties involved. For example, the data obtained from interviews conducted revealed a scattered opinion about the topic, therefore, a valid explanation for that would be a lack of common understanding of the concept and this point is supported by other authors; (Petri et al., 2015; Opoku & Ahmed, 2014; Higham & Thomson, 2015; Hopkins, 2016).

Furthermore, the sustainability of a building was mentioned to address only the operational life at the inception of the building project (Berardi, 2013). Since 70% of the resources extracted ends up in the buildings, researchers and practitioners found that it is essential to increase awareness for sustainable construction practice and an evaluation approach of cradle-to-cradle and end-of-life in order to prevent catastrophic events such as unavailability of building material for future generations. As a result, Higham & Thomson (2015) presented a discourse, stating that a shift in mind-set on the approach to sustainability concept is essential.

**Table 2: A summary of the articles gathered using a systematic review**

Author(s) (year)	Title	Overview	Key reasons for inclusion
Xia <i>et al.</i> (2018)	Conceptualising the state of the art of corporate social responsibility (CSR) in the construction industry and its nexus to sustainable development.	A review of CSR context to construction industry was carried out through systematic reviews of current literature.	The study contributes to social aspect of sustainability, which is related to the research topic.
Darko <i>et al.</i> (2017)	Drivers for green building: A review of empirical studies	A literature review of drivers of green building was explored based on leading countries involved in green building.	An empirical analysis that presented the findings of previous studies. This can be utilised for comparison with other related literature.
Doan <i>et al.</i> (2017)	A critical comparison of green building rating systems	A systematic review of current articles comparing sustainability assessment methods such as LEED, BREEAM, CASBEE and other green rating system.	Article is related to research topic. It provides discussion points for answering questions related to sustainable practices in construction operations.
Shan <i>et al.</i> (2017)	A global review of sustainable construction project financing: Policies, practices, and research efforts	A systematic review of sustainable construction project financing. Focal point about financing construction projects.	Article is supporting the research topic. It provides discussion points for answering questions related to the perceived drivers/challenges of sustainable construction.

Brooks & Rich (2016)	Sustainable construction and socio-technical transitions in London's mega-projects	A study that explores how sustainable procurement is deployed in the construction industry as well as identifying barriers to sustainable procurement of materials - cost and risk	Article provides an insight to green practice such as sustainable procurement of construction materials. The views of procurement professionals and decision makers on construction projects were reported.
Darko & Chan (2016)	Critical analysis of green building research trend in construction journals	An overview of green building trends in terms of number of publications, geographical contributions and topics covered.	The study focuses on articles for green building from 1990 to 2015. This improves the research systematic review efficiency.
Higham <i>et al.</i> (2016)	Sustainability and investment appraisal for housing regeneration projects	Use of assessment framework to evaluate UK sustainable construction practice through quantitative approach.	The research provides points of arguments regarding the dimensions of which sustainability is been assessed in the UK construction setting.
Gotsche <i>et al.</i> (2016)	Assessing the impact of energy management initiatives on the energy usage during the construction phase of an educational building project in Ireland.	A study reporting energy reduction practices in UK building projects, resulting to savings in costs, improvement in resource efficiency, and reduction in environmental impacts.	Article addressed positive outcomes of TBL dimensions as a result of sustainable practice (energy tracking) in UK construction industry.
Murtagh <i>et al.</i> (2016)	The relationship between motivations of architectural designers and environmentally sustainable construction design	Psychological factors such as motivation, awareness of work's impact on others and so on, were identified as a driver for contributing to sustainable practice in construction industry.	Some of the major social drivers of sustainable practice in UK construction industries were revealed.
Hopkins (2016)	Barriers to adoption of campus green building policies	Environmental impacts derived from lack of sustainable adoption were presented in the article. The common challenges faced were reported by the author and possible solutions were offered.	The article addresses the environmental dimension of the TBL, which is critical to the research topic.
Higham & Thomson, (2015)	An evaluation of construction professional's sustainability literacy in North West England	Research explores the awareness and sustainability literacy of construction professionals at both theoretical and practical level. Findings showed correlation of strong awareness at theoretical level and weak knowledge at practical level due to high interpretation of sustainability concept.	Research provides answers to the challenges faced by construction decision makers.
Petri <i>et al.</i> (2015)	A semantic service-oriented platform for energy efficient buildings	The research introduces a service-oriented platform that integrates access to sustainability resources to address the lack of awareness and positive energy practice. It educates and encourages building managers to implement energy efficient optimisation plans by engaging construction stakeholders with sustainability practices	Relatable to research question by revealing opportunity for addressing barriers of sustainability practices in construction industry.
Dadhich <i>et al.</i> (2015)	Developing sustainable supply chains in the UK construction industry: A case study	Research looked into identifying emission 'hotspots' across the lifecycle of a plasterboard supply chain	Supply chain accounts for part of the lifecycle in construction project. The article revealed the depth of sustainability practices in UK construction projects.

Wang <i>et al.</i> (2014)	Use of wood in green building: A study of expert perspectives from the UK	Article exploring the use of green construction materials such as wood as a means of sustainable practice. Result showed that due to levels of sustainability education among stakeholders, there are varied acceptance to the proposed concept.	Discusses the drivers of sustainable construction, specifically green buildings, and promotes wood as a solution for achieving greater sustainability results.
Opoku & Ahmed (2014)	Embracing sustainability practices in UK construction organizations: Challenges facing intra-organizational leadership	Research on challenges faced by leaders in construction industry when adopting sustainable practices	Emphasis on the challenges faced by construction managers and decision makers on implementing sustainable construction practice was explored.
Ogunbiyi <i>et al.</i> (2014)	An empirical study of the impact of lean construction techniques on sustainable construction in the UK	A research addressing the impact of lean construction technique revealed positive effect to TBL dimension of sustainability	The TBL dimension were addressed, and the study revealed various benefits as a result of sustainable practice implementation.
Akadiri & Fadiya (2013)	Empirical analysis of the determinants of environmentally sustainable practices in the UK construction industry	Determinant of environmentally sustainable practice in UK construction industry were revealed to include top management commitment, government regulations and construction stakeholder pressures.	The article provides information on the drivers of sustainable practice in construction settings.
Florez <i>et al.</i> (2013)	Measuring sustainability perceptions of construction materials	Sustainable construction materials were identified as a means for decreasing the negative impact on the environment. Different views were examined due to varied opinions on sustainability in general	The article enhances the perceptions of decision makers on construction materials, addressing the environmental, social and economic benefit to the construction industry.
Akadiri & Olomolaiye (2012)	Development of sustainable assessment criteria for building materials selection	Selection of sustainable building material can be difficult due to ambiguity amongst construction professionals. Assessment criteria, along with methods and processes to execute the assessment was explored.	The article reported challenges to sustainability practice in the construction industry.
Renukappa <i>et al.</i> (2012)	A critical reflection on sustainability within the UK industrial sectors	A research exploring the perception in multiple industrial sectors (construction industry included) on the concept of sustainability. Findings included variability in perceptions at different industries. Most importantly, the proposed solution included an industry wide awareness-raising programme.	The article provided a glimpse of sustainability drivers/challenges perceived in related organisations, including the construction industry.
Rodriguez-Melo & Mansouri (2011)	Stakeholder engagement: Defining strategic advantage for sustainable construction	A study depicting the relationship between stakeholder engagement and a prosperous sustainable practice. This was perceived as both a driving factor and hindrance to sustainable practice in UK construction industries.	An insight to stakeholder behaviour was revealed.

Essex & Whelan (2010)	Increasing local reuse of building materials	Reuse of surplus construction product creates opportunities of employment and training in new skills.	Based on social benefit of sustainability .
Ravetz (2008)	Resource flow analysis for sustainable construction: Metrics for an integrated supply chain approach	Sustainability metrics and benchmarks are used in determining sustainability impact across the construction supply chain. The study presented the available metrics in UK construction industry	This study reveals the depth at which sustainability practices are being honoured in the UK construction settings.
Taylor & Wilkie (2008)	Briefing: Sustainable construction through improved information flows	Transparency of construction processes, from design to use, was presented and segments which prevent sustainability practice were identified and explored to recommend potential solutions for future reference.	Research revealed the barriers to sustainable design in the UK.
Bosher <i>et al.</i> (2007)	Realising a resilient and sustainable built environment: Towards a strategic agenda for the United Kingdom.	Research calls for immediate integration among construction stakeholders	Research revealed the barriers to sustainable design in the UK.
Shiers <i>et al.</i> (2006)	Sustainable construction: The development and evaluation of an environmental profiling system for construction products	The article explores why environmental tools are less implemented in construction projects. The findings of the article exclaimed disparities between project specification and practices.	These are potential challenges faced by construction professionals
Hansen & Vanegas (2006)	A guiding vision, road map, and principles for researching and teaching sustainable design and construction	The fundamental area of improving sustainability awareness was revealed as through educating the mass about sustainability throughout construction supply chain.	This article shows the depth consideration for sustainable practice in UK construction settings.
Myers (2005)	A review of construction companies' attitudes to sustainability	Research explores the perception of construction organisations towards sustainability practice	Reviews attitudes to sustainability and corporate social responsibility of construction companies listed in the stock exchange market.
Bartlett & Howard (2000)	Informing the decision makers on the cost and value of green building	The article explored the potential pay back value of a green building.	The economic dimension of the TBL is explored
Raynsford (1999)	The UK's approach to sustainable development in construction	Emphasis of UK's approach to sustainable construction during the late 1990s was revealed.	Findings from the article contribute to discussion about shift from previous practice to current perceived practice in the construction settings.
Pitts (1996)	Teaching renewable energy and the sustainable building network	Emphasis on the impact of educating current generation about sustainable building networks is promoted in the article.	Article revealed that sustainability awareness has always been a challenge in the construction industry . Therefore, constant drive to improve awareness is a discussion topic.

### 5.1.1 Environmentally sustainable construction

The literature suggested that the main agenda of the UK construction industry is to contribute to the reduction of greenhouse gas emission (Essex & Whelan 2010). Actions, such as the use of sustainable materials, were explored by Florez *et al.* (2013) and Wang *et al.* (2014), reporting that the strategic use of construction materials can be achieved through the reuse and recycling process, and it serves as a means of reducing construction waste generated on building projects. Thus,

reducing cumulative landfill waste, which as a result, produces very little impact on the environment through the building lifecycle and concomitantly, reduces carbon emission.

Furthermore, actions including the integration of lean construction practice were reported by Ogunbiyi *et al.* (2014) as another issue addressed under sustainable construction practice, revealing the various benefits. Construction waste generated, and other environmental impacts are reduced, social benefits are gained through value generation, increased productivity is observed, increased health and safety, and an encouraging working environment is created due to implementation of lean construction practice. This finding were similar to that of Taylor and Wilkie's (2008) report, which revealed additional benefits including improved information flow which reduces construction risks, maintenance of future value, and reduction of operation costs.

Energy management initiatives practice in UK construction were reported by Gottsche *et al.* (2016), who disclosed the opportunities, including reduction in CO<sub>2</sub> emitted from electricity usage, through effective site management practice. Once again, use of technology facilitated the reported sustainable opportunity. Research by Shan *et al.* (2017) on sustainable project financing showed that sustainable development is being promoted at a fast rate due to investments from banks and other governmental schemes. The world's first green investment bank was set up by UK in 2012, with the attempt to support investment of green/sustainable projects (Shan *et al.*, 2017). Sustainable building rating assessment/rating system including the renowned UK's very own Building Research Establishment Environmental Assessment Method (BREEAM) and Leadership in Energy and Environmental Design (LEED) (Potbhare *et al.* 2009 and Doan *et al.* 2017) were frequently distinguished in the literature as method of assessing sustainability in UK construction industry.

### 5.1.2 Socially sustainable construction

The theory of how the environment influences organisations and how organisations affect each other has been in development over a long period of time, thus, the relationship between business and the social environment is an essential topic of discussion. The demonstration of social responsibilities by UK construction industry has not been widely reported through the findings of the systematic review, but it is a growing phenomenon amongst practitioners (Edum-Fotwe & Price 2009). Xia *et al.* (2017) in their study revealed that corporate social responsibility (CSR) is gaining more attention as a method to be engrained in sustainable construction activities throughout construction projects. The author reported the social concerns of construction activities to workers health and safety. Due to the competitive and labour-intensive nature of the job, exposure to accidents is high and there are possibilities of operating under unsafe and unhealthy conditions. However, CSR, through the discourse in areas of public health, public controversies, skills and education, social justice, working conditions, human right, workplace safety and equal opportunity, mitigates the stated concerns as construction organisation are required to display a legal, ethical and discretionary expectation with stakeholders involved in the project (Xia *et al.* 2017; Renukappa *et al.*, 2012).

### Conclusions

The obtained results revealed that many sustainability practices are fully operational in UK construction industry and are actively implemented into practices. The UK construction industry has demonstrated that it can improve on its sustainability activities at every level due to present actions driving the concept. Availability of technology for sustainability assessment, increased transparency of the concept among stakeholders and the perceived accompanying benefits to the UK construction industry are part of the drivers.

However, the environmental dimension of sustainable construction has seen more attention in comparison to the social dimension as there are assessment tools and criteria available. For instance, BREEAM or LEED, which are useful for measuring energy usage and emitted greenhouse gas and overall building sustainability during and after construction projects, whereas, there are no reports of similar tools found from literature, to provide consistently gauge of social sustainability practices during activities. Therefore, efforts to develop such methods for measuring social sustainability is stressed. Likewise, a significant challenge reported in literature, framing lack of sustainability awareness as the key drawback must be addressed as this serves as the foundation for any sustainable activity, pertaining to the construction sector or not.

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# Determinants of Organizational Commitment in Emerging Market: Korean Expatriates in India

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## Abstract

This study examined expatriates' organizational commitment by focusing on how willingness to accept an international assignment, training for an international assignment, expatriate empowerment, perceived organizational support, and demographic variables in order to predict the Korean expatriates' organizational commitment in India. The results provided empirical evidence that expatriates are more committed to their organization when they perceived organizational support and empowerment and gave some valuable insights to develop relevant training for cultural adjustment and managerial skill development as well as supporting programs, especially for growing companies in emerging economies. By building on the cross-cultural management and organizational theories and researches, this study expands these recent findings to expatriate studies.

**Keywords:** commitment, empowerment, expatriates, international assignments, perceived organizational support

## Introduction

In this globalized and highly competitive business world, effective expatriate management is becoming a more critical factor for multinational companies (MNCs) to maintain their competitive edge. Without having a strong commitment from their key players, expatriates, MNCs cannot effectively implement their global strategies nor cope up with such changeable global business environment. Many studies agreed that strong organizational commitment could facilitate high performance (Al Zefefi and Mohamad, 2017; Berberoglu and Secim, 2015) and result in the success of global operations. Thus, MNCs have been working hard to recruit the right candidates and develop relevant skills and also trying to find a better way to improve their expatriates' commitment toward the international assignment. However, there is no uniformed approach for all MNCs for this.

While much has been written on North American or European expatriates, there are few researches on the expatriates from emerging or newly industrialized economies assigned to less developed or emerging nations, though the number of MNCs from the later combination has been significantly increased. The MNCs from emerging or newly industrialized economies, in general, suffer from lack of relevant information and experience on the global operation, thus they need appropriate international human resource management policies and programs for their expatriates, which reflects their unique situations such as resource constraint.

This study investigated expatriates of Korean companies in India who recently achieved their global status within the very short span of time despite their less international experience and examined the predictors of their expatriates' organizational commitment, which could give valuable insights to growing companies in emerging economies.

## Theory and Hypotheses

Expatriates' commitment toward their organization is very important for MNCs because highly committed expatriates will identify themselves with the goals of the organization and desire to remain a part of the organization (Liu and Ipe, 2010), thus this attitude could affect job performance as well as retention rate. To cope up with changes in the global business environment and manage diverse workforces, expatriates' experience must be an important asset for MNCs, thus their turnover would cause a painful loss of time, effort and valuable resources. Meyer and Allen (1991) define organizational commitment with three distinguishable themes. First, affective organizational commitment reflects an employee's attachment to, identification with and involvement in an organization. This theme tries to capture the attitude of expatriates whether they feel themselves to be part of the organization. Second, normative organizational commitment refers to an employee's sense of obligation to an organization. This sense of obligation facilitates expatriates to willingly make a

contribution to the good of the organization, and the recognition of their own contribution would please them in return. Last, continuance organizational commitment reflects the perceived benefits associated with staying or leaving an organization. This attitude is strongly related to expatriates' intention to stay in the organization. This study examined the organizational commitment by considering its possible predictors such as willingness to accept an international assignment, training for an international assignment, expatriate empowerment, and perceived organizational support.

### ***Willingness to accept an international assignment***

Expatriates have been considered international assignments as a career development opportunity (Tung 1998). Though many international assignments enjoy various financial benefits and high social status thus attracting talents, it may not be always promising. There are many occasions that candidates for an international assignment can easily find reasonable excuses to decline the assignment because of unstable political situations, insecurity, and tough working condition. In addition to that, one of the most common problems is the 'out of sight, out of mind' syndrome (Tung 1988), which is more likely to happen when a company does not have much global operation experience.

We normally assume that those who are willing to take a job even though it contains hardship or challenging aspects must have a strong commitment. However, we have to test this assumption because some people may show their willingness just because of their response to cultural norms, not because of their strong commitment. For instance, Baruch and Altman (2002) explained Korean MNCs as an emissary model characterized by a sense of duty backed by high commitment and loyalty. Kim and Tung (2013) also elaborated that the Confucian values of unswerving loyalty and commitment to the organization as well as tight societal culture enabled Korean expatriates to accept assignments to a lesser preferred country like India, including making major efforts to adjust to the challenges of living and working there. However, the other side also considered that highly committed expatriates who take the challenges will be motivated to complete their job responsibilities per the expectations of the parent company (Kraimer and Wayne, 2004; Yousef, 2000). Thus, this study hypothesizes:

Hypothesis 1: Willingness to accept an international assignment have a significant relationship with an expatriate' organizational commitment.

### ***Training for an international assignment***

Expatriates are exposed to various foreign environments, where economic, legal, social systems, and cultures are different from their home country. This situation calls for a training program which enables expatriates to be culturally sensitive and appropriate, thus shorten the time required by cultural adjustment and alleviate the severity of the culture shock an expatriate can experience (Waxin and Panaccio, 2005; Kraimer, Wayne, and Jaworski, 2001). Black, Gregersen, Mendenhall, and Stroh (1999) also support that the training has a significant positive impact on the adjustment process, and therefore affect expatriates' performance at their new positions (Harrison and Shaffer, 2005; Ang, Van Dyne, Koh, Ng, Templer, Tay and Chandrasekar, 2007, Kraimer et al., 2001; Shaffer, Harrison, Gregersen, Black and Ferzandi, 2006). The training can also prevent expatriates' failure and poor performance, and improve companies' overall return on investment in terms of expatriation (Waxin and Panaccio, 2005). Through such training, expatriates would gain knowledge and understandings about the host country's cultures and their significant managerial roles and develop accurate and realistic expectations, which could enhance their commitment to a local operation (Black and Gregersen, 1991; Black, Gregersen et al., 1999). The training can help expatriates to acquire a sound understanding of local culture, their role expectations and ability to achieve high performance, thus it has a significant positive effect on organizational commitment (Hanaysha, 2016). Accordingly, this study hypothesizes the following:

Hypothesis 2: Training for the international assignment has a positive impact on an expatriate' organizational commitment.

### ***Empowerment***

Empowerment is known as the main tool of employee motivation that could bring successful achievement, productivity, and growth in any business (Hunjra, UlHaq, Akbar, and Yousaf, 2011). Empowerment can be done through job autonomy, recognition, and delegation, which have a significant positive effect on organizational commitment (Hanaysha, 2016; Karim, 2017). For example, job autonomy allow expatriates freedom, independence and discretionary powers when performing their job tasks and responsibilities, which enhances a sense of responsibility for the job tasks and responsibilities entrusted with because expatriate could know what, when and how to do work as well as what to decide (Sims, Szilagy, and Mckemey, 1976). In addition, with regard to improving contextual performance, an expatriate' social status in the host country should be matched with his or her position there. Accordingly, the following hypothesis is proposed in this study:

Hypothesis 3: Expatriate empowerment can increase an expatriate' organizational commitment.

### ***Perceived Organizational Support***

The general notion of the psychological contract indicates that employees who perceive greater organizational support would feel more obligation to pay back reciprocally. The employees would repay the perceived support by high job performance, work commitment, citizenship behaviour, and loyalty (Allen, Shore, and Griffeth, 2003; Kahumuza and Schlechter, 2008; Rhoades and Eisenberger, 2002). Kraimer and Wayne (2004) found that the perceived organizational support with respect to financial incentives, career development and family's wellbeing during their international assignment improved commitment to their organizations. This perception also increases job satisfaction and the satisfied expatriates will be more likely to stay in the organization (Lazarova and Caligiuri, 2001). Thus, this study proposes the following hypothesis:

Hypothesis 4: Perceive organizational support can increase an expatriate' organizational commitment.

### **Methodology**

A questionnaire to measure Korean expatriates' organizational commitment was developed based on items contained in various other studies (Banai and Reisel, 1993; Tung, 1998; Kraimer and Wayne, 2004). The questionnaire was translated into Korean using the back-translation technique and was distributed during July 2011~ February 2012 to 150 Korean expatriates working in India. A total of 129 questionnaires were returned – of these, 123 were usable. Though the sample size is small, it is large enough to allow for regression analysis on the predictors of the commitment. The respondents were employed in a variety of industries/sectors, including electronics, automotive, textile, trade, petrochemical, transportation, and services. Hierarchical multiple regression analysis was done to examine predictors of organizational commitment.

### **Measures**

#### ***Independent Variables***

Five items pertaining to the willingness to accept an international assignment were adopted from Tung (1998) and measured by participants' willingness to accept an international assignment. A sample item from the scale is 'I will accept the work abroad even though the working condition is very tough'. The Cronbach's Alpha of reliability statistics was 0.92.

Four items pertaining to training for an international assignment were adopted from Tung (1998) and measured by participants' the training experience. A sample item from the scale is 'The pre-departure training provided by my company is sufficient to prepare me for living and working in India.' The Cronbach's Alpha of reliability statistics was 0.69.

Three items pertaining to expatriate empowerment were based on Hackman and Oldham (1976) and developed to adjust to the Korean expatriates' context in order to measure whether their job is well recognized by their parent company and also matched with their status in India. A sample item from the scale is 'Parent company gives me the authority to decide on many critical issues in India.' The Cronbach's Alpha of reliability statistics was 0.65.

Four items pertaining to perceived organizational support was adopted from Kraimer and Wayne's (2004) perceived organizational support scale. Perceived organizational support sought to measure how participants perceived organizational supports with respect to financial incentives, career development and family's wellbeing during their international assignment. A sample item from the scale is 'The financial incentives and allowances provided to me by my company are good.' The Cronbach's Alpha of reliability statistics was 0.76.

The aforementioned four independent variables were measured on a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree).

#### ***Dependent variables***

Five items pertaining to organizational commitment were based on Banai and Reisel (1993) and measured by participants' pride, ownership, and loyalty toward the organization. A sample item from the scale is 'Even if this organization were not doing so well financially, I would be reluctant to change to another employer.' The Cronbach's Alpha of reliability statistics was 0.68.

The scale was measured on a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree).

### **Control variables**

Previous studies have shown that demographic variables such as age, position level, tenure influence expatriates' attitudes and behaviors (Kim and Slocum Jr., 2008; Stahl, Chua, Caligiuri, Cerdin, and Taniguchi, 2009; Bal, de Lange, Ybema, Jansen, and van der Velde, 2011). This study assumed that both tenures in Korea and India would strongly correlated and used them as control variables. Tenure in Korea refers to the period of time of working for their parent company in Korea before their departure and tenure in India refers to the period of time of working in India.

### **Analysis of the data**

Factor analysis and Cronbach's Alpha Test were used to examine the validity and reliability of this study (see Table 1). For the factor analysis, principal component analysis and Oblimin with Kaiser Normalization rotation method were used. The cut-off Eigenvalue of 1.0 was used and the results revealed that cumulatively 68% of the variance was explained. Cronbach's Alphas used to test the internal consistency of the instruments ranged from 0.65 to 0.92, which was acceptable for this exploratory study. In order to satisfy the statistical requirement of these two analyses, one item from training for an international assignment and two items from expatriate empowerment were removed.

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Table 1 goes about here  
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Preliminary analysis was conducted to present means, standard deviations, and intercorrelations among the variables. Multicollinearity effect is not a major concern since the highest VIF (variance inflation factor) was 2.10 and the lowest tolerance value was 1.18. Then, we conducted hierarchical multiple regression analysis to test our hypotheses.

### **Findings**

#### **Profile of Korean Expatriates**

Table 2 presents the demographic profile of the respondents. Some of the findings merit attention.

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First, there were only two female expatriates in the sample. Both of them were single and mainly worked as interpreters. One is a part-time student and the other is the daughter of a Korean expatriate. OECD (2013) reported that Korea stood one of lowest among OECD countries in terms of a female labor force participation rate of (55% compared to the OECD average of 65%) and the participation drastically decreases upon marriage. And Korean's male-dominant culture could also hinder female employees' expatriation.

Second, the majority (90%) of Korean expatriates were university degree or higher.

Third, 61% of the respondents worked for general management and administration, which indicates that the majority involved in high-level decision making.

Fourth, most Korean companies selected expatriates from those who worked for their parent companies for more than 10 years (68.3% of respondents), and their average tenure for expatriation was around three years.

#### **Factors influencing organizational commitment**

Table 3 presents the means, standard deviations, and intercorrelations among the variables. First, though tenure in India is a control variable, it showed significant correlations with task performance ( $r=0.23$ ) at the  $p<0.05$  level, which indicates that the respondents will show a better commitment to their organization if they stay longer in India.

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Table 3 goes about here  
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Next, willingness to accept an international assignment ( $r= 0.30$ ), training for an international assignment ( $r= 0.40$ ), expatriate empowerment ( $r= 0.61$ ), and perceived organizational support ( $r= 0.67$ ) had significant correlations with organizational commitment. These relationships were further examined by the following regression analysis.

Table 4 shows the factors influencing Korean expatriates' organizational commitment while they are still on the international assignment. First, the willingness to accept an international assignment and training for international assignment did not have significant relationships with organizational commitment ( $p<0.05$ ). Thus, both Hypothesis 1 and 2 were rejected.

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Table 4 goes about here

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Second, expatriate empowerment had a significantly positive relationship with organizational commitment, which indicated that the satisfaction of the expatriate empowerment could increase organizational commitment. Thus, Hypothesis 3 was accepted.

Third, perceived organizational support also had a significantly positive relationship with organizational commitment. Thus Hypothesis 4 was also accepted.

Last, tenure in India, a control variable, had a significant relationship with organizational commitment even though it lost its significance when other independent variables were entered to the regression analysis.

## Discussion

This study presented the determinants of organizational commitment. To begin with, the result of the insignificant relationship between the willingness to accept an international assignment and organizational commitment can be explained by the cultural characteristics of Korean companies. Because of the combination of high power distance and collectivistic culture (Kim and Kamalanabhan, 2015), the expatriates could feel an obligation to accept the proposed international assignment by their organization and intend to demonstrate their willingness as a token of their loyalty even though they have to sacrifice themselves. However, the willingness failed to explain as a determining factor of the commitment. This result suggests Korean companies develop an HR policy or program that they could recognize the willingness, not take it for granted.

Many researchers found that training for an international assignment helped expatriates to adjust local culture, hence improve their organizational commitment and also task performance (Chen and Chiu, 2018; van der Heijden, van Engen, and Paauwe, 2009). However, this study showed the reality of the Korean expatriates that 82% of respondents did not experience any proper orientation program for their expatriation, and 79% of the respondents also felt that their company's pre-departure training was not sufficient to prepare them for living and working in India. Thus, this study showed an insignificant relationship between the training and the commitment. However, Figure 1 indicates that Korean companies need immediate action to develop a relevant training program for their expatriates because the figure shows that 49% of respondents were below the general manager level in their parent company.

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Figure 1 goes about here

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When they moved to India, the majority of them became senior level managers and only 12% of respondents remained below the general manager level in India. This result shows that Korean expatriates usually have a higher position than their position in the parent company. Important to know that the main role of a general manager is normally in charge of a department within a company, but in small companies, the general manager may be one of the top executives. In both cases, managerial skills are very much needed to effectively perform their tasks. Thus, Korean MNCs should develop relevant training programs to equip their expatriate with senior-level managerial skills so that they could deal with the foreign environment and effectively execute complicated tasks



Expatriate empowerment improves work motivation and enhances loyalty and productivity, thus results in organizational commitment (Ripley and Ripley, 1992). The main components of the empowerment could be delegation and recognition, and job autonomy that allows expatriate to have an authority to decide on critical issues and take responsibility for the consequences. And the respondents also highly appreciated the high social status matching their position level in India. This empowerment is strongly correlated to tenure in India ( $r=0.44$ ) and perceived organizational support ( $r=.61$ ), which indicates that the empowerment grew as they adjusted better to the local working environment and the support from the company became more tangible.

The result of this study clearly showed that perceived organizational support improved expatriates' commitment in a significant way. In order to reciprocate the support from the organization, expatriates will be more committed to the company's vision and mission and thus act more responsibly in the spirit of corporate identity (Kawai and Strange, 2014). However, there are some discouraging facts: only 33% the expatriates positively responded to financial support, 23% to career development support, 29% to family-related support, and 31% to living adjustment support. These results show that the company's supports are not good enough and they need to meet their expatriates' expectations. Otherwise, perceived organizational support would become the main hindrance when Korean MNCs try to harvest their motivation programs. Thus, perceived organizational support should be carefully treated as a double-edged sword that could improve organizational commitment or weaken it.

### **Conclusion**

The organizational commitment of expatriates is one of the most important attitudes that could lead to the high performance of MNCs (Al Zefeiti and Mohamad, 2017). This study found that work recognition, job autonomy, and high social status really empowered Korean expatriate and resulted in strong commitment. And when they perceived their company's support tangibly, their commitment also increased significantly. However, this study also found some gaps between the perception and the reality in the areas of financial, career development, family-related, and living adjustment supports where Korean MNCs should take action on.

As statistics shows, a growing number of MNCs are coming from emerging economies (Fortune Magazine, 2019). One of the pressing issues for them is to develop a relevant international human resource management strategy because their contexts are different from those who are from developed countries. Most Korean MNCs also experienced very similar situations because they became global in a very short span of time. Therefore, this research contributes to knowledge of IHRM theoretically and practically, especially to those who seek a relevant model for expatriate management in MNCs from emerging economies.

### **Practical implications**

Training for international assignment should be treated as a strategy to achieve organizational goals by attracting and retaining employees, which can help expatriates to develop their career while they can commit to the work to increase their performance (Vasudevan, 2014). Since the main tasks of the respondents were changed to the more senior level manager's one, the training program should be developed in senior-level managerial skill development as well as cross-cultural adjustment.

Expatriate empowerment and perceived organizational support should be developed together so that both empowerment and perceived organizational support could reflect each other. Perceived organizational support can be considered as a reward for their organizational commitment and good performance, on the other hand, it can be seen as a positive result of the empowerment. Thus, the empowerment should be properly communicated with expatriates and more focused on outcomes.

And feedback on career development by parent companies is likely to improve their expatriates' commitment because it is an act of recognition that expatriates highly appreciate it if they pursue career advancement within the organization. Because of the 'out of sight, out of mind' syndrome, most expatriates worry their career advancement upon their repatriation, even job loss (Tung, 1998). Thus, the feedback should be done regularly in a systematic manner in order to improve the perceived organizational support and the commitment.

### **Limitations and suggestions for further research**

The first obvious limitation is a generalization issue because this study focuses on Korean expatriates only. Future studies should compare and contrast the performance of expatriates from western or other Asian multinationals toward living and working in India, or other emerging markets so that the findings can be more widely applicable. Next limitation is the

relatively small sample size. However, it is large enough to allow for the regression analysis. Last, this study used a self-reported performance measure which may cause a single source bias. Future studies should compare the results with information from their supervisors or other sources.

Despite the aforementioned limitations, this study has advanced our understanding of the organizational commitment of expatriates from a recently industrialized country working in an emerging country. It will be great if the future study includes the relationship between this commitment with expatriates' intention to stay or task performance.

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**Table 1: The combined results of Factor and Reliability analysis**

Scale item	WAI	TIS	EPP	POS	OC	Reliability
I will accept the work abroad even if the country of assignment may not contribute to my career advancement.	0.87					
I will accept the work abroad even if the country of assignment may not have much tourist attraction.	0.82					0.92

I will accept the work abroad even though the working condition is very tough.	0.90	
I will accept international assignments to countries/regions that are politically unstable and insecure.	0.73	
I will accept anywhere that my company asks me to go.	0.90	
The company has provided an orientation program for my expatriate work here	0.70	
I received English training for my assignment to India.	0.41	0.69
I learned some practical tips from those in and outside of the company who have prior overseas work experience in India.	0.34	
The pre-departure training provided by my company is sufficient to prepare me for living and working in India.	0.52	
My work is well recognized by my parent company.	0.70	
My high-social status in India satisfies me.	0.41	
Parent company gives me the authority to decide on many critical issues in India.	0.73	0.65
The financial incentives and allowances provided to me by my company are good.	0.41	
I feel that my company cares about my career development.	0.34	
My company has shown an interest in my family's well-being.	0.45	0.76
My company provides assistance whenever I have questions or concerns about living in India.	0.58	
I am proud to tell people who I work for.		-0.67
Even if this organization were not doing so well financially, I am reluctant to change to another employer.		-0.47
I feel that I am a part of the organization.		-0.31
I would advise close friends to join our company.		-0.61
To know that my own work has made a contribution to the good of the organization pleases me.		-0.38

Note: WAI (Willingness to Accept An International Assignment), TIS (Training for An International Assignment), EEP (Expatriate Empowerment), POS (Perceived Organizational Support), OC (Organizational Commitment).

\*Loadings less than .31 are not reported.

**Table 2: Demographic Profile of Respondents**

Gender:	Male (98.4%); Female (1.6%)
Age:	20-29 years (8.9%); 30-39 years (17.1%); 40-49 years (27.6%); 50-59 years (39.0%); 60 years and above (7.3%)
Educational background	High school (8.1%); Vocational college graduate (1.6%); Undergraduate (74.1%); Post-graduate (15.4%); Doctorate (0.8%)
Functional areas	General management/administration (61.0%); Production/Operation (19.5%); R&D/quality control (1.6%); Finance (9.8%); Sales/marketing (8.1%)
Organizational tenure	< 3 years (11.4%); 3-10 years (20.3%); > 10 years (68.3%)
Tenure in India	< 1 year (20.3%); 1-2 years (13.8%); 2-3 years (22.8%); 3-4 years (6.5%); 4-5 years (10.6%); > 5 years (26%)

**Table 3: Results of correlation analysis**

	Mean	SD	1	2	3	4	5	6	7
1. Tenure in Korea	5.31	2.50	-						
2. Tenure in India	5.35	2.15	*.39	-					
3. Willingness to accept an international assignment	3.20	0.90	-.08	-.02	-				
4. Training for an international assignment	2.87	0.76	.03	*.21	-.17	-			
5. Expatriate empowerment	3.51	0.73	*.23	*.44	*.39	*.22	-		
6. Perceived organizational support	2.62	0.82	.14	.16	.14	*.61	*.47	-	
7. Organizational commitment	3.36	0.62	.16	*.23	*.30	*.40	*.61	*.67	-

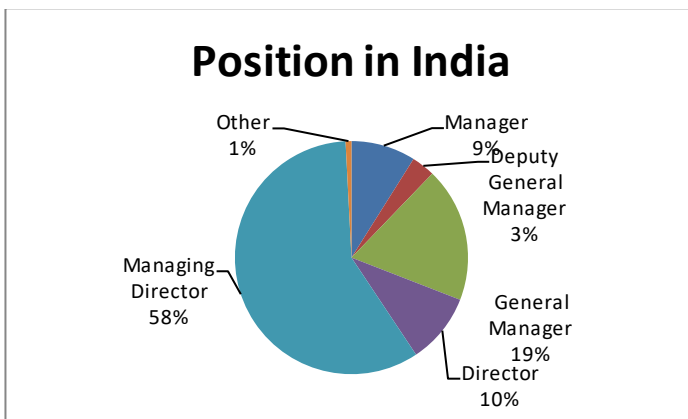
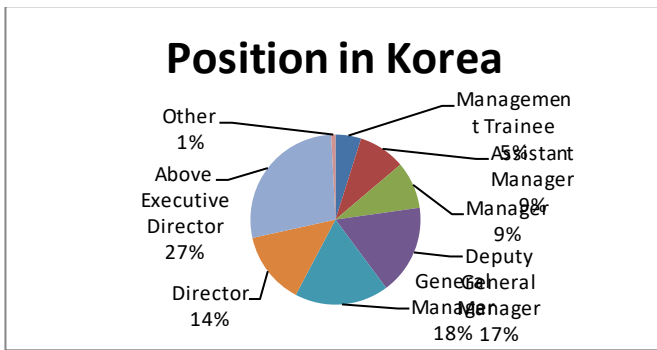
Note: Correlations of .21 and higher are significant at the  $p < 0.05$  level.

**Table 4: Results of regression analysis**

Dependent variable: Organizational Commitment		
	Model 1	Model 2
Step 1		
Tenure in Korea	0.08	0.03
Tenure in India	*0.20	-0.01
Step 2		
Willingness to accept an international assignment		0.12
Training for an international assignment		0.07
Expatriate empowerment		*0.33
Perceived organizational support		*0.46
R <sup>2</sup>	0.06	0.57
Adjusted R <sup>2</sup>	0.04	0.55
F	3.79	25.59
p-value	*0.03	*0.00

Note: n=123. df=122. Values are standardized coefficient \*Significance at  $p < 0.05$ .

**Figure 1: Comparison of Position Level in Korea vs. India**



## Maturity-Model for the Evaluation of Investments into IIoT

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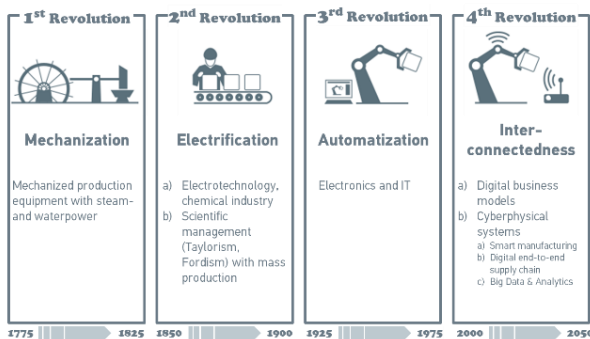
### Abstract

The transition from the second industrial revolution (electrification) to the third industrial revolution (automation) was accompanied by a transformation of economy into a science with a powerful mathematic foundation. The methods developed do have some inaccuracies, such as the assumption that logical agents drive the market, an assumption that was realized to be a failure in the models not long ago. The models were developed in a transition phase, while the industrial revolution took place. The models are currently not mature enough to support companies in their investment strategies for the fourth industrial revolution, the age of digitalization and interconnectedness. The purpose of this study is to create a theoretical model for the process of creating a business case for the investment in technologies within the Industrial Internet of Things (IIoT).

**Keywords:** Maturity-Model for the Evaluation of Investments into IIoT

### Introduction

The calculation process for investments into IIoT must be different ones than the one that is applied for established technologies. The uncertainty with IIoT devices is high, reliable information that is not available or based on experiences. The further development of the technologies is vague.



At the end of a calculation process a classic business case will often point in the direction to invest in current and established technologies and not into new technologies, such as IIoT.

While working on the topic we found that the calculation method for the business case is not only dependent from the status of the technology but also from the IIoT-maturity of the company that is going to apply the technology and its product portfolio.

Figure 1 - The industrial revolutions

The challenge is, that the current calculation models for the creation of a business case are limited (e.g. cost-benefit analysis, return on investment calculation) because there are both unknown variables and variables where the impact is unknown. In the industry a business case is often based on past-data, there is obviously no data streaming in from the future.

What is complicating the situation is, that the IIoT technology can have a lower performance than a current technology and will relapse a comparison against a well-established technology.

*By this time the public is well aware that a new age of machines is upon us, based on the computing machine...to replace human judgment on all levels...this new replacement will have a profound influence upon our lives, but it is not clear to the man of the street what this influence will be.*

Norbert Wiener, 1949

In school we learned that the development of mankind is classified into several phases and that stepping from one phase to another is triggered by a transformation in human behavior (e.g. social behavior or change from hunters and gatherers to peasants) or has been triggered by inventions (such as the invention of the fist wedge).

The industrial revolution is also classified in this manner, the textbooks show 3 different industrial revolutions, triggered by natural-scientific discoveries and the inventions that are based on those discoveries.

It is most likely that we are already in a phase that will be described in some years as the beginning (or the center point) of the 4<sup>th</sup> industrial revolution, the area of *digitalization* and *interconnectedness*.

The aftermath of the digitalization and the interconnectedness get a wide range of attention today, but were recognizable for visionary already long ago, such as the following statement, taken from a letter sent to the president of the United States, Lyndon B. Johnson, on the 22<sup>nd</sup> of March 1964:

*A new era of production has begun. Its principles of organization are as different from those of the industrial era as those of the industrial era were different from the agricultural. The cybernation revolution has been brought about by the combination of the computer and the automated self-regulating machine. This results in a system of almost unlimited productive capacity, which requires progressively less human labor (Pauling 1964).*

Every revolution needed its drivers or enablers; for the digitalization there are several enablers, such as the doubling of components on an IC every 12 to 24 months (Moore's law), the increased bandwidth (Nielsen's law), the reduced cost for hardware, driven by mass production (economies of scale) or the multicore technology that is able to sextupling Moore's law in regards of the speed of calculation.

## **Motivation**

The purpose of this study is to create a theoretical model for the process to create a business case for the investment in technologies within the Industrial Internet of Things (IIoT).

The area of digitalization is happening and almost all companies have accepted the challenges that go along with it.

But the investment process for IIoT must be a different one than the one that is applied for established technologies. The uncertainty with IIoT devices are high, reliable information that is based on experience is often not available and the further development of the technologies is vaguely.

At the end of a calculation process a classic business case will often point in the direction to invest in current and established technologies and not into new technologies, such as IIoT.

While working on the topic we found that the calculation method for the business case is not only dependent from the status of the technology but also from the IIoT-maturity of the company that is going to apply the technology and its product portfolio.

The IIoT technologies are part of the disruptive Industry 4.0 and can be considered as disruptive therefore, too.

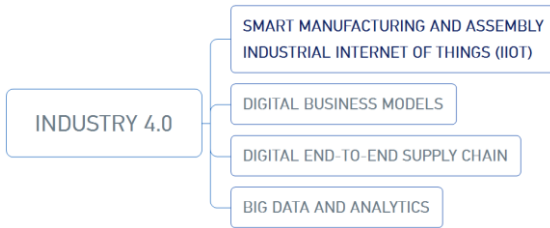


Figure 2 - Smart manufacturing as part of Industry 4.0

IIoT technologies are no stand-alone-technologies, require in most cases identical preconditions (such as a digital network to communicate and to exchange information), are interdependent and superimpose and reinforce one another. This is often underestimated in the creation of business cases because business cases are limited in the way of integrating and representing the complexity of disruptive innovations.

The challenge is, that the current calculation models for the creation of a business case are limited (e.g. cost-benefit analysis, return on investment calculation) because there are both unknown variables and variables where the impact is unknown. In the industry a business case is often based on past-data, there is obviously no data streaming in from the future. Even more due to the disruptive nature of IIoT there is not even data from the past and the numbers are either not available or, what is even worst, are misleading.

What is worsening the situation is, that the IIoT technology can have a lower performance (q.v. sigmoid curve / S-curve) than a current technology and will lose a comparison against a well-established technology.

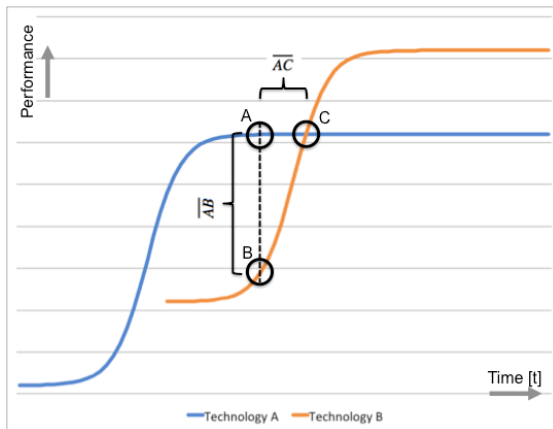


Figure 3 - Delta in the performance of competing technologies

An established technology might have a better performance and the new technology is currently not able to compete with a mainstream technology. But due to the technology development, that does not have to be a linear one, the new technology will draw level with the old technology and outperform it ultimately.

A business case based on those standard calculations, linear calculations and performance indicators from the past will be vague and often lead to wrong decisions.

Therefore, the manager often decides business cases intuitively. But intuition is from a statistical point of view only in half of the cases leading to the right decisions. It is also very likely that a manager has certain biases, driven by his experiences and learning from the past (Thaler, 2000). Such biases can be *Optimism (and wishful thinking)*, *Overconfidence*, *the False Consensus Effect* or the *Curse of Knowledge*.

In the beginning of the 3<sup>rd</sup> industrial revolution already outstanding minds struggled with imprecise assumptions regarding forecasting and investment decisions, such as John Maynard Keynes:



“Too large a proportion of recent ‘mathematical’ economics are merely concoctions, as imprecise as the initial assumptions they rest on, which allow the author to lose sight of the complexities and interdependencies of the real world in a maze of pretentious and unhelpful symbols” (Keynes, 1935).

Even though production and its supporting sectors, such as logistic, is an enormously complex system, with a myriad of interdependencies and feedback loops, planning and controlling is possible.

But believing that due to the disruptive nature of I4.0 it is not possible to gain and evaluate the required information for a sustaining business case and to give in, is from my perspective the wrong approach. It is also not recommendable to set up a strategic budget without formal cost controlling, just to be present in the digitalization race and to invest in what is currently in vogue (q.v. the Gardner Hype Cycle) is not a constructive approach.

Investments have to be driven from an economic point of view but when talking about disruptive technologies a company has to take the long-term-perspective into account. The standard motivations for investment decisions for production are (Olfert, 2003):

- End of utilization of an equipment
- Increase of production cost (e.g. due to an increase of maintenance)
- Change in demand (too little or too much capacity)
- Technological improvements
- New production technologies
- New materials

Also the targets that are superior for the company define the investment decisions, such as (Olfert, 2003) (Weber, 2008):

- Seeking for profit
- Seeking for growth
- Seeking for sales
- Seeking for security
- Seeking for corporate social responsibility and sustainability

Predicting the future performance is challenging and requires taking several variables into consideration and the effect of superposition. The performance of the new technology can end at the lower end of the strategic chasm or it can be driven to achieve the upper end.

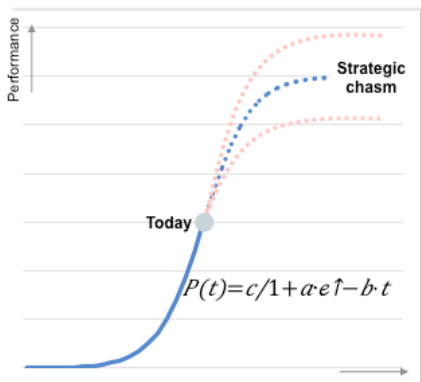


Figure 4 - The strategic chasm

Factors that influence the final performance within a company depend on several factors and can go as far as the product portfolio.

The assumption, that there is time to react before a new technology outperforms the current one (even if it is only a short period), is in some cases wrong. There are cases, where a newly introduced technology outperforms a current technology right from the beginning (Christensen & Bower, 1996).

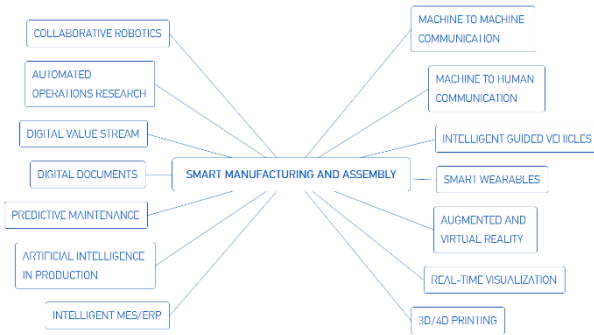


Figure 5 - Example of IIoT technologies

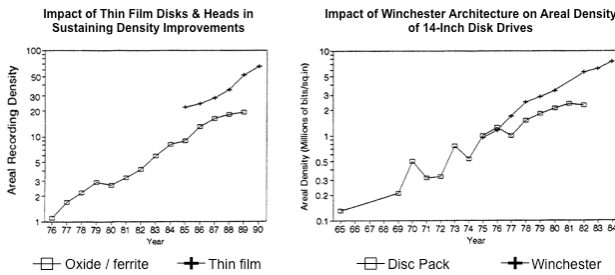


Figure 6: Example of sustaining technological change in componentry (left) and product architecture (right)

It also depends on the point in time, when a prediction is made. The human being tends to think in a linear manner, not in a non-linear

manner. This makes it hard for men to predict correctly the point in time when two technologies reach an equal level of performance. The newer a technology is and the farther the point of inflection is, the more imprecise the prediction is. The closer the gap regarding the performance of the technologies is, the better is the prediction.

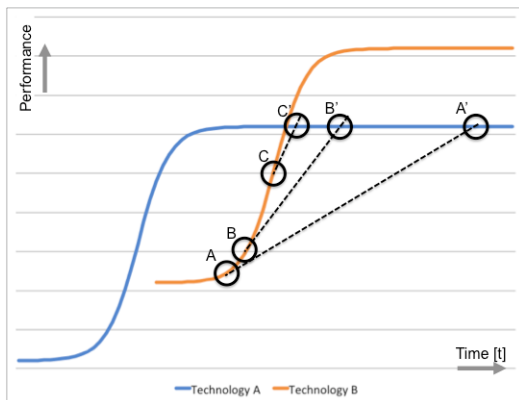


Figure 7 - Accuracy of the prediction of the development of technology-performance

In point A the performance is low, it does not seem to be likely for technology B to be able to compete with technology A in the near future. Point B is not long after point A but the forecast accuracy improved significantly. In point C the accuracy is quite high, due to the small gap between the two technologies.

The term *disruptive innovation* and *industrial revolution* are both misleading, as it seems those refer to certain point in time. But disruption is a process that can take its time, sometimes decades (Christensen, Raynor, McDonald Rory, & McDonald, 2015).

There is a dispute whether the digitalization of the industry is a revolution, started in the eighties of the past millennium or if its origin can be traced back even more in the past. The fundamentals for the digitalization were laid already in the twentieth or thirties of the bygone millennium and today's developments can be understood more as a dramatically advancement that gained speed the last decade.

There is very little dispute that the digitalization and interconnectedness is going to transform the industries, that new business models will appear and that the way we are going to work and live will be a different one.

No matter what the digitalization and interconnectedness will be seen as, there is very little doubt that many business models will be changed, disappear and new ones will be created.

The change is not only going to affect international companies or companies with a certain scope of application and technologies, it will affect SMEs and their working area overall.

As there is very little dispute about that this change is going to happen, there is uncertainty within companies in what technologies to invest in and when the right time and place is to do so.

There are different strategies observable, based on standard investment calculations, depending on the financial resources and the market pressure that a company experiences.

Due to uncertainties regarding the calculation process, technology experts sometimes recommend a 'Start-Up' mentality. But this approach is neither convincing for the experts in finance and accounting, nor for the experts in controlling. Without having these parties convinced, it is unlikely that a Chief Information Officer, a Chief Technology Officer or a Board of Directors is willing to release a budget.

Creating a business case is taking into consideration the cost and the benefit of an investment, to balance it with the risks and the strategy of the company and to select an option (Brugger, 2009).

This article concentrates on the investments into digitalization in the area of the Industrial Internet of Things (IIoT), a domain within the Industry 4.0, focusing on production and services (smart manufacturing and assembly).

This article suggests a way to reduce the uncertainty when investing into IIoT technologies and to create a transparent and comprehensible approach to develop a business case.

The article can be assigned to the area of *Innovation Management* and can be applied when innovation meets series production and shall be introduced into the market.

## Literature Review

The discussion about the disruptive effect of technologies and services is not a new one and does not rest in isolation from historical precedent. Therefore, a historical approach was chosen to examine the available literature and to develop an overview of the state of research.

The literature review is focusing on the creation of business models, the dilemma for the investor and the investment into disruptive technologies, not in disruption in general. The purpose is to place the research in the context with state-of-the-art developments and trying to identify the directions for future investment strategies.

The term of disruptive technology is mainly known due to the work of Josef L. Bower, Clayton M. Christensen and their research fellows (Bower & Christensen, 1995) (Christensen, 1997). They recognized in the middle of the nineties that "Mangers must beware of ignoring new technologies that don't initially meet the needs of their mainstream customers" and wrote a highly observed article about disruptive technologies. Christensen transferred the concept also to different problem statements, such as health (Christensen, Bohmer, & Kenagy, 1992). Together with other authors Christensen worked to apply the concept from a strategic perspective (Christensen, Courtney, Kirkland, & Markides, 1997) and the investors perspective (Christensen & Raynor, 2003).

Even though the articles of Christensen got most attention, there were others who described the concept similarly (Rebecca & Kim, 1990) or to develop a concept to form a competitive strategy, production process capabilities and organizational characteristics (Utterback, 1979).

Innovation management and dealing with disruption was also not only contemplated by firms, but also governments. In Europe there were attempts to apply the concept on the employment rate and the growth of nations and to convert the concept to overcome industrial obstacles (Europe, Community, & Community, 1974) (Böhret & Franz, 1986).

Further concepts were developed, such as the concept of the diffusion of innovation. It is linked to the disruptive nature of technologies and was a widely respected field of research (Robertson, 1967) (Elihu Katz, Levin, & Hamilton, 1963) (E. Katz, 1961).

The management of innovation, the dilemma for investors and taming its disruptive nature is an up-to-date topic since decades and experienced also phases of reconsideration (Danneels, 2004).

Nowadays it is also an area of research and an experimental field and gathers additional adherence due to the digitalization and is still a late-breaking topic with up-to-date publications (Völker & Friesenhahn, 2019).

We also had to intensively work on the field of IIoT applications to develop the basis for the questionnaire. We gathered information from a wide field of literature, such as Big Data, automation, machine to machine (M2M) and machine to human (M2H) communication, manufacturing execution systems, artificial intelligence and mobile devices (Wang et al., 2016) (Industrie, Teichmann, Ullrich, Bender, & Wirtschaftsinformatik, 2018) (Lee & Lee, 2015) (Shah, 2020) (Samie, Bauer, & Henkel, 2016) (Samie, Bauer, & Henkel, 2015) (Danglade, Pernot, Véron, & Fine, 2017).

## Methodology

We started with a literature research and identified articles and documents to recognize the current state of research.

We found extensive literature in the field of disruptive technologies and innovations, business model calculation and integration of disruption into a business strategy.

But for the area of our specific field of research and application we found no coherent proceeding.

We also decided to conduct some unstructured interviews with experts from the banking sector, such as Commerzbank, Sparkasse and Deutsche Bank to understand the investment strategies more in detail.

We also read extensively literature from the IIoT applications to ask for real-life applications in the questionnaire.

In a second step we conducted a survey in the area where our research is applicable, in the automotive industry. We have chosen a Tier 1 that is working for every relevant OEM and is one of the Top 100 automotive suppliers worldwide. The company has 40.000 employees, is present in every relevant growth market and reached more than €7.1 billion in its last fiscal year.

The size of the panel is 269 managers, the return rate of the questionnaire is 63%.

To prepare the dimensions of the questionnaire we took the analyzed literature and carved out the focus topics of our research. At the end we had a set of 45 IIoT technologies and 6 identical questions for each technology.

There are several I4.0 and IIoT maturity models available to access the maturity status of a company (Kese 2017) (Goericke & Dr. Lichtblau, 2018) (Bsquare, 2017) (Hocken, 2017) (Anderl & Fleischer, 2015). But the models are either superficial and deliver only a very facial insight into the IIoT maturity status or consume a huge number of man-hours to be conducted (e.g. with team meetings, expert interviews or brain-storming-sessions). In some cases, they also require an external moderator.

We have chosen to build up our own maturity model. This is giving us the following three advantages:

We can consider the product portfolio and the production processes of the probed company; this allows us to exclude some of the IIoT measures and doing so reduced the effort for the respondent

The maturity model is considering the economic perspective. Other maturity models often imply that "the higher the maturity, the better it is for the company". This is not true from our point of view and can be avoided with an adapted model

An external consultant or moderator is not necessary to conduct the survey; the effort to create and conduct the survey is reduced

Out of sixteen different maturity models an own model was created; the main contribution for the maturity model is coming from the "*Leitfaden Industrie 4.0*" (Anderl 2017) and the "*Industrie 4.0 Maturity Index*" (Schuh 2017).

Leitfaden Industrie 4.0<sup>1</sup>

The VDMA<sup>2</sup> developed a guideline to give SMEs orientation regarding the implementation of I4.0 and IIoT.

The guideline from the VDMA was chosen even though it focuses on SMEs. But due to the size of the investigated company and its divers structure we believed that it was applicable for the survey.

The guideline is built upon a chronological structure and provides a toolbox that is subdivided in *products* and *production*.

The VDMA guideline takes 4 different structural areas into account, such as:

## Resources

### Information systems

### Culture

### Organizational structure

The VDMA guideline is sub-divided into a five-step-process, requires a strong contribution of the employees of the analyzed company and can be installed to generate ideas and to structure the development-process while working out a strategy for I4.0.

The Industrie 4.0 Maturity Index (acatech)<sup>3</sup>

The acatech model's approach is based upon a succession of maturity stages, i.e. value-based development levels that help navigate through the transformation process, starting with the basic requirements for I4.0 to its full implementation.

## Computerization

### Connectivity

Visibility ("*Seeing*" – *What is happening*)

Transparency ("*Understanding*" – *Why is it happening?*)

Predictive capacity ("*Being prepared*" – *What will happen?*)

Adaptability ("*Self-optimizing*" – *How can an autonomous response be achieved?*)

It is not about reaching always the maximum level. A company's desired target state will depend on its business strategy and about the best balance between costs, capabilities and benefits for its own individual circumstances (Schuh 2017).

Therefore, the acatech model is a more holistic one that is taking also basic requirements and support functions into account.

## Questionnaire

We have chosen to reach out to the future applicants of an IIoT device directly and to use a structured questionnaire. We have chosen to do so to collect information from a wide range of individuals. Our panel for this survey is the middle and top managers of a tier-1 supplier in the automotive industry. The company has 40.000 employees, is present in every relevant growth market and reached more than €7.1 billion in its last fiscal year. The size of the panel is 269 managers, the return rate is 63%.

The main part of the questionnaire consists of closed-ended questions (90%) where we have given a list of predetermined responses from which the answer had to be chosen. The other 10% consist of open-ended questions in which we asked the survey respondents to answer questions in their own words. The questionnaire's structure and its design is based on a set of recommendations from survey experts, such as *Research Connections* ("Research Connections," n.d.) and *The Survey System* ("The Survey System," 2019) and follows recommendations of survey specialists (Frary, 2002).

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<sup>1</sup> Developed by Reiner Anderl (TU Darmstadt) and Jürgen Fleischer (wbk Institut für Produktionstechnik)

<sup>2</sup> Verband Deutscher Maschinen- und Anlagenbau

<sup>3</sup> Developed by Deutsche Akademie der Technwissenschaften (acatech)

Additionally, there were also questions in the frame of a polarity profiles, such as the following example:

Please indicate your position regarding the following statement:  
I4.0 is important for the future success of our production

important    ○    ○    ○    ○    ○    not important

neither...nor

Figure 8 - Example for design of questions

The tool, which was used for the survey, is called Opinio. ObjectPlanet, Inc., an independent software vendor, provided the tool. The company develops software for surveys and polls, data collection, customer satisfaction surveys and employee satisfaction surveys. The company is in Oslo, Norway and has more than 5,000 customers in 100 countries worldwide ("ObjectPlanet," n.d.).

The questionnaire consists of 3 sections.

The first part is about the **maturity of the evaluated companies section within the Industrial Internet of Things**, determining where it is positioned from the interviewees perspective, finding out what the current state is.

The maturity will be evaluated in the framework of a self-check, based on the "Leitfaden Industrie 4.0" and the "Industry 4.0 Maturity Index". The "Leitfaden" is focusing on technological aspects and the "Maturity Index" orientates on the complete value chain (Kese and Terstegen, 2017).

The second part of the questionnaire focuses on the **evaluation of reasonable IIoT measures**. This is done to identify where investments have the biggest positive impact on the company and where additional capabilities shall be built up.

This is done by providing an overview of measures from the area of hardware (such as smart glasses) but also measures to make the hardware usable in the first place, such as the transfer of information.

The third part of the questionnaire zooms in onto the **evaluation of further investments or disinvestments** to ensure that the measures taken will provide a substantial outcome for the business unit and is supporting our economic success.

### The structure of the questionnaire

The intention of the questionnaire is not to cover the full technological range of I4.0, the complete process house resp. production system or the complete value chain of a company. The questionnaire zooms in on I4.0 and focuses on:

#### Shop floor and office floor at production locations

#### Integration of suppliers of means of production

By zooming in the focus of the survey is getting narrower and delimitable, looking at the Industrial Internet of Things in a sense. Doing so it becomes more applicable to work out a strategy resp. a roadmap for Operations.

There are more applications and there are interlinks between the different technologies; there is also reinforcement between the technologies and they can amplify each other.

Furthermore, the sustainability can be taken into consideration for the business case, depending on the awareness of the company. To create a systematic business case requires adequate information management and accounting approaches (Schaltegger, 2008).

#### Distinct maturity model

The model that was created is a three-dimensional one.

The three dimensions of maturity are the following ones:

Maturity level

Field of application

Culture & Organization

Each dimension is subdivided into dignified levels to provide a better understanding and to allow the creation of recommendations that are based on the survey.

The *maturity levels* are arranged in the vertical axis, the ordinate; we have chosen the following denominations (progressive ranking):

Inexperienced  
Tentative  
Advanced  
Dynamic  
Outstanding

The *field of application* will be the horizontal axis, the abscissa. Here we requested the feedback for each single IIoT application. The main clusters are:

Resources/processes  
Asset utilization  
Labor  
Quality

The *Culture & Organization* will be the third dimension, it will allow us to ensure the IIoT readiness from a cultural, training and knowledge-based point of view.

### **Process flow**

The flow of the activities in the process of creating and conducting the survey and to work out recommendations for the company is the following one.

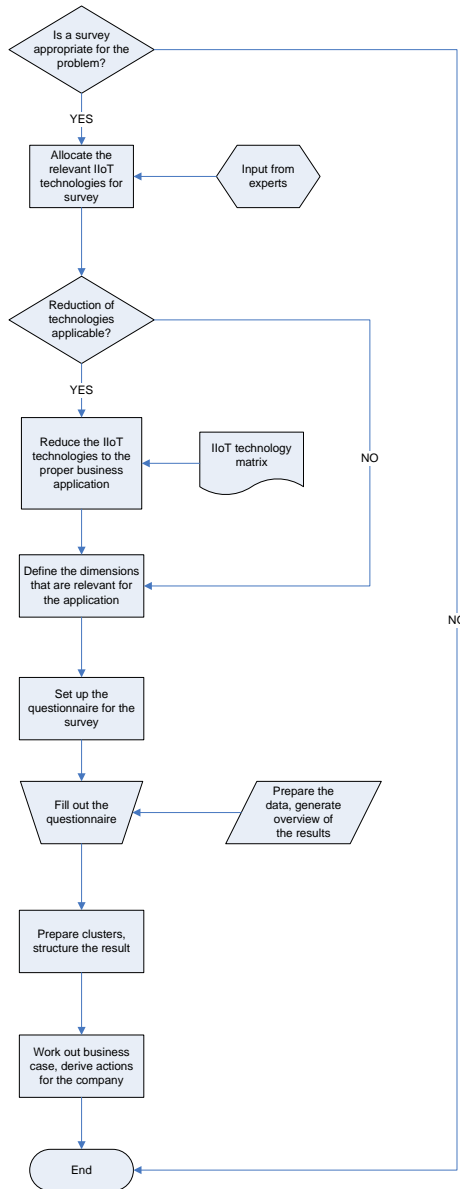


Figure 9 - Process flow of activities

### Structural results

Becoming a digital champion requires a successful investment strategy. If an investment strategy is successful, cannot be said in the beginning of an investment.

The agenda of transformation requires at least a vision, a roadmap, a strong will for implementation and a capable team. Implementing IIoT is coming with a lot of risk, new technologies can become obsolete and instead of winning the digital race a company can start falling behind (Schaeffer, 2017).



Based on the literature review and the review of available assessment-tools resp. questionnaires we found that those are often very generic and support an IIoT strategy insignificantly. Those IIoT questionnaires only touch the surface of the problem and don't allow to choose from specific technologies that fit best to the company and its challenges or allows the construction of a convincing business case.

The free-of-charge assessment tools for the IIoT maturity are a good access-point to start with but cannot provide stringent proposals because the incorporated dimensions are not sufficient. The questionnaires either focus on the value chain, the IIoT readiness or ask questions that are imprecise and leave too much room for interpretation.

The dimensions, those are necessary for the kind of companies we focused on, are the following:

**Current maturity of the organization**

**Complexity of implementation**

**Prioritization**

**Relevance**

**Organizational readiness**

Those dimensions need to be answered to distinguish the relevant from the not relevant technologies and to create a comprehensible business case.

The dimensions must be taken into consideration when creating the questionnaire. At the end of our literature review the number of IIoT technologies summed up to 32 different technologies.

For each IIoT technology a single page with a short explanation and the set of questions was created:

**Smart energy consumption**

SMART ENERGY CONSUMPTION

Energy consumption is a contributor to our operating cost.

Consuming energy in a smart manner requires a system that can process information regarding the production and maintenance schedule, the attendance of workers and/or regional specific public holidays and can react actively (e.g. stop/heat heaters).

**Questions**

How do you rate the **strategic relevance** of this tool measure in regards to our economic success?  
low med. high

How do you rate the **current priority** of this measure for Operations?  
low med. high

How do you rate the **current maturity** of this measure within Operations?  
 inexperienced  tentative  advanced  dynamic  outstanding

Would you recommend to further invest into this measure or to **disinvest** resp. **not invest**?  
 Further invest  Disinvest/no invest

On a scale from 0 (very simple) to 10 (very complex), how **complex** do you rate the worldwide implementation of this tool measure?  
0 1 2 3 4 5 6 7 8 9 10

On a scale from 0 (very low) to 10 (mature), how **well prepared** is the Operations organization from a cultural point of view to implement this tool measure?  
0 1 2 3 4 5 6 7 8 9 10

Figure 10 - Example of a full set of questions for one IIoT technology

At the end of the survey we received an overview that allowed us to relate the IIoT technologies in different dimensions, such as the following one:

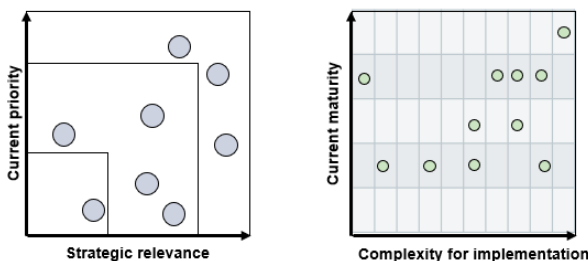


Figure 11 - Example of clustering the results of the survey

The result can be displayed in matrixes that allow an assignment and mapping of the technologies according to the needs of the company.

A single IIoT technology can be displayed and, for example, can be set in a relation to the strategic relevance for the company.

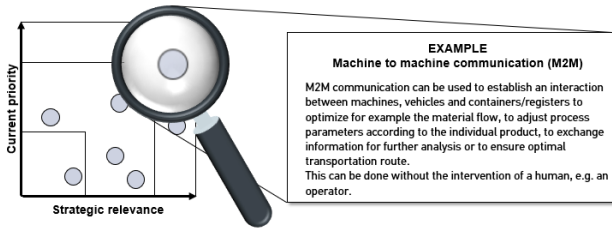


Figure 12 - An IIoT technology from the cluster

In the paragraph *Motivation* we stated that not only the maturity of the IIoT technology but also the maturity of the company, its IIoT readiness from a technology point of view (e.g. connectivity) and its cultural perspective are important.

The process flow explains generically the inputs, the activities and the outputs to work out the feasible IIoT technologies for a company.

Following the flow will support an applicant in working out the proper strategy that will guide a company in the creation-process for the investment into IIoT.

**Conclusion**

Investing into IIoT technologies can be crucial for the long-term success and safeguarding the existence of the company and is based on analysis done for the company and its environment (Hubert, 2019). It will change the way in which products are manufactured, how services are provided and designed. We have tried to show that the current calculation processes do not take into consideration the further development of the performance of disruptive technologies adequately.

The process that we have introduced ensures that a company invests into the right technologies and enables the best return on investment for the company. The process assists in gaining a much better free cash flow than the state-of-the-art calculation models and supports the overall company's strategy. In the article we recommend involving the know-how of the organization and to utilize the experts as a source of input. This will ensure that the knowledge and awareness of the organization is embedded in the process, that early indicators are included and that the needs of the organization are taken into consideration when investing into IIoT.

Doing so will create further awareness for IIoT and will ensure that the investments are done more selectively and with more focus on the purpose, enabling the organization to have the correct IIoT technologies for the product portfolio and the strategy. To visualize this process, a funnel can be drawn as an explanation. Without the funnel there is no focus, the IIoT technologies are applied without being challenged against each other and their contribution to the company's success is not questioned in any way.

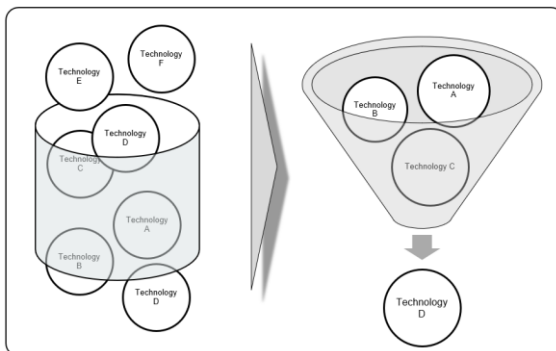


Figure 13 - The funnel for the IIoT technologies

The process (funnel) supports the IIoT technologies to be planned more in detail, communicated in a more transparent way and allows the company and its stakeholders to focus on the development and the introduction of IIoT into the company. Also, the scarce resources that are necessary to develop and implement an IIoT technology are focus and don't have to take care on several technologies but on less technologies but chosen ones.

The investments will be done purposeful and focused on some vital technologies, not on several that were chosen by chance or in the interest of some.

### Critics

The presented approach is not a technical break-through, no disruptive change of the calculation of investments. It is a combination of techniques and procedures that are already at-hand but combined in a way to apply it on IIoT technologies.

The approach does not provide full transparency about the development of the performance of an IIoT technology, it is giving indications and is making assumptions.

The input from the experts depends on the involvement of those experts in the development of IIoT and the experts can only give a sufficient feedback on the technologies they work with or are interested due to other reasons. The feedback will be biased and for sure will rank known technologies higher than unknown technologies and this won't be balanced overall, no matter how great the number of interviewees is.

The approach does not provide a solution for this bias and Therefore, cannot be fully precise.

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## International Insertion Quality: the European Union (EU-27) Case

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### Abstract.

This research has a double aim. On the one hand, to introduce the International Insertion Quality (IIQ) construct. On the other hand, to present a classification of the European Union (EU-27) countries to establish which of them have a better IIQ. For this purpose, first, the IIQ construct is presented. Second, the evolution of the exports technological intensity degree of the EU-27 countries between the periods 2001-2003 and 2015-2017 is analyzed. Then, the evolution of the exports' diversification degree, both, by products and by destination markets in the same periods, is studied. This allows to observe in perspective the qualitative changes that have taken place between the two reference periods. In addition, a classification matrix of countries according to their quality of insertion in international trade is presented. The results allow arguing that Germany and France are the countries that have a higher IIQ. Also, there are nations that have a high technological content, but moderate markets diversification and/or products concentration; and other countries that have geographical and/or goods diversification, despite the fact that their exports contain a medium-low-level of technological intensity. This research allows concluding which EU-27 countries should work on their commercial policies to encourage the diversification of their exports and/or the development of products with greater technological content.

**Keywords:** International Insertion Quality (IIQ), export diversification, technological intensity, European Union.

### Introduction

Literature (Samen, 2010; ECLAC, 2001; Kaitila, 2017; Misztal, 2011; Martínez-Piva and Pérez, 2003) has shown that for a positive link to be established between trade and economic growth, it is not enough "simply" for national economies to broaden their integration into the international arena, but it is necessary to improve the quality of that integration. In this sense, a country that depends on income generated by exports to few markets or by a limited export basket is more vulnerable than another whose exports are more diversified (ECLAC, 2002; Bengi, 2016), which causes that its integration quality is not stable (Kuwayama and Durán-Lima, 2003).

Likewise, the literature (Martínez-Piva and Pérez, 2003; Ietto-Gillies, 2010) establishes that another criterion normally used to measure the quality of international insertion of a nation, is the technological content of exports. It can be argued that products with little dynamic consumption are not capable of generating sustainable economic growth (Kuwayama and Durán-Lima, 2003), that helps governments to achieve several of their macroeconomic objectives, such as for example: income redistribution, the satisfactory balance of payments situation and employment (Samen, 2000; Misztal, 2011).

Export diversification and export technological intensity has become a central issue inside the trade policies of several developed countries and especially most developing countries (Benti, 2016; Gokturk et al., 2013). This emergence has caused that the study of this topic has recently attracted the attention of different researchers (Xuefeng and Yasar, 2016; Benti, 2016; Can and Gozgor, 2018). Also, these studies have been carried out on the European Union countries (Misztal, 2011; Vahalik, 2015; Kaitila, 2017). However, the study of this subject must be deepened in order to understand the reality of each of the EU-27 countries and not only study them as a whole. Likewise, although the literature has established some variables that could help to understand the International Insertion Quality of a country, there is no construct that measures it (Terán-Yépez and Guerrero-Mora, 2018).

It is for this reason that this work has a double objective. On the one hand, to present a first approximation to the International Insertion Quality theoretical construct. On the other hand, classify each of the European Union countries

according to their IIQ. These will allow arguing which are the countries of the EU-27 that present a better quality of insertion in the international trade. But also which of them should work in their commercial policies, to stimulate the exporting diversification and/or the sophistication of their products. For this research and based on previous works presented by Kuwayama and Durán-Lima (2003) and Terán-Yépez and Guerrero-Mora, (2018) the IIQ construct is a mixture between: (1) the degree of diversification of export products, (2) the degree of diversification of exports by destination markets and (3) the degree of technological intensity of exports.

From now on, this paper is structured as follows. First, through a literature review it was analyzed the importance, the types and the measure of the export diversification by products and by destinations, as well as the degree of technological intensity of exports. Secondly, and after presenting the methodology, the IIQ construct is described. Third, the evolution of the degree of technological intensity of exports of the EU-27 countries is analyzed, as well as a study of the evolution of the degree of exports diversification. Fourth, as result a classification matrix of countries according to their international insertion quality is presented. Finally, this research presents certain conclusions and implications.

## Literature Review: Export Diversification and Degree of Technological Intensity of Exports

### Background

Export diversification has become one of the main trade objectives of both several developed countries and most developing nations (Benti, 2016; Gokturk et al., 2013). This is because a group of countries, especially the least developed, depend on the export of a relatively small range of products, usually agricultural, or their exports are concentrated on a few markets (Kuwayama and Durán-Lima, 2003; Gokturk et al., 2013). Prebisch (1950) also suggested that there is a long-term tendency for prices of primary commodities to decline in relation to those of manufactured products, which have greater technological intensity or sophistication. This causes that countries that depend on commodities or have a limited export basket face a constant instability of their exports (Rodrik, 2005), which arises from inelastic and unstable world demand (Gobbée, 2008).

### Types of Diversification: Vertical vs. Horizontal

Over time, different researchers (Ali et al., 1991; Barthelémy and Chauvin, 2000; Herzer and Nowak-Lehmann, 2006; Matthee and Naude, 2007) have defined export diversification in different ways, but the main idea is the same. In general, literature stipulates two dimensions of export diversification: (1) horizontal diversification, which means increasing the number of export products and/or the number of export destination markets (Prada-Villamizar and García-Cediel, 2016). And (2) vertical diversification, which implies a change in the composition of exports from primary products to manufactured products or the country's initiation to process and export value-added products from commodities that would previously have been exported as raw materials, i.e. it implies the degree of technological intensity of goods (Samen, 2010; Can and Gozgor, 2018).

### How to measure the Degree of Diversification/Concentration of Exports and the Degree of Technological Intensity?

According to the literature (Samen, 2010), the most commonly used measure of concentration/diversification ratio by product and/or geographic is the Herfindhal-Hirschman Index (HHI). The HH Index is formally expressed with the following mathematical formula:

$$HHI = \frac{\left( \sum_{j=1}^n p_j^2 - \frac{1}{n} \right)}{1 - \frac{1}{n}}$$

where  $p_j = \frac{x_j}{XT_i}$  indicates the market share of country  $j$  is the exports of country  $i$  is the total of its exports to the world (XT<sub>i</sub>). As far as the analysis is concerned, an HH Index above 18% (0.18) shows a concentrated market. Between 11% and 18%, moderately concentrated. While one that is between 0% and 10% reflects a diversified market (Durán-Lima and Álvarez, 2008).

On the other hand, in order to divide exports into different degrees of technological intensity, the most commonly used methodological classification is that offered by the Economic Commission for Latin America and the Caribbean (ECLAC) (2011). A summary of the above classification can be seen in Table 1.

**Table 1: Technological classification of exports**

CLASSIFICATION	
PRIMARY PRODUCTS (PP)	
NATURAL RESOURCE-BASED MANUFACTURES (RB)	RB 1: AGRICULTURAL AND FORESTRY
	RB 2: OTHER PRODUCTS BASED ON NATURAL RESOURCES
LOW-TECHNOLOGY MANUFACTURES (LT)	LT 1: TEXTILE AND FASHION PRODUCTS
	LT 2: OTHER LOW-TECH PRODUCTS
MEDIUM-TECHNOLOGY MANUFACTURES (MT)	MT 1: AUTOMOTIVE PRODUCTS
	MT 2: MEDIUM TECHNOLOGY PROCESS INDUSTRIES
	MT 3: MEDIUM TECHNOLOGY ENGINEERING INDUSTRIES
HIGH-TECHNOLOGY MANUFACTURING (HT)	HT 1: ELECTRICAL AND ELECTRONIC PRODUCTS
	HT 2: OTHER HIGH-TECH PRODUCTS
OTHER PRODUCTS (UNCLASSIFIED PRODUCTS)	

**Source:** Own elaboration based on Lall (2000) and ECLAC (2011).

Subsequently, in order to facilitate the comparability of the degree of technological intensity, which will be a measure that summarizes the six categories of technological intensity, the Coefficient of Technological Content of Exports (CCTX) proposed by Scheingart (2015: 198) is calculated. This coefficient will range between 0 and 100 percent, where 0% represents that the exports of a given country would be entirely PP, while 100% would represent that all exports are HT. The intermediate categories shall be weighted in percentages as follows: RB, 25% ; LT, 25% ; MT, 75% . The category "Other products" is excluded from the weighting. In this way, the CCTX is mathematically expressed in the following way:

$$CCTX = (\text{share PP} * 0 + \text{share RB} * 0.25 + \text{share LT} * 0.25 + \text{share MT} * 0.75 + \text{share HT} * 1) / (1 - \text{share other products})$$

#### ***Diversification of Exports and Degree of Technological Content in the EU***

According to Misztal (2011), based on an analysis of the relationship between the degree of diversification of exports and GDP per capita in the EU Member States during the years 1995-2009, he postulates that diversification/concentration of exports is one of the most important factors determining GDP per capita in the EU. In this sense, although between 1995 and 2012, the EU (as a bloc) increased its geographical diversification. There was also a slight increase in the concentration of certain types of raw materials exported by the EU. It should also be noted that the intensive margin for geographical diversification shows that the share of EU exports declined over the period 1995-2012, i.e. EU exports have been slowly replaced in some destinations by exports from other countries (Vahalik, 2015). This decrease in the EU's intensive margin is mainly due to China's rapidly growing expansion.

Kaitila (2017) argues that EU countries have typically witnessed a slow increase in their coverage of the total possible quantity of export products. It also states that in general, EU countries have become more similar over time in terms of export product coverage, which means that the value of total exports and the number of products exported are positively related. On the other hand, according to Vahalik (2015), by 2012 the EU had a very high technological intensity compared to other economies, such as the BRICS. However, unlike several emerging countries, the values of the European Union in terms of technological intensity did decrease during that period. Also, according to Aiginger and Davies (2004), the EU shows a constant reduction in exports of natural resource-based manufactures; this is due to the constant growth of products with a higher technological content, especially manufactures of low technological sophistication.

From this section, it can be concluded that by carrying out a brief search and to the best of our knowledge, it cannot be able to find articles that compare the degree of diversification/concentration of EU countries' exports and/or the degree of technological intensity of their exports. Nor has there been any evidence of research calculating the International Insertion Quality of the member states of this bloc. This article is Therefore, intended to contribute to this understudied area.

#### **Methodology**

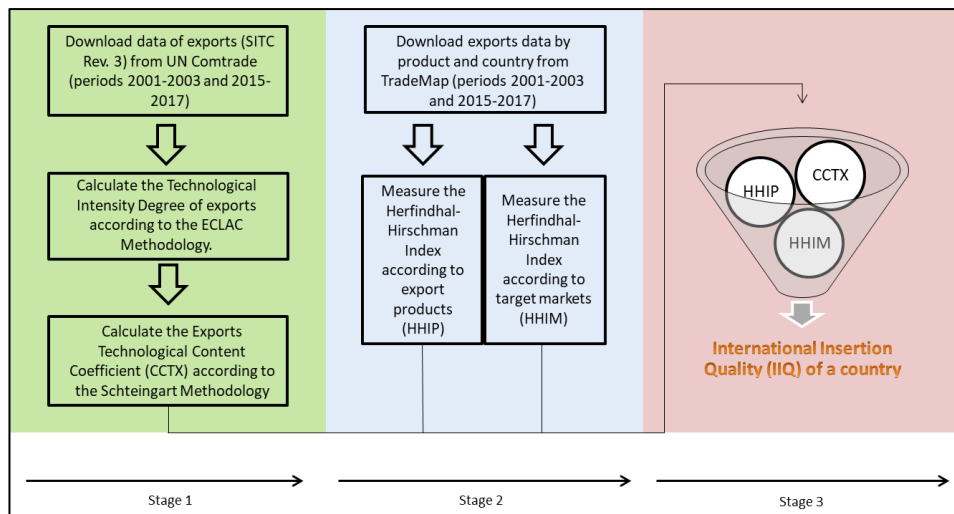
First, the degree of technological intensity of exports is calculated following the ECLAC methodology, which was presented previously in this article. In order to observe its evolution within the EU, it is calculated in two different time periods, 2001-2003 and 2015-2017. Likewise, the Coefficient of Technological Content of Exports (CCTX) is calculated using Scheingart's proposal (2015), with which it can be summarize in a single indicator the six categories of technological intensity proposed by Lall (2000), using the formula presented beforehand. In this case, this classification takes as its base

the breakdown by products of the system of Uniform Classification for International Trade (SITC), specifically, the SITC Rev.3. - 3 digits (in Annex 1, you can see the categories of exports according to technological intensity established by SITC Rev.3). For data collection the source used in this work was the UN Comtrade Statistical Database.

Secondly, using the Herfindhal-Hirschman Index, the diversification/concentration of EU countries' exports by both products and markets in the same periods of the previous point is calculated, which also presents a scatter plot that allows the qualitative changes between the two reference periods to be seen in perspective. The TradeMap statistical database was used for data collection.

Finally, bearing in mind that the main objective of this work is to classify the European Union countries according to their International Insertion Quality, a first IIQ measure approximation is presented (see Figure 1). That allows classifying through a 16 quadrants matrix each one of the EU -27 economies. Taking into consideration that this construct requires static data, in this case only the data obtained for the period 2015-2017 is used.

**Figure 1: Methodology flowchart and IIQ construct**



Source Own elaboration

## Results

### *Evolution of the Degree of Technological Intensity of Exports of EU-27 Countries*

Table 2 shows the variation in the Coefficient of Technological Content of Exports (CCTX) between the period 2001-2003 (P1) and the period 2015-2017 (P2). In addition, the average exports of these periods are represented according to the different degrees of technological intensity. Thus, a greater positive variation of the CCTX is observed in countries such as Romania, Latvia and Slovakia which have increased the technological content of their exports over 10%. For example, Romania, which in the P1 study concentrated 49.66% of its exports in low-technology products in the P2 concentrates 43.70% in medium-technology products and decreased the production of low technology products to 20.41%; this country also increased the export of high technology products by 3% with respect to the P1. Being the most exported products in the P1 clothes and accessories, while in the P2 machines, devices and electrical equipment, and their parts, recording or reproduction devices were their largest export products.

On the other hand, it can be seen that some countries such as Sweden, Ireland, Finland and Malta have decreased the technological content of their exports by more than 4%. Malta is the most striking case, since the variation in the technological content of their exports in the study periods is -17.82%, this is due to the considerable increase (29.19%) of exports based on natural resources in P2 with respect to P1 and the decrease in high-tech products by -22.47% in these 2 periods. Malta's most exported products in the period 2001-2003 were machinery apparatus and electrical equipment, while in P2 Malta's exports are based on mineral fuels, mineral oils and products of their distillation.



Table 2 also shows that the European Union, as a whole, increased the sophistication of its exports, registering a positive variation of 0.95% in the technological intensity of its exports during the study periods, which is in accordance with what is established in the literature (Aiginger and Davies, 2004; Vahalik, 2015). In this sense, in P2 there is an increase of 2.11% in the export of medium-technology products with respect to P1. In the same way, it can observe a decrease of -6% in the export of low technology products between both periods. In general, of the 27 economies examined, 17 of them show a positive change in their CCTX, while the other 10 economies show a negative change in this coefficient.

### ***Evolution of the Exports Diversification of EU-27 by Products and Markets Destination***

In this section, the diversification/concentration of EU countries' exports by both products and destination markets will be calculated through the HH Index, as presented previously.

Graph 1 shows the evolution of the export diversification of EU countries by product. The results obtained show that several economies have made significant progress in terms of export diversification in relation to the number of products, as argued by Kaitila (2017), although other countries also show setbacks in this area. The comparison made between P1 and P2 shows that 14 of the 27 economies have managed to diversify their basket of exports to the world. The most notable cases are Finland, Latvia and Malta, whose index went from "moderately concentrated" to "diversified" for the first two, while Malta went from "concentrated" (0.33) to "moderately concentrated" (0.14).

On the other hand, 7 countries show a decline in terms of product diversification; the most notable cases being Cyprus, Slovakia, Greece and the Czech Republic. In the case of Greece, although in both periods it remains in the "diversified" category, in P1 its index was 0.03 while in P2 its index was 0.10, just at the limit of becoming a "moderately concentrated" category. In the cases of Cyprus, Slovakia and the Czech Republic, the three economies have gone from "diversified" to "moderately concentrated", the most worrying case being that of Cyprus, since its index in P2 is 0.16, very close to becoming a "concentrated" economy.

There are three details that need to be clarified. Firstly, 6 economies show neither improvement nor deterioration in terms of export diversification by products. Secondly, on average for all EU countries the index shows an improvement, going from 0.08 in the period 2001-2003 to 0.07 in the period 2015-2017. And thirdly, for the period 2015-2017 it can be identified 21 "diversified" countries, 6 "moderately concentrated" and none "concentrated".

In regard to the results obtained for the diversification according to destination markets, as can be seen in Graph 2, it can be argued that by comparing periods P1 and P2, 24 of the 27 economies examined (the exceptions are Denmark, Finland and Ireland, which in the 3 cases show neither improvement nor deterioration), have managed to improve their geographical diversification, as postulated by Vahalik (2015). The most notable cases are: Cyprus, Slovakia and Hungary. In the case of Cyprus, although in P1 it was already a "diversified" economy, it has improved its geographical diversification from 0.09 to 0.05. Slovakia and Hungary went from being "moderately concentrated" to "diversified".

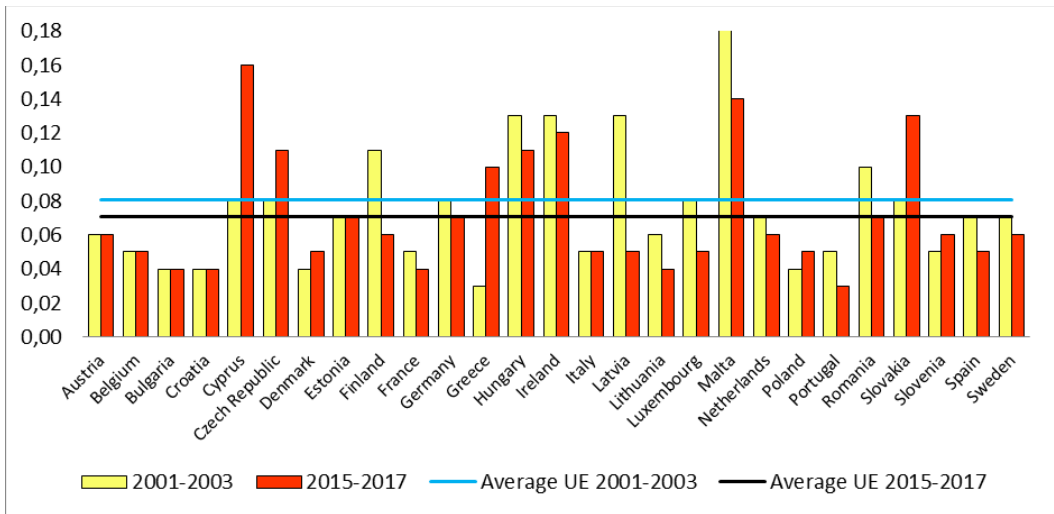
On this point, it is necessary to specify two aspects. The first of them, that on average, the EU countries present an improvement in geographical diversification by going from 0.09 to 0.07. The second is that of the 27 economies, only 3 (Ireland, Luxembourg and Czech Republic) present a category of "moderately concentrated" countries, while the remaining 24 economies are "diversified", although it is evident that 4 are close to being "moderately concentrated" economies, Austria and Portugal with 0.10 and Hungary and Poland with 0.09.

**Table 2: Export Structure by Technological Intensity Categories and Coefficient of Technological Content of Exports (CCTX)**

Countries	Primary products		Resource based manufactures		Low technology manufactures		Medium technology manufactures		High technology manufactures		Other transactions		CCTX		Variation
	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P2-P1
<b>European Union</b>	<b>6,85%</b>	<b>8,50%</b>	<b>20,15%</b>	<b>22,96%</b>	<b>22,23%</b>	<b>16,07%</b>	<b>29,77%</b>	<b>32,97%</b>	<b>17,42%</b>	<b>16,09%</b>	<b>3,59%</b>	<b>3,42%</b>	<b>52,21%</b>	<b>52,36%</b>	↑
Austria	4,32%	5,79%	13,80%	13,88%	21,44%	19,86%	36,51%	38,58%	14,27%	17,28%	9,66%	4,61%	55,86%	57,29%	↑
Belgium	7,34%	8,40%	23,73%	25,91%	14,61%	13,82%	35,05%	32,68%	15,01%	15,81%	4,26%	3,38%	53,15%	52,01%	↓
Bulgaria	15,23%	22,14%	19,34%	21,21%	36,12%	19,04%	16,90%	22,00%	5,30%	8,69%	7,10%	6,91%	34,27%	37,88%	↑
Croatia	7,57%	9,47%	26,27%	24,64%	25,23%	21,78%	28,44%	25,86%	11,51%	13,75%	0,98%	4,49%	46,17%	46,86%	↑
Cyprus	11,92%	8,51%	35,42%	39,97%	11,38%	4,71%	28,86%	11,78%	10,91%	28,05%	1,51%	6,98%	44,93%	51,66%	↑
Czech Republic	3,84%	4,07%	14,05%	10,03%	22,61%	18,86%	41,78%	46,50%	15,74%	18,92%	1,99%	1,63%	57,38%	62,03%	↑
Denmark	17,67%	14,30%	16,56%	16,09%	18,22%	17,24%	22,04%	21,75%	19,87%	19,28%	5,63%	11,34%	47,79%	49,54%	↑
Estonia	8,63%	7,66%	25,96%	24,90%	25,96%	15,34%	19,07%	25,77%	19,39%	17,57%	0,98%	8,76%	47,14%	51,47%	↑
Finland	3,75%	5,99%	32,71%	33,15%	9,57%	9,72%	26,29%	29,64%	26,03%	12,27%	1,65%	9,24%	57,26%	49,82%	↓
France	6,95%	7,41%	15,23%	15,44%	13,89%	14,30%	38,01%	34,32%	22,07%	24,70%	3,85%	3,83%	60,17%	60,18%	↑
Germany	3,89%	4,81%	11,61%	10,96%	12,76%	12,09%	47,45%	46,08%	18,47%	19,94%	5,81%	6,12%	63,86%	64,19%	↑
Greece	22,02%	18,89%	26,13%	45,27%	25,56%	11,36%	15,84%	13,10%	8,00%	8,52%	2,45%	2,85%	33,63%	33,46%	↓
Hungary	6,77%	6,24%	9,55%	11,40%	14,83%	10,05%	39,93%	49,07%	26,62%	20,47%	2,30%	2,77%	64,14%	64,42%	↑
Ireland	3,29%	4,80%	28,38%	33,02%	7,31%	7,00%	11,28%	13,43%	45,23%	40,62%	4,50%	1,14%	65,56%	61,39%	↓
Italy	3,63%	4,62%	13,46%	15,44%	30,01%	25,59%	39,16%	40,43%	11,03%	11,09%	2,70%	2,83%	52,69%	53,17%	↑
Latvia	8,98%	14,06%	43,86%	31,70%	29,83%	14,83%	9,55%	20,74%	6,12%	13,41%	1,66%	5,26%	32,24%	42,85%	↑
Lithuania	8,57%	11,29%	32,01%	31,07%	23,51%	19,24%	27,11%	27,54%	6,88%	8,61%	1,92%	2,24%	41,90%	42,81%	↑
Luxembourg	6,25%	8,08%	15,97%	19,52%	35,24%	28,08%	25,83%	33,13%	11,90%	6,61%	4,81%	4,58%	46,30%	45,44%	↓
Malta	1,62%	4,32%	10,38%	39,19%	16,92%	7,04%	12,34%	12,29%	55,67%	33,20%	3,07%	3,96%	74,02%	56,20%	↓
Netherlands	10,72%	14,21%	19,10%	24,57%	9,61%	12,60%	20,37%	27,39%	21,52%	19,84%	18,69%	1,39%	54,08%	50,37%	↓
Poland	10,17%	9,59%	16,25%	17,58%	27,91%	22,10%	38,66%	39,04%	5,88%	10,43%	1,12%	1,26%	46,44%	50,26%	↑
Portugal	4,04%	6,54%	20,66%	27,71%	32,90%	27,23%	33,03%	29,53%	8,83%	7,86%	0,54%	1,13%	47,25%	44,25%	↓
Romania	5,33%	8,87%	17,52%	14,39%	49,66%	20,41%	20,64%	43,71%	5,67%	8,72%	1,18%	3,90%	38,40%	52,24%	↑
Slovakia	4,36%	4,62%	17,96%	11,07%	26,45%	16,25%	43,11%	55,01%	6,54%	12,47%	1,58%	0,60%	50,78%	60,91%	↑
Slovenia	4,80%	6,62%	14,57%	15,25%	26,40%	18,13%	38,39%	37,90%	14,01%	19,53%	1,84%	2,57%	54,03%	57,78%	↑
Spain	11,63%	13,15%	17,28%	18,76%	16,00%	16,37%	43,00%	37,49%	9,41%	10,55%	2,67%	3,68%	51,36%	49,26%	↓
Sweden	3,30%	7,30%	20,16%	20,77%	14,02%	12,98%	35,63%	36,61%	21,02%	16,80%	5,86%	5,55%	59,80%	55,78%	↓

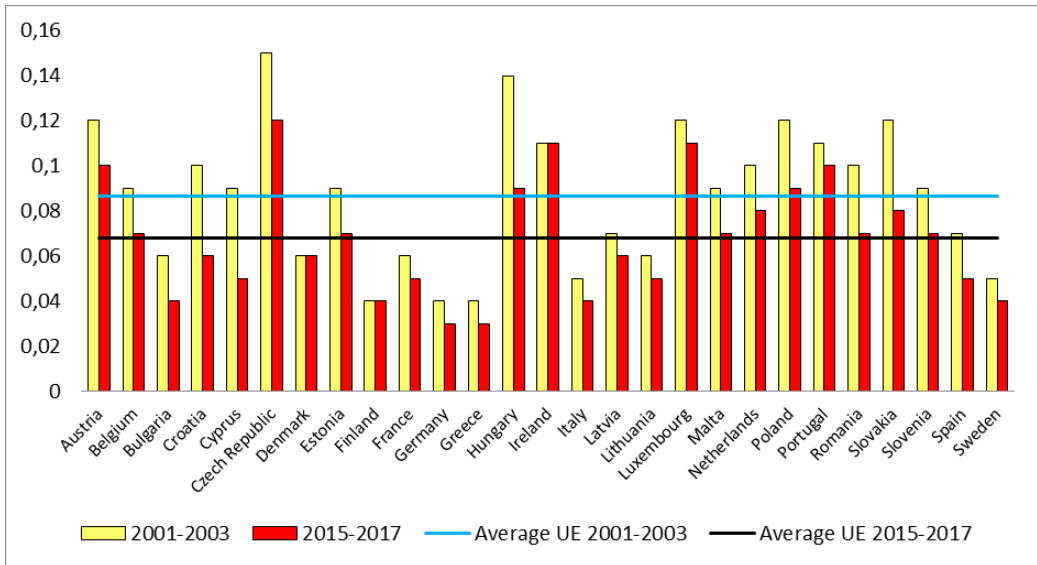
Source: Own elaboration based on UNComtrade data (2018).

Graph 1: Diversification of EU countries' exports by product



Source: Own elaboration based on TradeMap data (2018).

Graph 2: Diversification of EU countries' exports by market

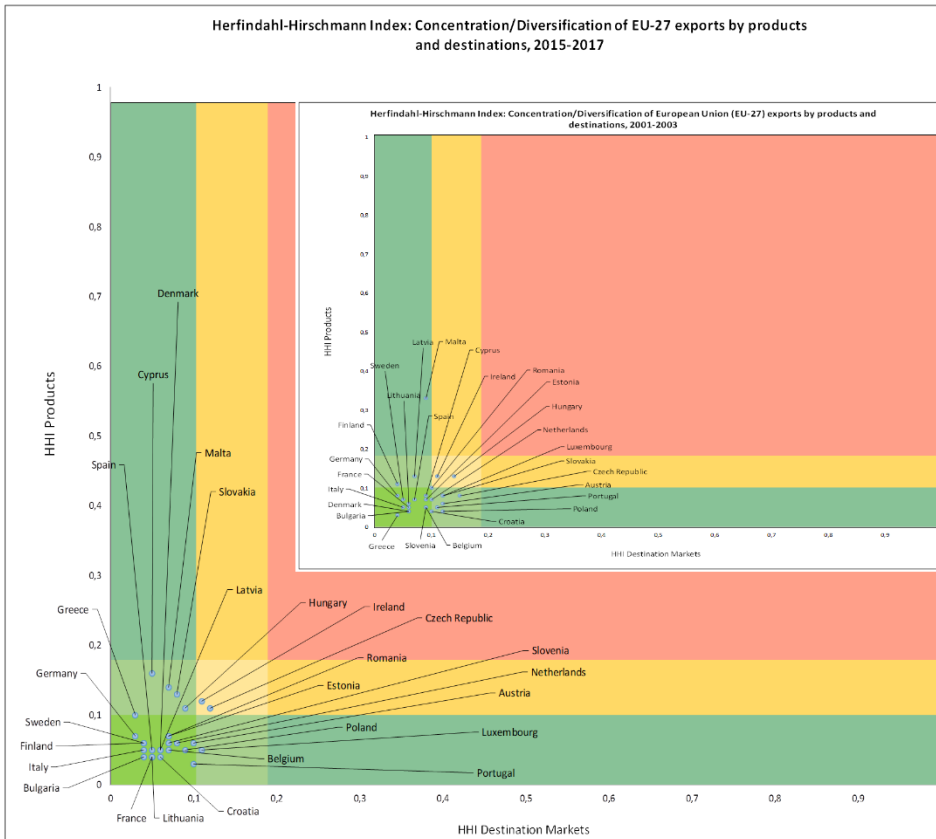


**Source:** Own elaboration based on TradeMap data (2018).

Graph 3 shows the qualitative changes that have taken place between the two reference periods, time-lapse in which 12 of the 27 economies studied have achieved greater degrees of diversification, both in terms of products and geographical destinations. Those are: Germany, Spain, France, Hungary, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Portugal and Sweden. 14 other countries show improvements in one of the two types of diversification (12 in geographical destinations, Austria, Belgium, Bulgaria, Cyprus, Croatia, Czech Republic, Estonia, Greece, Italy, Poland, Slovakia, Slovenia and 2 in products, Finland and Ireland), while the remaining country, Denmark, shows no improvement in either category, in fact shows a reduction in product diversification.

The most relevant cases are those of Latvia and Malta, as the former shows an improvement of 0.01 in its geographical diversification but an improvement of 0.08 in terms of product diversification, while Malta shows an improvement of 0.02 in its diversification by target markets and a substantial improvement of 0.19 in terms of product diversification. On the other hand, the most atypical cases are those of Cyprus, Greece, Slovakia and the Czech Republic, whose have all improved in terms of geographical diversification, but it can also be seen that they have increased their concentration in terms of exported products.

**Graph 3: Diversification of EU countries' exports by products and markets**



Source Own elaboration based on TradeMap data (2018).

In summary, it can be argued that in the P2, there are 20 EU-27 countries that have the category of “diversified”, both by destination markets and by products. On the other hand, it can be postulated that there are 4 economies (Cyprus, Slovakia, Hungary and Malta) that have a “diversified” category index in terms of geographical diversification, but have a “moderately concentrated” index in product diversification. And that Luxembourg is the only country among those studied which has “diversification” by product and “moderate geographical concentration”. Finally, it is worth mentioning that there are 2 countries (Ireland and the Czech Republic), which present “moderate concentration” both in their diversification by products and by destination markets.

**International Insertion Quality (IIQ)**

At this point it should be noted that the last two sections were used to reflect the evolution of the CCTX and export diversification of the European Union countries, in order to observe if they have shown improvements between P1 and P2. However, and as is logical the greatest positive variations are presented in countries that in P1 had scarce technological sophistication or concentrated export diversification. Since for a country the higher the technological content or lower the concentration, it is more difficult to improve its indicators. Therefore, the IIQ construct “calculated” in this section, being static, does not take into consideration if there has been an improvement between the study periods. Rather classifies the EU-27 countries according to the indicators presented only in the P2, thereby establishing their “current” international trade insertion quality.

Table 3 shows the classification of the IIQ of the European Union countries, using both the HH Index by destination markets and by products calculated before, and the Coefficient of Technological Content of Exports (CCTX) presented previously.

**Table 3: Classification of the international insertion quality of EU countries**

		CCTX			
		Low (<40%)	Medium-low (40%-50%)	Medium-high (50%-60%)	High (>60%)
Concentration / Diversification	HHIM1P1	Greece Bulgaria	Lithuania, Latvia, Portugal, Croatia, Spain, Finland, Denmark	Poland, Estonia, Netherlands Romania, Belgium Italy, Sweden Slovenia, Austria	France, Germany
	HHIM1P2			Cyprus, Malta	Slovakia Hungary
	HHIM2P1		Luxembourg		
	HHIM2P2				Ireland Czech Republic

**Source:** Own elaboration.

The rows will represent the levels of diversification/concentration (HHI) of markets (M) and products (P) of which those numbered 1 will correspond to “diversified” markets or products (IHH 0.00-0.10) and those numbered 2 will be those with a “moderately concentrated” market or product (IHH 0.11-0.18). In the absence of results corresponding to markets or “concentrated” products (HHI 0.19-1.00), a third numbering was omitted.

On the other hand, the columns correspond to the Coefficient of Technological Content of Exports (CCTX), where to facilitate the analysis although with an inevitable quota of arbitrariness, the following classification is carried out: low if it scores < 40%, medium-low if it scores between 40% - 50%, medium-high if it scores between 50% - 60%, and high export technological content if it is above 60%.

Thus, Table 3 shows that most EU-27 countries have diversified export markets and products (HHIM1P1) with medium-low and medium-high technological content. However, countries such as Greece and Bulgaria stand out for being in this quadrant and having products with a low-technological content. In addition, this section highlights France and Germany, which not only have diversified export markets and products, but also have a high technological intensity.

Slovakia and Hungary, however, are countries with a high technological content in their exports and with a diversified export market, but their export products are moderately concentrated. Other cases that call the attention are those of Ireland and the Czech Republic that although their exports have a high technological content, their markets and products are moderately concentrated.

### Conclusions and Implications

The double aim of this research consisted, on the one hand, to present a first approximation to the International Insertion Quality (IIQ) construct. And, on the other hand, to classify the EU-27 countries, through a 16 quadrants matrix, which allows evidencing the countries that have a better quality of insertion in international trade. But also which of them should optimize their trade policies in terms of the technological sophistication of their exports and/or their diversification.

Through this research it can be concluded that at a macro level the EU-27 exports are mostly diversified both in products and in destination markets, which shows a stability of the European Union bloc, making it attractive for investment. Likewise, in general it can be postulated that most of the countries of this bloc have improved their export basket, their geographical diversification and the sophistication of their exports from the period 2001-2003 to the period 2015-2017.

At a micro level, this paper concludes that just as there are countries that have improved the sophistication of their exports, such as Romania, Latvia and Slovakia, there are also economies that are showing a decline in this area, as their exports of primary products and manufactures based on the increase of natural resources, as is the case of Malta, Sweden, Ireland and Finland. This would have serious implications at the level of the productive development of these countries, since their goods, losing their technological content, become more vulnerable to economic shocks in the international market. Therefore, these countries have the task of making decisions within their trade policy to raise their levels of value-added generation. To this end, they must not only properly take advantage of the exploitation of the goods in their current export basket, endow their labor force with knowledge and skills, but must also develop or acquire new technologies.

It can also be concluded that 12 of the 27 economies show a qualitative improvement in the degree of diversification of their exports both by markets and products, however there are also cases of countries that show a high decline in this area, such as Cyprus, Slovakia and the Czech Republic. This could cause serious drawbacks, because they are dependent on income generated by the export of few products or to concentrated geographical destinations, making them more vulnerable than other economies with more diversified export baskets. In this case, countries should encourage, through their trade policies, the diversification of their export basket and/or the geographical diversification of their export goods. In the first case, it should encourage the export of “non-traditional” products, through incursion or deepening in different industries. In the second case, they should take advantage of their status as member states of the European Union, as well as establish long-term trade links with non-EU states and thus expand the destination markets for their exports.

In summary, although there are countries such as Germany and France that have a wide diversification of exports by products and markets and a high technological content, cases have also been found of countries such as Ireland and the Czech Republic, which have a high technological content but a “moderate concentration of markets and products”, or cases such as Greece and Bulgaria, which have a wide geographical and goods diversification, despite the fact that their exports contain a low level of technological intensity.

In general, the results obtained make it possible to argue that economies that have a lower technological content or a “moderate concentration” geographically or by products, should establish trade policies that encourage export diversification and/or the sophistication of their exports, which could help them overcome the instability of exports, which could intensify and accelerate their economic growth. If these countries do not take these measures, they could see instability in their exports that could discourage the necessary investments in the economy by risk-averse firms, increase macroeconomic uncertainty and be detrimental to longer-term economic growth. In other words, the diversification of exports and/or the sophistication of these would stabilize export earnings in the long term, thereby also improving the quality of insertion and integration in the international trade of these nations.

This study is not exempt from some limitations, which nevertheless open gaps for future research lines. Maybe, the major limitation of this work is that in proposing a first approximation to a new construct (that allows measuring the quality of insertion in the international trade of a nation), presents certain limitations in itself. It just takes into consideration three static indicators. In that sense, the IIQ construct can and should be improved with additional indicators which could help to measure the IIQ as accurately as possible. It would be very interesting if this study were extended to all regions of the world (non EU countries) in order to analyze the IIQ of all the countries of the world.

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## ANNEXES

### ANNEX 1

#### EXPORT CATEGORIES ACCORDING TO TECHNOLOGICAL INTENSITY

Classification	Subsectors	SITC codes, Rev.3
Primary Products (PP)	Primary Products (PP)	1, 11, 12, 22, 25, 34, 36, 41, 42, 43, 44, 45, 54, 57, 71, 72, 74, 75, 81, 121, 211, 212, 222, 223, 231, 244, 245, 246, 261, 263, 268, 269, 272, 273, 274, 277, 278, 281, 286, 287, 289, 291, 292, 321, 325, 333, 343, 682, 683, 684, 685, 686
Natural resource-based manufactures (RB)	RB 1: Agricultural and Forestry	16, 17, 23, 24, 35, 37, 46, 47, 48, 56, 58, 59, 61, 62, 73, 91, 98, 111, 112, 122, 232, 247, 248, 251, 264, 265, 322, 421, 422, 431, 621, 625, 633, 634, 635, 641
	RB 2: Other Products based on Natural Resources	282, 283, 284, 285, 288, 334, 335, 342, 344, 345, 411, 511, 514, 515, 516, 522, 523, 524, 531, 532, 551, 592, 629, 661, 662, 663, 664, 667, 681, 687, 689
Low-Technology Manufactures (LT)	LT1: Textile and Fashion Products	611, 612, 613, 651, 652, 654, 655, 656, 657, 658, 659, 831, 841, 842, 843, 844, 845, 846, 848, 851
	LT2: Other Low-Tech Products	642, 665, 666, 673, 674, 675, 676, 677, 679, 691, 692, 693, 694, 695, 696, 697, 699, 821, 893, 894, 895, 897, 898, 899
Medium-Technology Manufactures (MT)	MT 1: Automotive Products	781, 782, 783, 784, 785
	MT 2: Medium-tech Process Industries	266, 267, 512, 513, 533, 553, 554, 562, 571, 572, 573, 574, 575, 579, 581, 582, 583, 591, 593, 597, 598, 653, 671, 672, 678, 786, 791, 882
	MT 3: Medium-tech Engineering Industries	711, 712, 713, 714, 721, 722, 723, 724, 725, 726, 727, 728, 731, 733, 735, 737, 741, 742, 743, 744, 745, 746, 747, 748, 749, 761, 762, 763, 772, 773, 775, 793, 811, 812, 813, 872, 873, 884, 885
High-Technology Manufacturing (HT)	HT 1: Electrical and Electronic Products	716, 718, 751, 752, 759, 764, 771, 774, 776, 778
	HT 2: Other High-Tech Products	525, 541, 542, 792, 871, 874, 881, 891
Other Products	Other Products	351, 883, 892, 896, 911, 931, 961, 971



## General Trends of Business Career Management

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### Abstract

Correct career management policies provide human resources with the ability to increase the required habits, skills, qualification capabilities and become recognizable. Personnel policy and career management are important and current issues, that's why it has become an object of our research. The research was conducted in the "Human Potential Management" laboratory at the Faculty of Economics and Business of Ivane Javakhishvili Tbilisi State University. The research was conducted by an associate professor Natalia Kharadze, Associate Professors, PhD students and other students were involved in it. The questionnaire according to which the survey was carried out consisted of 32 questions and 125 options for an answer. The survey was attended by the respondents employed in Tbilisi, who were randomly selected in a short period of time. For the purpose of conducting a comprehensive research, SPSS statistical software package was used for statistical processing and data analysis. The questionnaire data discussed in the survey was filled by 560 respondents. Several hypotheses have been proved: Hypothesis HP1; Hypothesis HP3\_1; Hypothesis HP3\_2; Hypothesis HP3\_3; hypothesis HP3\_4; in which the correlation analysis has been used, Chi-squared test; While hypothesis HP2 has been used for single-factor dispersion analysis -One Way ANOVA, Cross tabulation analysis, test of homogeneity of variance (Levene). As a result of analyzing the survey data, we had the opportunity to formulate some recommendations that will allow the organizational head to reduce signs of discrimination.

**Keywords:** Career, management, business career, nepotism, human resources management

### Introduction

Correct career management policies provide human resources with the ability to increase the required habits, skills, qualification capabilities and become recognizable, gain respect and spiritual enrichment, fair and transparent personnel policy and career management are important and current issues. Many people think that there is a big difference between an individual's career and his/her personal life. In any case, career is an inseparable part of life, and, therefore, the need to manage it properly is very important. Career can not be properly managed without an individual's correct self-management. It is directly related to our previously conducted studies how correctly a person is managing his own time, defining tasks and priorities, managing the business career affects the organizational climate and conflict situations. That's why it has become the object of our research.

### Literature Review

The professors involved in the research are working on the issues of human resources management and the articles are published. The Laboratory has studied the trends of personnel development (Kharadze & Gulua, 2018) generally as well as in terms of gender (Gulua, Ekaterine; Kharadze, Natalia, 2018)

The causes of conflicts in the organization are studied (Kharadze, Natalia; Gulua, Ekaterine, 2018) Although the conflict is an inevitable and eternal process (Paresashvili, Nino, 2018) ,it is important to use the methods of constructive behavior in the management of conflict situations (Nikvashvili, 2016) Cultural Management Issues of the Organization (Gulua, Ekaterine; Kharadze, Natalia, 2018) are directly related to Career Management. Our researchers have been interested in all the issues that jointly affect the effective use of human resources. One of them is a leader's function (Amkoladze, Gocha; Gabrichidze, Amiran; Giorgobiani, Maia; Zedgenidze, Merab; Kharadze, Natalia, 2014) which has taken a special role in the conditions of globalization. (Amkoladze. Gocha; Gabrichidze. Amiran; Giorobiani. Maia; Lomsadze-Kuchava. Maia; Kharadze, Natalia, 2014) The proper use of time and the distribution of jobs according to the priorities have had a significant impact on the proper development of the staff, and we have also studied these issues in various aspects. We analyzed the issues of using free time (kharadze, Natalia; Gulua, Ekaterine; Dugladze, Davit, 2017) (Pirtskhalashvili, Dea; Dugladze , Davit, 2018); as well as the correct planning of the working time and the correct distribution of tasks, we studied the issues of proper organization of labor in not only one region but also according to different regions (Kharadze, Natalia; Gulua, Ekaterine, 2017) since the traditions of different regions of Georgia influence their behavior. For us the most interesting research segment has always been the youth, so we studied their behavior separately (KHARADZE & DUGLADZE, 2018) ; (Kharadze, Natalia; Dugladze, Davit; Pirtskhalashvili, Dea, 2018). Career can not be properly planned without knowing self-management issues, where serious problems were found during one of the researches (Kharadze, Natalia; Gulua, Ekaterine, 2016) The personal development provides a precondition to manage our business career correctly (Ekaterine, Gulua; Natalia, Kharadze, 2017) The problems accumulated led us to conclude that it was necessary to study business career management.

The effectiveness of human resource management depends mainly on its correspondence with the organization's level of development. Of course, in parallel with the growth and development of an organization, human resources management programs, practice and procedures should be changed and evolved. (Paichadze, Chokheli, Keshelashvili, Kharkheli, Tielidze, & Tchuradze, 2017) The organization should manage the personnel policy in such a manner as to create the motivation of self-development for qualified staff (Nugzar Paichadze , 2013) and the motivation of qualified staff should be based on fair principles of career management.

### Research methodology

The research was conducted in the "Human Potential Management" laboratory at the Faculty of Economics and Business of Ivane Javakishvili Tbilisi State University. The research was organized by the founder and the manager of the laboratory, an associate professor Natalia Kharadze. The questionnaire according to which the survey was carried out consisted of 32 questions and 125 options for an answer. The survey was attended by the respondents employed in Tbilisi, who were randomly selected in a short period of time.

After using intricate statistical procedures and analyzing the data thoroughly the following factors were determined: the existence of the connection between variables and its reliability; Evaluation of the influence of the factors affecting them; Prognosis of certain variables; Formulation and inspection of hypotheses according to the research issues; Factor analysis; Checking the reliability of the model and making essential conclusions.

For the purpose of conducting a comprehensive research, SPSS statistical software package was used for statistical processing and data analysis. The questionnaire data discussed in the survey was filled by 560 respondents.

During the analysis of data, selection of methods and tests in statistical procedures was made according to which variables we dealt with. So, in order to analyze them, we had to use not only simple but difficult tools as well. Specifically, in the statistical analysis of our data the following types of statistical procedures and methods have been used:

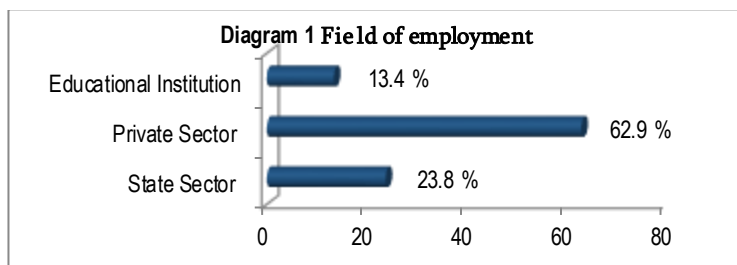
- 1.Descriptive statistics: Frequency analysis, Descriptive, Cross-tabulation and Consumer table analysis;
- 2.Graphical analysis;
- 3.Correlation and Regression analysis;
- 4.analysis of differences between groups: - comparison of averages, T- Tests, Chi-square tests, Mann Whitney and Kruskal Wallis Tests;
- 5.various means of Dispersal analysis (single factor analysis, multiple factor analysis on one dependent variable, multiple factor analysis or on several dependent variables);

6.factor analysis;

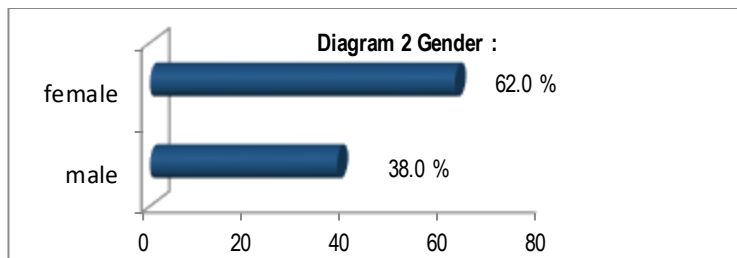
7.Check the reliability of the model.

### Research Analysis

During the research respondents have been selected from the public and private sectors as well as from educational institutions. The study showed that 62.9% of the interviewed respondents are employed in the private sector, 23.8% - in the public sector and 13,4% - in educational institutions.(see Diagram 1)

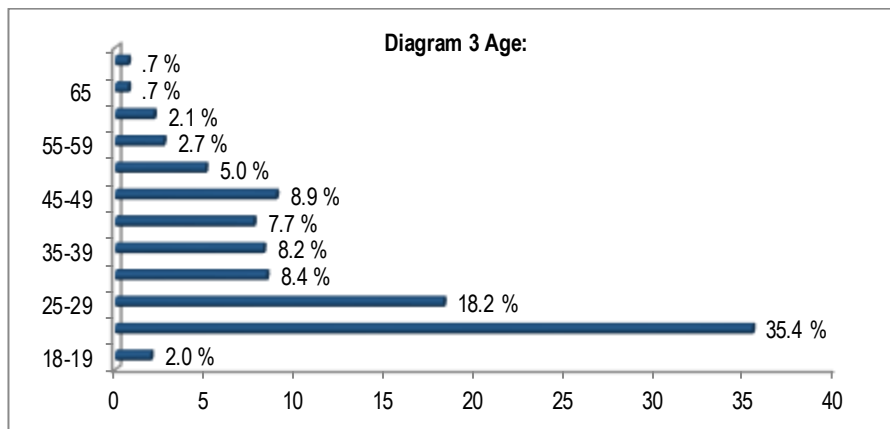


The respondents were divided by gender as follows: 62% of the respondents are female and 38% are male.(see Diagram 2)



We made the analysis of different age groups in the study. It was interesting to see what were the forms of career management in the representatives of different generations, what were the different age group respondents' attitude towards a career, how they perceive career management policies carried out by their organization managers, whether they have a hope of making a progress in the future and what factors they consider to be important for achieving the desired goals and realizing their abilities fully.

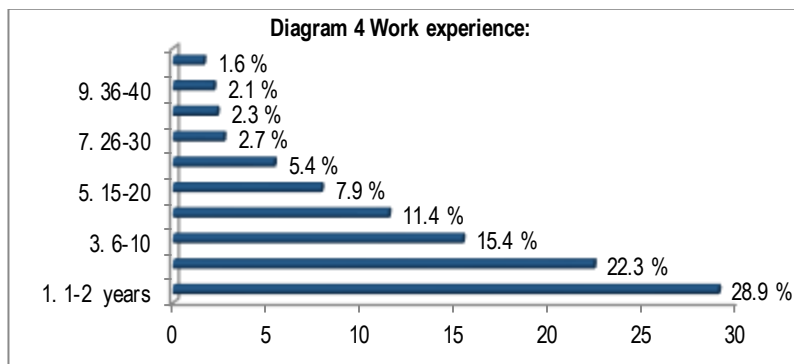
The respondents of the study who are 18-19 years old are 2% of the interviewed people, The respondents who are 20-24 equal to 35.4% , 25-29 - to18.2% , 30-34- to 8.4% , 35-39-to 82,2% , 40-44 – to 7,7% , 45-49 - to 8,9% , 50-54 – to 5% , 55-59 – to 2,7% , the minority is the respondents who are 60-64 years old, 65 years and more than 65 - 2,1% ; 0.7 % and 0.7 % (see Diagram 3)



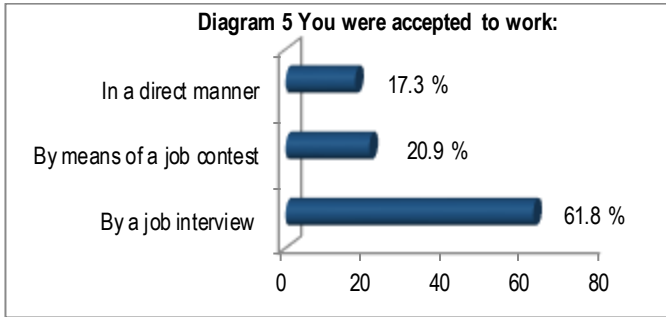
Among the interviewed people the largest percentage was the employed respondents at the stage of searching. In the given period, an individual is seriously looking for different alternatives, taking their own interests and abilities into account. At this age it is very important a person to correctly evaluate his/her abilities, talents and interests.

The survey showed that the number of respondents at the stage of maintenance (from 44 to 65) is 27.8% in total.

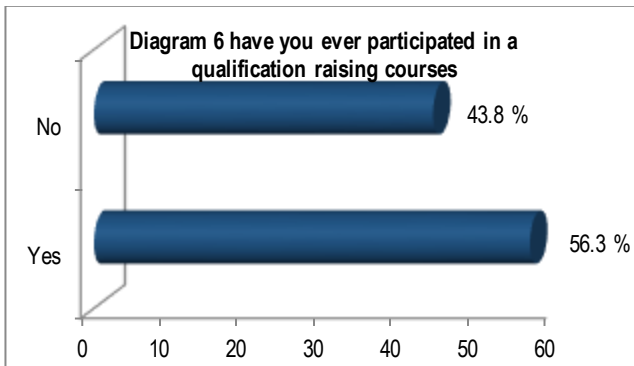
Among the respondents the highest percentage was revealed in connection with the employed people with 1-2 years of experience, in total the number of employed people with work experience from 1 to 10 years was 66,6% (see Diagram 4)



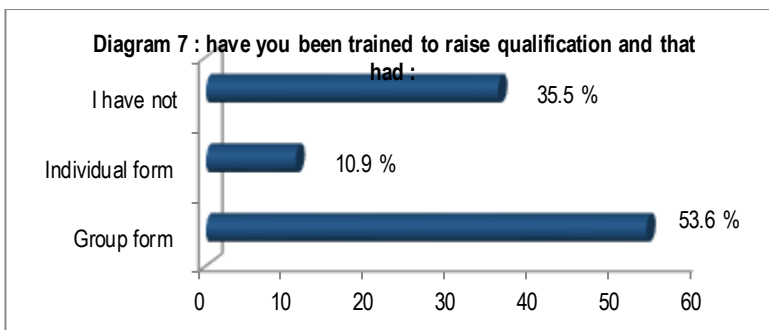
Selection of personnel is one of the most important steps in human resource management. At this time many multifaceted work should be done in which the specialists of economics, law, sociology and psychology will be involved. It is important to exclude independent decisions. Psychological and professional qualities of the staff should be studied. In what conditions do people achieve high results and in what conditions do they try to avoid work? Psychologists and sociologists are the best who can answer this question ( Paichadze Nugzar, 2012 ) It is important to examine and evaluate the individual's personality thoroughly, to minimize the subjectivity. Otherwise, there is a big chance that a person can feel a victim of discrimination. A person getting a job without interviews and competitions causes certain doubts in the employees, it was observed in the research process. The fact that 17,3% of the surveyed respondents are employed in the job in a direct manner without a contest and they have not been interviewed is not a positive indicator. Especially in a country like Georgia, where the indicator of nepotism is high and the trust in general towards competitions is low. In the post soviet period it is important to develop an organizational culture based on knowledge, where the main focus will be made on a person (Gulua, Ekaterine; Kharadze, Natalia, 2014) From the results of the survey it can be seen, that the number of people employed by means of a contest is three times less than the number of applicants employed by means of an interview (61,8%) (See the Diagram 5)



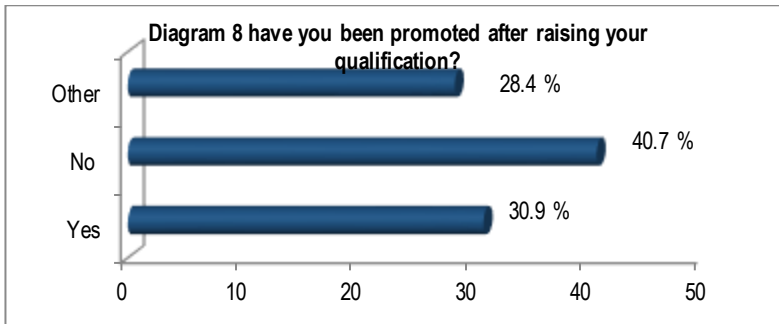
The qualification raising is an important process and needs to be organized seriously. In the organization it is important for each employee to have an equal opportunity to raise their qualifications. Today's employer must have a strategic thinking ability, broad erudition and a high culture. That is why the need for personnel development is important. The organization is obliged to carry out certain activities to reveal an employee's personal potential and to create a modern corporate culture (Paresashvili, Nino, 2016) Such can be both individual and group measures. Big Western organizations spend up to 10% of the wage fund for this purpose, the administration and the immediate supervisor of the work are responsible for the development of the personnel, and the person himself/herself as well because he/she must constantly think about self-development. The study has shown that only 56,3% of the surveyed respondents were able to improve their qualifications with the help of an organization and 43.8% were unable to increase their qualifications with the help of the organization. (see Diagram 6)



Some employees are able to raise their qualifications even without the help of the organization. It was found that the number of the respondents who raised their qualifications neither with the help of the organization nor with their own funds was 35.5%, out of which 10.9% had an individual form and 53,6% - a group form (see Diagram 7). Supposedly increasing qualifications in group forms are largely supported by organizations themselves.

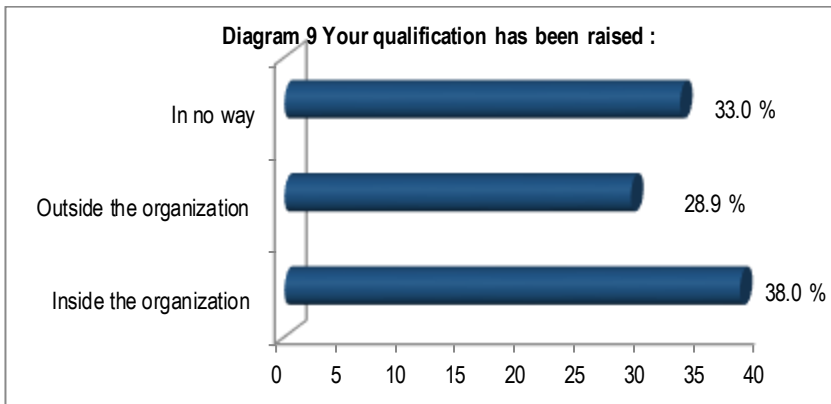


One of the most important issues in human resources management is career management. Professional promotion promotes both the organization and personal development. As the qualifications increase, there are expectations in people that their needs will be more satisfied. This may be not only a promotion at work, but the need of recognition and respect to be satisfied, the study has shown that only 30.9% of the respondents managed a promotion, 40.7% were not promoted, and a large number of 28,4% gave uncertain answers. (See Diagram 8)

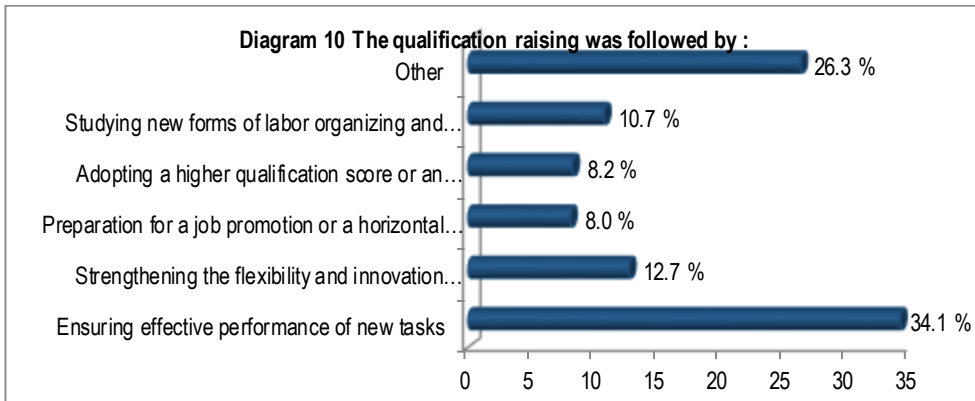


The internal form of qualification raising is naturally associated with less expenditure and at the same time it is easy to control. The research has shown that the cases of qualification raising inside the organization is few but still high, in particular, 28.9% increase their qualifications outside the organization and 38% within the organization (see Diagram 9) If we look closely we can see that the percentage of qualification improvement outside the organization coincides with the number of respondents that have been promoted after the qualification improvement.

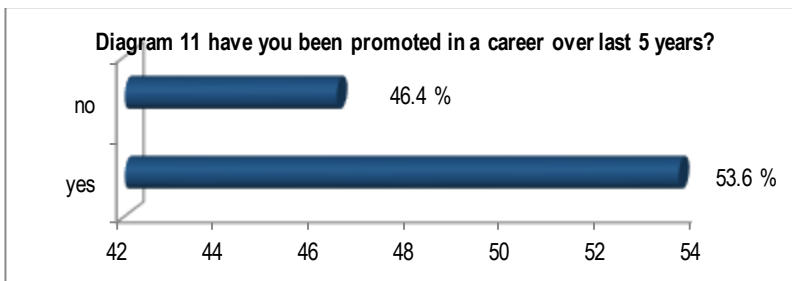
In general, we consider that the use of external form of qualification raising should be accompanied by the person's promotion and increasing its potential. Unfortunately there are often cases when the expenses spent on upgrading qualifications are often unreasonable. This has been clearly visible in the results of this survey.



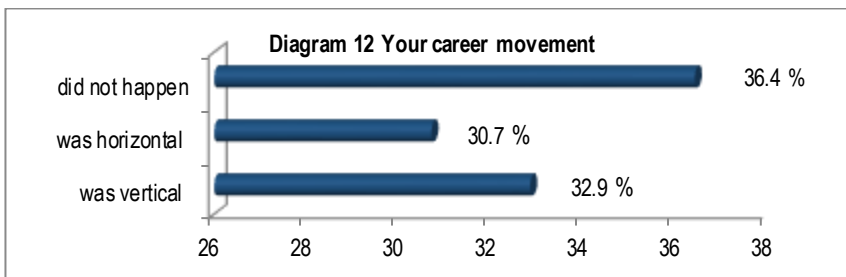
Strengthening the flexibility and innovation capabilities of management ;Preparation for a job promotion or a horizontal movement ;Adopting a higher qualification score or an adaptation to new techniques; Studying new forms of labor organizing and stimulation. After raising the qualification it is important at least one of the few directions to be achieved, in particular to ensure effective implementation of new tasks; to improve the flexibility and innovation capabilities of management; to prepare for a position promotion or horizontal movement; to adopt a higher qualification score or adapt to new techniques; to get new forms of labor organization and stimulation. It was found out that after upgrading the qualifications, 34,1% could efficiently perform new tasks; 12,7% increased flexibility of management and capabilities of innovation; 8% prepared for a position promotion or horizontal movement; 8,2% managed to adopt a higher qualification score or adapted to new techniques; 10,7% were able to receive the new forms of labor organization and stimulation and 26,3% cannot name in what direction their career activities have been changed after raising qualifications. This indicator is high and may be assumed that we are dealing with inappropriate spending of time and finances. (See Diagram 10)



It is important to know in what period of time an employee's career movement happens. It turned out that in the last five years 53,6% managed the career movement and 46,4% did not change the job in the last five years. (See Diagram 11)

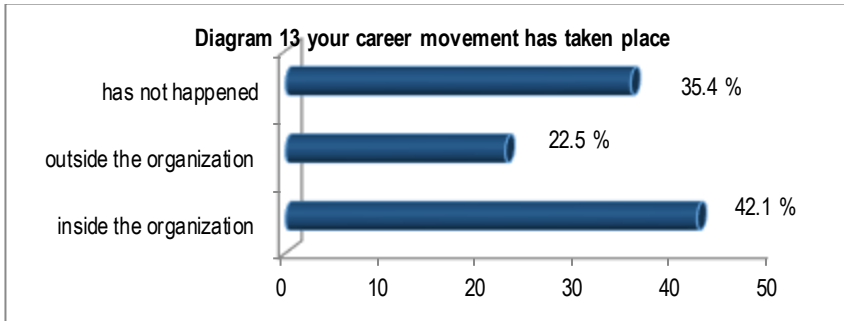


It is known that a career includes both a vertical and a horizontal career. The employees most clearly notice a vertical career form, when they get a gradual promotion at the hierarchical step, accompanied by professional experience growth, at this time not only the status but also the social role changes, and the second horizontal career is less attractive, despite the fact that an employee has to form new tasks and skills. The survey showed that the horizontal movement took place in 30,7% of the employeeed people's career, the vertical movement took place in 32,9% and 31,9% of the respondents were not affected by any form of career (see Diagram 12).

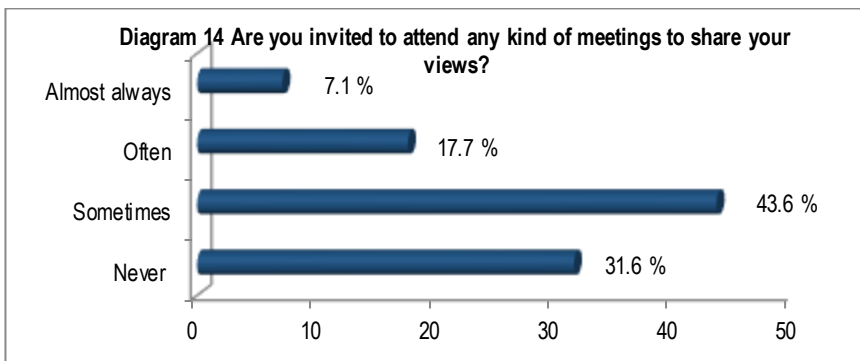


Among the career forms a non-specific career is important that is very common in Japan. In their opinion, the supervisor should be such a specialist who will be able to work at any place. When a person is moved to the highest level of management, he should be able to see the company from all directions, thus the person on one position does not stay for more than one year and his/her tasks are constantly changed. During the interorganizational career a person goes through development stages in different organizations. The existing difference in the practice of human resource management in different countries is due to different factors. One of the key factors among them is a legislative base of human resources management. In this case, we mean the regulation of human resources management issues on the

country's legislative level (Nugzar Paichadze, 2018) The study has shown that 41.2% managed the growth of the career within the organization and 22.5% - outside the organization. (See Diagram 13).

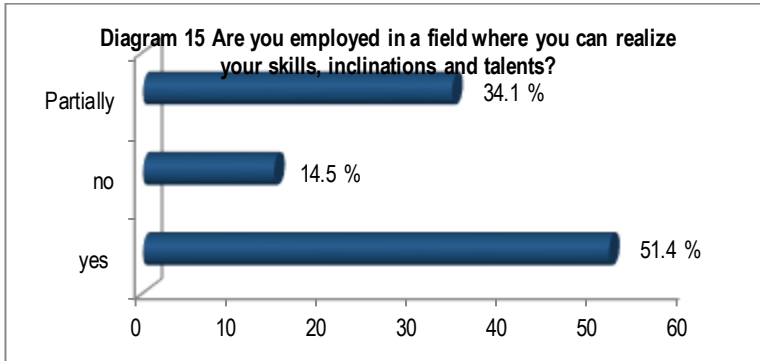


The secret career form is most natural for organization members. It is available for a narrow circle that has sufficient knowledge and wide connections outside the organization. Such a worker may have an ordinary position in the organization. In some cases, the salary of such people is much more than the position they occupy provides. Secret career forms are often associated with nepotism, since such people are relatives of high-rank officials. As a result of our research, it has been confirmed that 24.8% of the employed people are frequently and almost always invited to meetings and appointments, while 43.6% of the respondents responded "sometimes", 31.6% of the employees are almost never invited to any kind of meetings. (See Diagram 14).

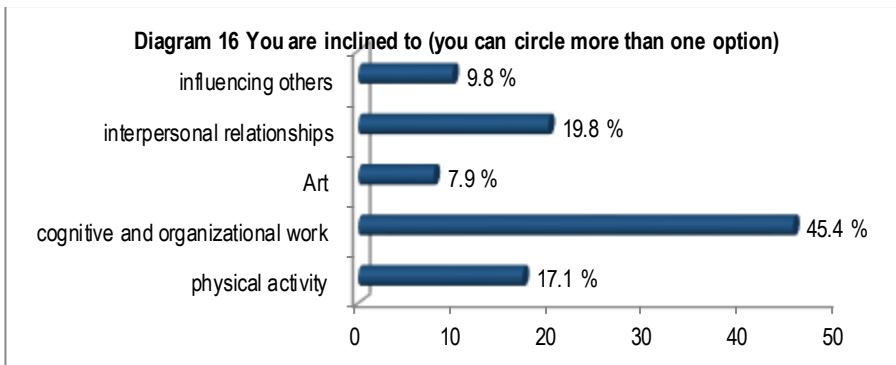


Professional orientation is of great importance while choosing a profession. In most cases, young people choose their professions by the advice of others. In case of Georgia, parents' influence is great, schools are less likely to be able to identify pupils' inclinations and the development of hidden talents. Often a child grown up in a doctor's family chooses the same profession, even though he is not inclined towards this type of activity. In this case, the person can not be fully realized. In many cases, his/her real vocation remains beyond the development. This kind of attitude is caused by the values established in the Soviet system. (Kharadze, Natalia; Kakhabe, Chikhradze, 2015) As a result of the survey, it was found that 51.4% of the respondents were able to realize their skills and inclinations at work, while 14.5% were partially and almost never able to do that (See Diagram 15) Thus, the respondents are in a process of searching for a new job. Under the circumstances when the unemployment level is high in Georgia, leaving a job and searching for a new one can be explained by many factors (Paichadze Nugzar, 2018) but one of them is definitely inconsistency with people's skills and inclinations.

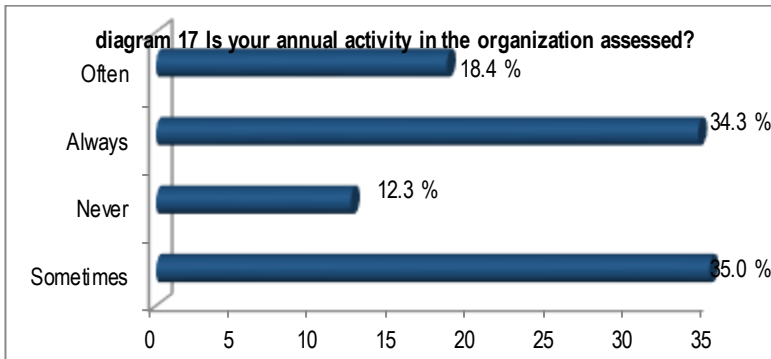




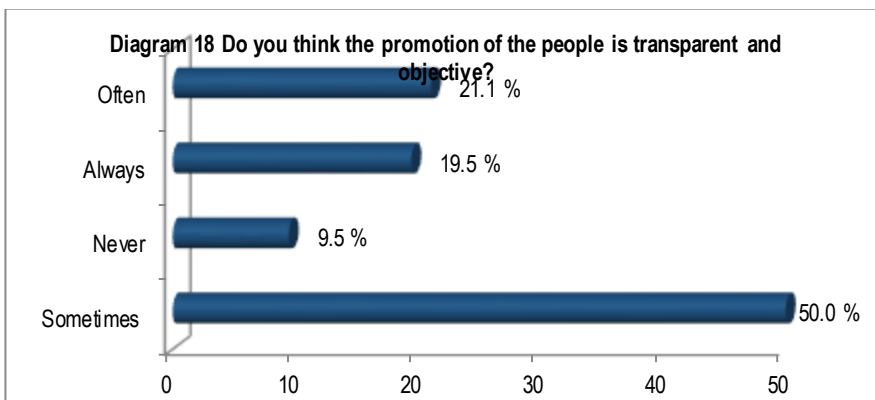
The famous American researcher John Holland identifies the following types of a person's individual orientation: a real orientation when a person is inclined to work where using the physical force is necessary, such a category in our study is 17.1% ; During a research orientation people have an inclination towards cognitive and organizational activities, the inclination to the research orientation was named by 45.4% of the respondents, 7.9% , were prone to an artistic orientation, during a social orientation people are inclined to the activities which are related to interpersonal relationships, 19.8% represented such a category of respondents, while during an initiative orientation people are prone to activities that are connected with influencing others. 9,8% of the respondents have attributed themselves to this category (See Diagram 16). Cultural values of Georgians influence the formation of people's inclinations, all nations have dominant features, and our nation is excessively prone to being the first in everything. According to the Georgian tradition, every second person at the table wants to be a toastmaster, there are many people in the country who want to be at the highest level of its management. The excessive ambition is good and dangerous at the same time. One thing is obvious - in the process of management the region's peculiarities must be taken into account. (Korganashvili, Larisa; Kharadze, Natalia;, 2014)



In any organization a great attention is paid to create a well-prepared reserve. The existence of a personnel reserve allows to prepare the candidates with the scientific and practically well-argued program for new vacant positions. For this purpose, the list of candidates for a promotion should be made. The promotion of the person should be based on the fair assessment of their work and achievements. In particular, it should be determined how the outcomes of the person's activity are, his/her organizational and analytical skills, the sense of responsibility, how he/she manages to make independent decisions and its justification. The results of internship and testing are important to be taken into account when taking a person into a reserve. The study showed that only 18.4% of the respondents indicated that their annual work is assessed; the answer "Always" is indicated by 34.3% ; "Never" and "Sometimes" are answered by 47,3% . (See Diagram 17)



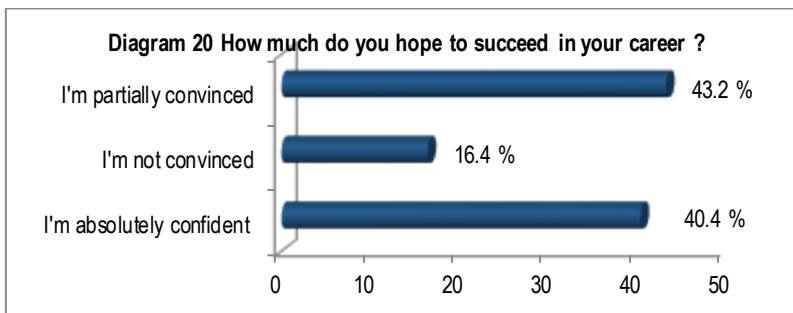
There are many factors that affect the employees of the organization. One of them is the right selection of people and their promotion. There is no guarantee that the person selected or promoted by the manager will be good. There is not an absolute guarantee that they will behave exactly the way the organization expects it from them; During the career management process, people's perception of their colleague is often not objective, as they are inadequate in the case of their self-evaluation. The colleague's promotion is often followed by biased information. The existence of recognized values that are supported and shared by people is important in the organization. For example, without sharply established criteria, it must be impossible for the person to be promoted. (Kharadze, Natalia; Gulua, Ekaterine, 2018) (Kharadze, Natalia; Gulua, Ekaterine, 2018) These criteria must be clear and each member of the organization must have the opportunity and equal access to fulfill these criteria. The promotion must be made by taking such criteria into account. In this case, also the chance of dissemination of biased information is less. When acquired values are clear people know how to act in a particular situation. The survey found that a large part of the respondents consider their career management in the organization as unfair, in particular, 59.5% think that promoting a colleague is "Sometimes" and "Never" transparent. At this time it is difficult to maintain calmness in the organization and it is necessary to spend time on extinguishing the conflicts. (Paresashvili, Nino; Maisuradze, Teona, 2017) Only 19.5% of the respondents in the survey believe that the colleague's promotion is always fair. (See Diagram 18)



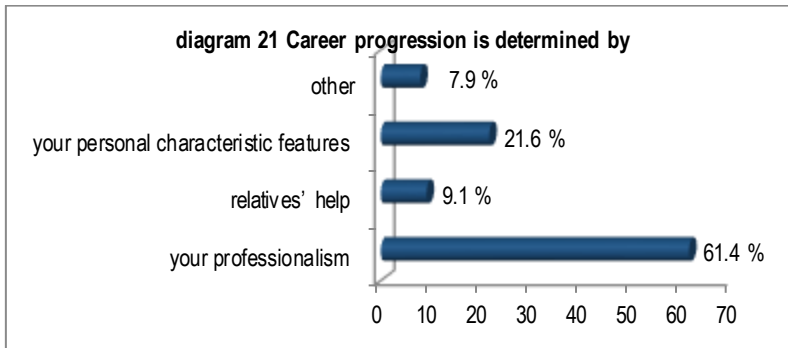
In various organizations, there are tools and methods of staff promotion. Based on of what status the person is the promotion process is carried out with a different method. However, in any case it is important the process to be objective and transparent. 8.4% of the respondents report the interference of external people in a career management, presumably they mean influential people, which contains signs of nepotism. It is noteworthy that 22% of the respondents did not answer this question, which is quite a high indicator. Considering that the survey was anonymous even more confusing is why they did not want to give answers. 38% thinks that the direct supervisor takes the decision in the promotion process and 31.6% thinks that promotion is carried out by involving the head of the organization. (See Diagram 19)



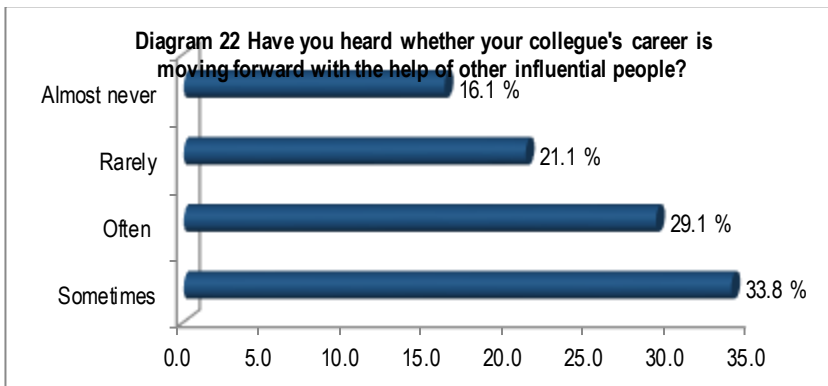
What is the motivating policy in the organization and employees' belief in the future are the factors that influence the developing of organizational culture, this factor determines the climate of the organization. When an employee has a feeling of hopelessness he/she can not be a loyal member of the organization. The loyal member of the organization is fully committed to the values and norms of behavior in the organization, trying not to do the opposite of the organization's interests, the person is disciplined. Such relationships reduce the tension in the organization and the number of conflicts is small. The study showed that hope for the future in terms of career growth is partially in 43.2% , and 16.4% has no such hope, 40.4% is totally confident. (see Diagram 20) It should also be considered that some of the respondents pointed in the questionnaire that they hope for success and promotion in the future, but not in the organization where they were at the time of the interview.



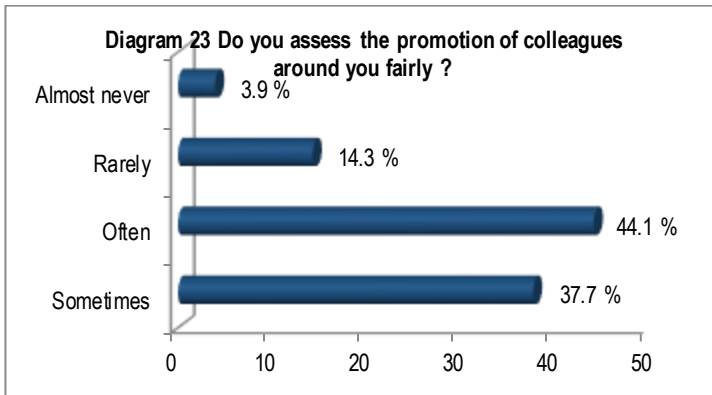
The professionalism and the characteristic features of the personality should determine a person's career, and this is the requirement of an ordinary employee in the organization. After the promotion, people are very sharp in assessing every behavior of people. The most severely people suffer from violations of the rules. The above rule can be both organizational and ethical. The violation of the rules is accompanied by the emergence of a conflictogene and often it grows into a conflict. Instead of a conflictogene, it is important to develop positive emotions in the organization, which is only possible through fair decisions. And people experience positive emotions when they are adequately acknowledged, their merits are appreciated and they can realize themselves. Also when they see that their colleague's promotion was fair. Education should play an important role in all areas (Mikiashvili, Nino; Giorgobiani, Maia ;, 2017) The study found that 9.1% of the respondents think that their career advancement is determined by the relative's help (see Diagram 21) 61.4% of the respondents indicate the need for professionalism. However, during the questionnaire, there was a frequent cases where both professionalism and a relative were indicated.



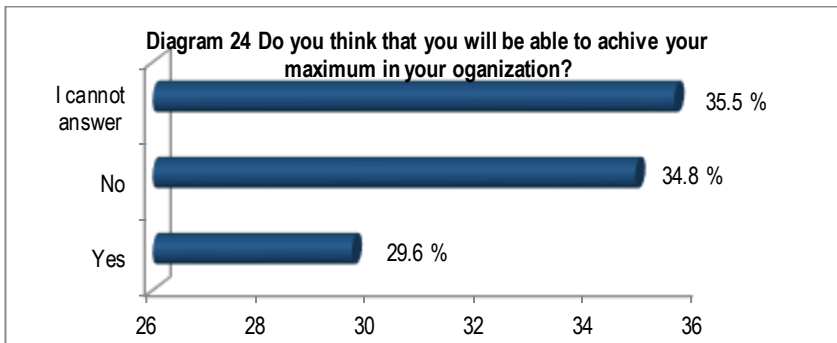
In spite of the fact that 61.4% of the respondents believe professionalism is the key criterion for the success, only 16.1% of the respondents say they have not heard about the interference of an influential person in their colleagues' promotion, 21.1% indicate that they rarely heard about this kind of fact, 29.1% notes that they often heard the influence of the person in the promotion process and 33.8% thinks that the promotion of their colleagues always happens this way. 62.9% secretly indicates that nepotism is known to them. (See Diagram 22). Naturally such attitudes will complicate the personal development in an organization. Our previous studies also confirm that personal development with the help of the organization is less likely available and is not equally accessible.



The feeling of injustice is one of the important barriers on the way of development of the organization. It is impossible to establish a high quality staff if there is a feeling of injustice. People try to be useful to the organization, to be known, recognized as individuals. Frequently these values are more important than money and material values. The manager's main task is to act in such a way and to make such decisions that employees can feel the need and the importance of their role, thus it becomes possible to unite every member for one goal. It is possible to create a collective only with keeping being fair. Violation of the principles of justice leads to discrimination and it has an impact on labor productivity. The survey found that only 44.1% of the respondents evaluate their managers' decision as fair categorically. "almost never" is indicated by 3.9% and "rarely" and "sometimes" by 14.3% and 37.7%. It may be concluded that most of the employees - 55.9% are more disappointed by unfair decisions (see Diagram 23).

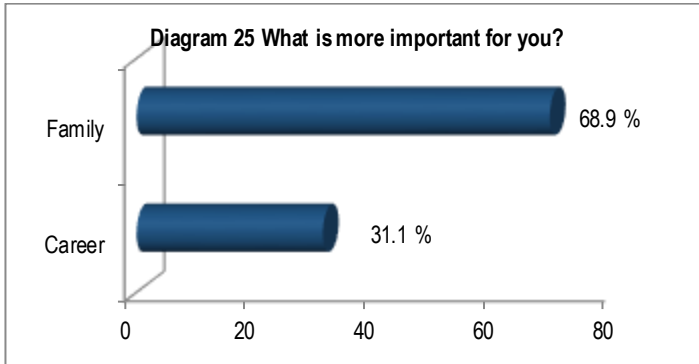


For most people labor is satisfying. The human resource management theory is based on this fact. People try to contribute to the success of the organization. Thus the main task of the manager is the effective use of human resources. He/She should create such an environment in which each person can reveal his/her abilities and skills as much as possible. Particular attention should be given to increasing staff participation in solving important problems of the organization. Personnel independence and self-control should be increased. Such an attitude increases the economic efficiency of production. After that the feeling of satisfaction resulting from labor is increasing and the employee is firmly committed to the organization. The survey showed that 34.8% of the respondents believe that they cannot achieve success in the organization, only 29.6% is convinced in the success and 35.5% find it difficult to answer this question, which also indicates a negative attitude and hopelessness (See Diagram 24).

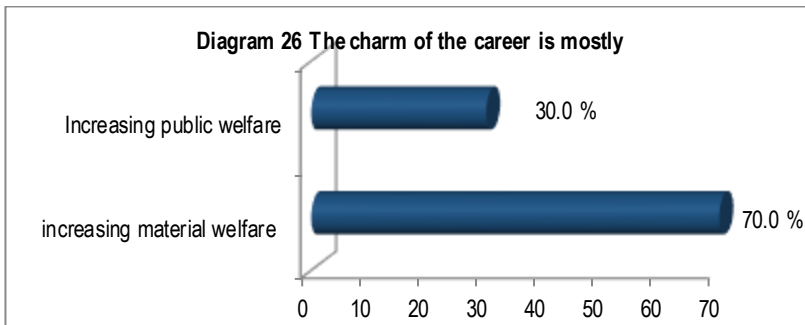


The family in Georgia is an important value. (Ieila, gaprindashvili) "In the other half of the 19th century the scientific study of the family life begins by historians, ethnographers and sociologists". The woman locked in a family life by Georgian feudal-patriarchal norms came out by the help of capitalist relationships and then the idea of a socialist equality in the public arena, but women mostly got busy with the domains that were similar to their family activities, because men are still at the decision-making mechanisms.

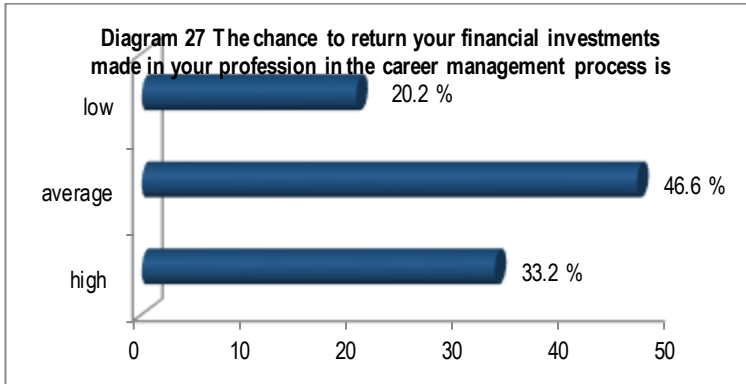
The traditional role of women was the family and the change of this value is a very difficult process. For the most part, women were choosing the kind of activities associated with education and medicine. In today's reality not only in Georgia but in many countries of the world there are signs of discrimination against women and in this respect Georgia is not an exception. The study showed that 68.9% of the respondents prefer the family and not a career. (See Diagram 25) We did not deliberately put that option to the question in the questionnaire where the respondent would have the opportunity to indicate that both of them are equally important.



As a career it is important in the organization (especially in the public sector) to select such personnel who are thinking and acting in accordance with the state interests. This means when the interests of the organization and the interests of the country are higher than your personal interests. I will recall the words of the Georgian figure Ilija Chavchavadze, who demanded the protection of specific principles and rules from the people employed in the public service, which meant state thinking. "Every man or society is even higher and decent, when he/it puts the law above himself and he/it stands under it, the happiness and a long life of the society depend on this. "There is no right without a duty and the duty is to respect, even to defend the rights of others and not to break them." The study showed that for the majority of the respondents, the charm of the career lies in the growth of personal material welfare and 70% thinks so and only 30% thinks that the charm of the career is to increase the well-being of the public. (See Diagram 26)



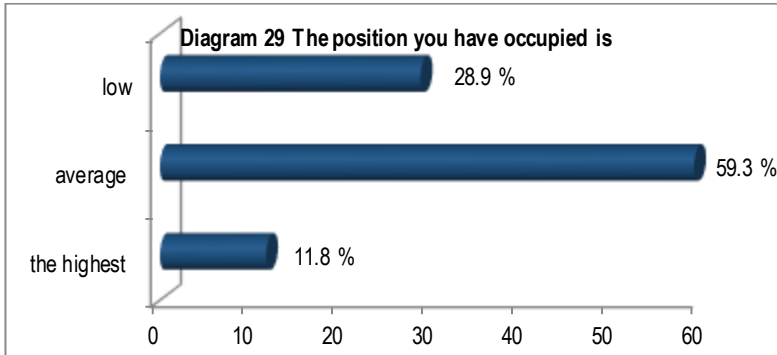
Investments in education are quite high in the case of Georgia's population. While there are free educational institutions, for achieving success only the knowledge received at these institutions is not enough. In many cases, young people try to get trainings in Georgia and outside the country with their own money. On the background of such expenses, it is important to have a feeling that you will be able to work in the future and you will not feel a sense of insecurity. According to the survey data, only 33.2% of the respondents think that they have invested money in education correctly and, unfortunately, 20.2% think that the chance to return these investments back is very low, 46.6% think that the chance is average. The respondents think that the specialty was wrongly chosen and should not have invested money in a particular direction. (See Diagram 27).



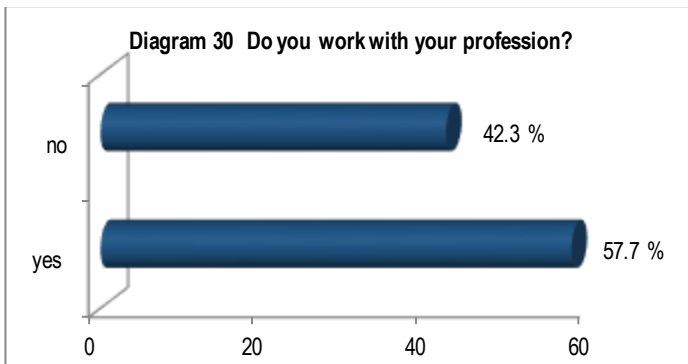
As a result of the survey we can assume that one of the main reasons for this kind of attitude is the wrong business career planning of these people. It is known that each individual's career consists of growing, searching, forming, activity maintenance and falling stages. As it seems at the stages of growing and searching, human interests and skills were incorrectly considered, the market requirements may not have been considered, and, therefore, the investments in education are considered wasted. The fact that most of the respondents think that their investments in education are inappropriate, may be the reason of that more than half of the respondents are not firmly on their workplace and are trying to find a job. In fact, 48,6% are satisfied and are not looking for another job, 32,1% are not determined and 19,3% are firmly looking for a new job (See Diagram 28). We can conclude that most of the employees are young people, they are trying to help their families due to bad social background and are willing to accept any kind of activities. So after completion of studies (master's degree course, doctoral study), they hope to change their jobs.



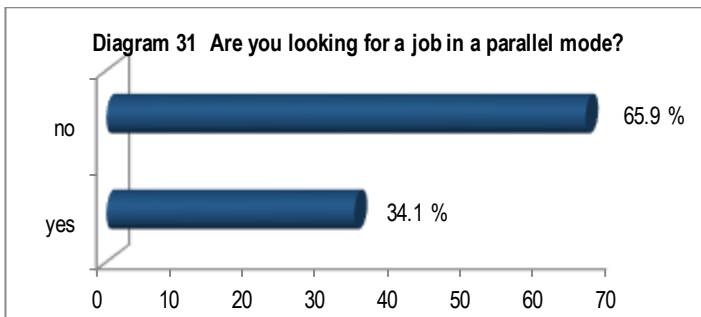
As a result of our research, it was found that 28.9% of the respondents were low-level managers, 59,3% were of the average level and just 11.8% were of the highest level. (See Diagram 29)



The study showed that there were serious errors made in the course of personal career management, the fact that 42,2% of the respondents do not work with their own profession and only 57.7% manage to work in their own profession has strengthened the idea that investments in education are improper. (See Diagram 30)

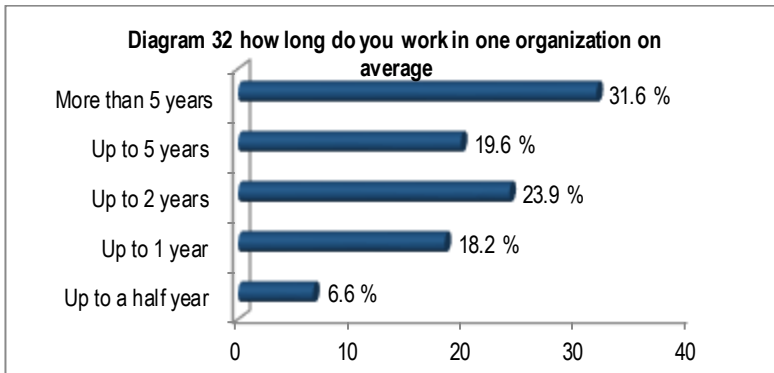


The study found that 34,1% of the respondents are looking for another job and 65,9 do not want to change their jobs. (See Diagram 31)



How loyal the people are towards the organization is well evident from one fact, in particular, how often they change their work. The survey found that only 31,6% work in one organization more than 5 years, 19,6% - up to 5 years, 23.9% - up to 2 years, 18,2% - up to a year and 6,6% - less than one year. (See Diagram 32)





### Formulating Hypotheses and Testing the Reliability of the Model Using the Complicated Statistical Procedures

Hypothesis HP1: Variable (Q)7 Have you ever participated in qualification raising courses with the help of the organization (without or with financing) that were related specifically to your work to perform affects variables Q8 qualification raising forms - individual and group and Q9 if they were promoted after upgrading their qualifications

The table of Pierson's Chi-square test made by using the Chi-square test (Table 1) indicates that the statistical significance level P (Sig.) does not exceed 0.001. i.e Have you ever participated in the qualification raising courses with the help of your organization (with or without financing) which was related to your work (Q)7 and raising qualifications by the respondents – between individual and group (Q8) - there is a statistically important link on 0.01 level, that means the reliability of the link is very high (99% trusted). (See Table 1)

Table 1: Pearson Chi-Square Tests)	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	327.077 <sup>a</sup>	2	.000
Likelihood Ratio	374.679	2	.000
Linear-by-Linear Association	311.619	1	.000
N of Valid Cases	560		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 26.69.

Also, between (Q7) If you have participated in the qualification raising courses with the help of your organization (with or without financing) which was specifically related to your work? and (Q9) whether they were promoted after raising qualifications, there is a statistically important link on 0.01 level, that means the reliability of the link is very high (99% trusted). (See Table 2)

Table 2 : (Pearson Chi-Square Tests)	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	171.783 <sup>a</sup>	2	.000
Likelihood Ratio	195.002	2	.000
Linear-by-Linear Association	170.658	1	.000
N of Valid Cases	560		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 69.56.

We used Pearson's Correlation Analysis to determine the strength of the connection between the variables of this hypothesis. We got the correlation coefficient 0.747 between (Q7 and Q(8) and - 0.553 between Q7 and Q9. (See Table 3)

Table 3 : Correlations	Q7	Q9	Q8
Pearson Correlation	1	.553**	.747**
Q7 Sig. (2-tailed)		.000	.000
N	560	560	560
Pearson Correlation	.553**	1	.570**
Q9 Sig. (2-tailed)	.000		.000
N	560	560	560
Pearson Correlation	.747**	.570**	1
Q8 Sig. (2-tailed)	.000	.000	
N	560	560	560

\*\* . Correlation is significant at the 0.01 level (2-tailed).

By means of the correlation, it was shown that between these variables there is a strong positive attitude because their indicator exceeds 0,5.

Thus, between Q7, Q8 and Q9, there is a strong positive correlation and by this the hypothesis HP1 has been proved.

Hypothesis HP2: (Q13) career movement affects on where Q14 career movement has taken place

We used the crosstabulation analysis to test the given hypothesis. The table received as a result of this analysis (Table 4) shows that inside the organization 157 respondents (66.5% ) were vertically promoted and 62 respondents (26.3% ) were horizontally promoted. As for the movements outside the organization 24 respondents (19% ) were vertically promoted, and 95 respondents (75.4% ) were horizontally promoted. (See Table 4)

Table 4: Cross tabulation analysis				Q13. Your career movement			Total
				was vertical	was horizontal	did not happen	
<b>Q14. Your career movement has taken place</b>	inside the organization	Count	157	62	17	236	
		% within Q14. Your career movement has taken place	66.5%	26.3%	7.2%	100.0%	
	outside the organization	Count	24	95	7	126	
		% within Q14. Your career movement has taken place	19.0%	75.4%	5.6%	100.0%	
	has not happened	Count	3	15	180	198	
		% within Q14. Your career movement has taken place	1.5%	7.6%	90.9%	100.0%	
Total		Count	184	172	204	560	
		% within Q14. Your career movement has taken place	32.9%	30.7%	36.4%	100.0%	

The fifth table (see Table 5) shows the results of Levene's statistics, the difference of averages (the same T value) equals to 68.479, the statistical significance level P (Sig.) does not exceed 0.001, i.e. between the vertical and horizontal career growth and career movement of the employed people inside and outside the organization there is a statistically high level of connection on 0.01 level i.e. with 99% reliability we can that the vertical and horizontal career growth of the employees affects the respondents' career movements within and outside the organization.

**Q13. Your career movement**

Table 5. test of homogeneity of variance (Levene)	df1	df2	Sig.
	2	557	.000

From Table 6, received as a result of single factor dispersion analysis, it is shown that  $F=468.3$ ,  $P= 0.000$ ;  $P<0.01$ , i.e. between the groups a statistically significant link is noticed on 0.01 level. (See Table 6)

Table 6 : dispersion analysis -One Way (ANOVA) Q13. Your career movement	Sum of Squares	df	Mean Square	F	Sig.
	242.857	2	121.429	468.300	.000
Within Groups	144.428	557	.259		
Total	387.286	559			

The test about Homogeneity of Variance (Levene) and Dispersion Analysis demonstrated that there is a statistically significant connection between the groups, as a result of this the hypothesis 2 was confirmed.

Hypothesis HP3\_1: (Q15) Are you invited to attend any kind of meetings to share your views affects Q20 How career growth in the organization is being implemented

Hypothesis HP3\_2 : (Q15) Are you invited to attend any kind of meetings to share your views affects Q21) How much do you hope to succeed in your career?

Hypothesis HP3\_3: (Q15)Are you invited to attend any kind of meetings to share your views affects Q17. You are inclined to (you can circle more than one option)

Hypothesis HP3\_4 : (Q15) Are you invited to attend any kind of meetings to share your views affects Q31 which position you have occupied.

The Correlation Analysis (see Table 7) Between the variables Q15 and (Q31) in which level of management they are employed there is a weak negative correlation (the correlation coefficient equals to 0,274). Between Q15 and Q20 whose **initiative is to improve an employee's career growth** there is also a negative correlation (the correlation coefficient equals to 0.103) and between Q15, Q21 and Q17\_ there is also a weak negative correlation with the corresponding 0,226 and 0,121 coefficient indicators.

Table 7: Correlations		Q15	Q31	Q20	Q21	Q17
Q15	Pearson Correlation	1	<b>-.274<sup>**</sup></b>	<b>-.103<sup>*</sup></b>	<b>-.226<sup>**</sup></b>	<b>.121<sup>*</sup></b>
	Sig. (2-tailed)		.000	.015	.000	.004
	N	560	560	560	560	560
Q31	Pearson Correlation	-.274 <sup>**</sup>	1	-.007	.093 <sup>*</sup>	-.071
	Sig. (2-tailed)	.000		.871	.028	.095
	N	560	560	560	560	560
Q20	Pearson Correlation	-.103 <sup>*</sup>	-.007	1	.112 <sup>**</sup>	-.103 <sup>*</sup>
	Sig. (2-tailed)	.015	.871		.008	.015
	N	560	560	560	560	560
Q21	Pearson Correlation	-.226 <sup>**</sup>	.093 <sup>*</sup>	.112 <sup>**</sup>	1	-.009
	Sig. (2-tailed)	.000	.028	.008		.837
	N	560	560	560	560	560
Q17	Pearson Correlation	.121 <sup>*</sup>	-.071	-.103 <sup>*</sup>	-.009	1
	Sig. (2-tailed)	.004	.095	.015	.837	
	N	560	560	560	560	560

\*\* . Correlation is significant at the 0.01 level (2-tailed).

To check these hypotheses, we used the Chi-square test and found the existence of the connection by all categories. According to the Chi-square test, there is no statistically significant connection between (Q15) Are you invited to attend any kind of meetings to share your views? and Q20 whose initiative is the employee's career growth since the statistical significance level exceeds 0.05. (See Table 8)

Table 8 : Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.616 <sup>a</sup>	9	.181
Likelihood Ratio	12.925	9	.166
Linear-by-Linear Association	5.882	1	.015
N of Valid Cases	560		

Consequently, the hypothesis Hypothesis HP3\_1: (Q15) Are you invited to attend any kind of meetings to share your views affects Q20 How career growth in the organization is being implemented .has not been confirmed.

We established by the Chi-square Test a statistically important link on 0.01 level between (Q15) Are you invited to attend any kind of meetings to share your views?and (Q21) how much the respondents hope to achieve success in career growth. (See Table 9)

Table 9: Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	50.499 <sup>a</sup>	6	.000
Likelihood Ratio	51.539	6	.000
Linear-by-Linear Association	28.563	1	.000
N of Valid Cases	560		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.57.

Consequently, Hypothesis HP3\_2 : (Q15) Are you invited to attend any kind of meetings to share your views affects Q21) How much do you hope to succeed in your career? has been confirmed.

We established a statistically important link on 0.01 level by the Chi-square test, between (Q15) Are you invited to attend any kind of meetings to share your views?and what they are inclined to 1) physical activity 2) cognitive and organizational work 3) Art (acting, musician, painting 4) interpersonal relationships 5) influencing others. 17 (see Table 10)

Table 10 :Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	34.327 <sup>a</sup>	12	.001
Likelihood Ratio	32.860	12	.001
Linear-by-Linear Association	8.166	1	.004
N of Valid Cases	560		

Consequently, Hypothesis HP3\_3: (Q15)Are you invited to attend any kind of meetings to share your views affects Q17. You are inclined to (you can circle more than one option) .has been confirmed

We established a statistically important link on 0.01 level by the Chi-square test, between (Q15) Are you invited to attend any kind of meetings to share your views?and (Q31) in which management level they are employed? (See Table 11)

Table 11 Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	55.244 <sup>a</sup>	6	.000
Likelihood Ratio	47.305	6	.000
Linear-by-Linear Association	42.099	1	.000
N of Valid Cases	560		

Consequently, Hypothesis HP3\_4 : (Q15) Are you invited to attend any kind of meetings to share your views affects Q31 which position you have occupied.has been confirmed.

#### Conclusions and recommendations:

- The study has shown that business career management is unsatisfactory in the organization.
- Most organizations do not have a proper formation system of business professional and promotion of personnel reserve.
- Creating personnel reserve and proper work with them does not happen according to a plan. Most employees and also leadership prefer the specialized career and the horizontal career remains beyond the focus.
- Annual assessment of the worker's performance does not happen systematically, the results of which can be used when promoting a specific person.
- The survey also shows that nearly half of the employees are unable to realize their capabilities and skills, and most of them believe that promoting their colleagues is often biased, nepotism often takes place there and so on.
- Due to all this and other drawbacks listed above, we need to carry out some specific events such as: All organizations should have a well-established system of staff professional promotion and personnel reserve of the people to be promoted, pay more attention to the development of non-specialized career, as it is in Japan, the staff annual performance should be assessed systematically, which will be the basis for the promotion of workers, the objectivity degree of our employees' promotion should be improved, nepotism should be prevented.

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## Challenges of Economic of Georgia: Good and Bad Economic Growth

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### Abstract

The Georgian economy has been undergoing serious transformations over the years. The reforms carried out by the government affected all spheres of the economy - health care, education, industry, the military-technical complex, etc. The annual growth of the economy is approximately 4.8%. The EU, partner developed countries and donor international organizations allocate huge financial resources for the implementation of the changes planned by the government. Despite this, the economy of Georgia is in a difficult situation. The reason of economic stagnation in which the country has been for years is an extensive vector of development of the national economy. Investment projects carried out in the country in recent years are extensive in most cases. These projects are aimed at increasing current profits. They mostly are not oriented to long-term perspective. Intensification projects based on scientific and technical progress that are capable to change the level of production qualitatively are few. Despite the lack of an innovative scientific and technical background the economic indicators are increasing. However, the analysis of the indicators' growth factors shows the lack of development of the national economic system. The data does not reflect the real economic statement and point to an extensive (so-called bad growth) growth of the national economy and will lead to economic and political crisis. The intensive and extensive factors of economic growth is discussed and analyzed in the paper. The recommendations and measures are developed by the authors for improving the economy through the intensification of production processes.

**Keywords:** Economic growth; intensive and extensive growth; bad and good growth; innovation development; scientific and technical progress.

### Introduction

Since the 90s, the Georgian economy has been experiencing a difficult transformation. Reforms touched upon all fields and spheres of economy. The introduction of market mechanisms in economy are considered as the starting point of socio-economic transformation. The start of the reforms has negatively impacted the development rate of economy. Along with the collapse of the Soviet Union, practically the production machineries were stopped. The crisis has touched all the fields of economy, from where the country is trying to come.

The incomplete list of problems that have not lost their sensitivity till today and from where the country is still trying to escape looks like this: (Kasradze Tea, 2013); (Kasradze Tea; Zarnadze Nino, 2018)

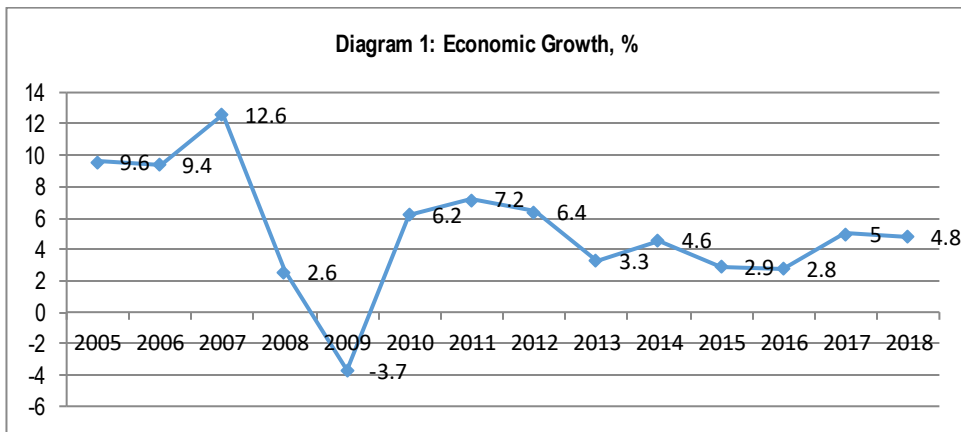
- An increasing demand for public goods and services, utility services, transportation system, medicine, telecommunications, education and safety (not only military security is meant here, but safety in energy, health care, ecological, food security, etc);
  - A high rate of physical and moral aging of major funds (outdated residential funds, water-sewerage and gas cables, etc.)
- The outdated infrastructure not only stops/hinders the development of production, but it is a threat to people's lives too;
- Irrational use of natural resources;
  - Low rate of employment;
  - Low level of population life standard;
  - low quality of education and its availability;
  - Low quality of health care and its availability;
  - High rate of inflation;

- Devalued national currency;
- Severe ecological condition;
- Low rate of scientific-technical progress and innovative activity;
- And others.

The solution is the growth and development of the economy, which is achieved through a reasonable, balanced cooperation between the state and the private sector. The private sector creates economic wealth and fills the budget (**Kasradze Tea, 2012**). According to Geostat data, nowadays 90% of the taxes are currently paid by 13% of the population employed in the private sector. According to experts, in order to change the social and economic situation in the country for better, it is necessary at least to double this indicator in which the partnership between the state and the private sector can play a big role.

### Economic growth of Georgia – data and reality

Since 2005 Georgia's economy has been characterized by a growing tendency (if we don't count 2009), where the private sector plays a leading role.



**Source: Ministry of Finance of Georgia, [www.mof.ge](http://www.mof.ge)**

In recent years, the economic activity in the private sector has increased significantly, not only the increasing number of newly registered enterprises from year to year, but also the number of jobs increased from year to year and the volume of investments made (Kasradze Tea, 2014).

"The state supporting programs greatly contributed to the growth of economic activity, creation of new enterprises and expansion of existing ones. 374 enterprises were financed within the program "Produce in Georgia", 921 million GEL was invested and supported to create more than 14 900 new job vacancies. 467 million GEL was invested in creating new enterprises and 340 million GEL - for the expansion of the existing enterprises. At the same time, the total amount of investments made within the component of availability of real estate is 97 million GEL."<sup>1</sup>

Despite the development of the private sector of economy and significant support of the state in this development, it can be easily said that real partnership between the state and the private sector has not been made in Georgia yet. There is no single balanced partnership strategy. Therefore, often the actions of the state and business are not only consistent, but often even contradictory (**Kasradze Tea, 2014**).

In recent years, the growth of national economy has caused unprecedented demand for infrastructural services. It is necessary not only to maintain, supply and distribute goods and services, but also to improve and create new ones. Since (budgetary) funding based on traditional sources of infrastructure projects in most countries is far less than it is necessary,

<sup>1</sup> Current economic trends, the Ministry of Economy and Sustainable Development, [http://www.economy.ge/uploads/publications/economy\\_17469715bb1eb317db9e9.6799101](http://www.economy.ge/uploads/publications/economy_17469715bb1eb317db9e9.6799101)

the private sector's interest and involvement of their finances and know-how is very important in this case (**Kasradze Tea, 2012**).

Effective management of the work is favorable for both the state and the private sector. Directly or indirectly, the outcome of their activities will be reflected on the country's economy and, respectively, on well-being of the society (**Gulua, Ekaterine, 2012**); (**Gulua, Ekaterine,, 2011**).

The market economy gives the possibility of a fruitful partnership between the state and the private sector. Such a practice has already been introduced/approved in the world. According to the World Bank data, from 1990 to 2016 7132 PPP projects were implemented worldwide with 2.6 trillion US dollars. Only in Europe in 2016 12 billion-euro-PPP projects were implemented. In this regard, the United Kingdom is a leader with 3.8 billion-euro-projects, respectively, the 2nd and 3rd places are shared between France and Turkey. The partnership is mainly implemented in infrastructural projects. The number of successful projects implemented in the field of transport by countries is as follows:

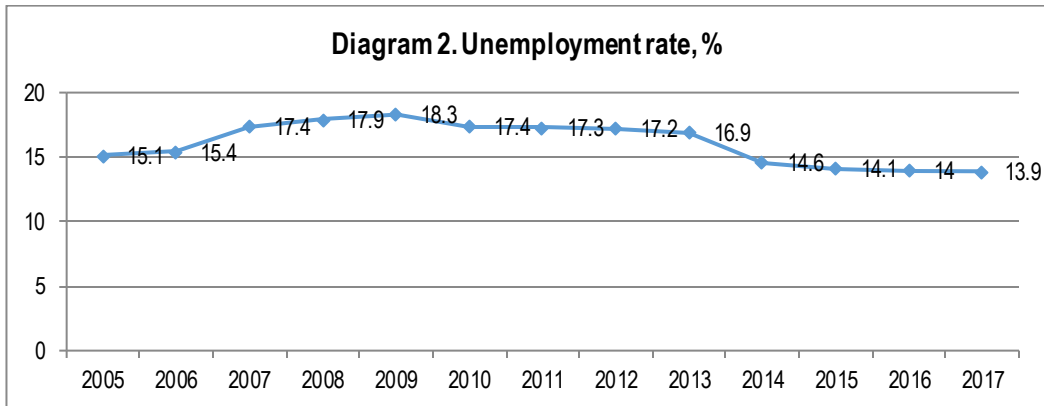
Table 1: The cases in Best Practice on PPP projects by economy

Economy	The number of projects	Transportation mode			
		Land (road)	Land (rail)	Maritime	Air
Australia	2	2	0	0	0
Brunei	0	0	0	0	0
Canada	3	1	1	0	1
Chile	3	2	0	0	1
China	0	0	0	0	0
Hong Kong, China	0	0	0	0	0
Indonesia	9	3	4	1	1
Japan	9	1	3	0	5
Korea	2	1	1	0	0
Malay sia	4	1	2	0	1
Mexico	3	1	0	1	1
New Zealand	1	1	0	0	0
Papua New Guinea	1	0	0	0	1
Peru	0	0	0	0	0
The Philippines	8	2	2	1	3
The Russian Federation	3	1	2	0	0
Singapore	0	0	0	0	0
Chinese Taipei	3	1	1	1	0
Thailand	5	2	2	1	0
The United States	2	1	1	0	0
Viet Nam	5	3	0	1	1
Total	63	23	19	6	15

Source: PPP Best Practice, Asia-Pacific Economic Cooperation, 2016.

<https://www.apec.org/Publications/2016/04/Public-Private-Partnership-Best-Practices>

The hard social-economic background in Georgia directly indicates that the state does not have sufficient financial resources or potential to solve these problems. The problems that have accumulated over the years require an effective private-public partnership. Problems that have accumulated over the years require an effective private-public partnership. Despite the fact that the economy has had an average growth of 4,8% over the years, this is not reflected on the welfare of the society (the unemployment rate is still high, a large number of population is beyond the poverty line, the inflation rate is high, a large number of people is in debt and cannot escape from it, a loan interest rate is very high, it is unstable, in the last 3 years, the Lari rate has been devaluated by 70%, which very badly touched the population who has income in Lari and loans in a foreign currency) (**Kasradze Tea, 2018**).



Source: Ministry of Finance of Georgia, [www.mof.ge](http://www.mof.ge)

In this situation, the importance of a private-public partnership is high, as the large investments provide an implementation of large-scale projects; updating material-technical base; renewal of an entrepreneurial fund; introduction of new technologies. While these projects have a long period of redemption, their effects have a great impact on the development of the economy and the well-being of the society (Kasradze Tea, 2014).

Today there is a visible contradiction between the state and business interests. The main motivation of private enterprises in the market economy is to get the maximal gain in a minimum timeframe. In the countries with developing economies the impact of the above factors is so big on the private sector that the business becomes focused on maximization of the current profit, on a high rentability of a project, on rapid repurchasing of the expenses, on the capital cost minimization, on paying the minimum taxes, on giving low salaries and on the extensive growth of production scales (Petr Wawrosz, Jiri Mihola, 2013).

However, it is obvious that realization of large-scale projects that have the potential to change the quality of the business and the economy in total is not limited to the short term period of repurchasing and high incomes at the initial stage of implementation of the project. As is known, large-scale projects such as construction of roads and bridges, construction of large production, introduction of innovations, constructing schools, hospitals, kindergartens, gasification and electrification, water supply and so on together with large funding require long periods of time to the point of profit. At the initial stage of such projects, additional investments may be required, but their realization effects have a strategic importance for the development of the country (Gulua, Ekaterine, 2014); (Gulua, Ekaterine, 2013).

Thus, the interests of the state include increasing a high efficiency of enterprise capacities, development of high-tech fields, realization of large-scale projects, ensuring the safe environment for production, renewal of physically outdated production facilities and implementation of projects based on intensification.

An increase in economic growth caused by more efficient use of inputs (increased productivity of labor, physical capital, energy or materials) is referred to as *intensive growth*. GDP growth caused only by increases in the amount of inputs available for use (increased population, new territory) is called *extensive growth* (Bjork, 1999).

Intensification - this is a system development process based on scientific and technical progress through the introduction of innovations. Such projects require large investments and a long period of redemption, and exactly this is the resistance between the state and the private business.

For the success of the public-private partnership, existence of the proper institutions, effective procedures, transparent, accountable public and private sectors is important, which is a problem in many countries (especially in developing ones). Exactly for this purpose UNECE guidelines were created for politicians, public and private officials. Effective partnership standards, conditions for its achievement, mutual cooperation rules, possible liabilities and responsibilities of the state and business are determined in it. The guideline aims to increase the capacity of governments at all levels to implement PPPs successfully. (United Nations Economic Commission for Europe, 2008); (Asian Development Bank, 2006)

For the successful realization of the PPP concept existence of an independent, impartial institution in the country, which by balancing the interests of both parties (public and private) will support and monitor the implementation of PPP projects. This institute is a mediator between the private sector and the state that controls the performance quality of the commitments of the parties involved. For example, the obligations undertaken by the state may be the following: ensuring a healthy competition, creating a liberal tax environment; transfer of lease of land and other state property (lease, leasing, usufruct, etc.), in case of necessity issuance of licenses (permissions), protection of private property, availability of impartial court, etc ( **Kasradze Tea, 2015**); (Kasradze Tea, 2016); (**Zarnadze Nino, 2018**)

In its turn, the business may undertake the obligation to invest; high quality of goods and service, safe working environment, introduction of innovative technologies, the use of scientific-technological potential, activation of researches and funding to achieve the economic growth through intensification.

The development of the economy on the basis of production process intensification is the priority of the entire world. According to the data of 2018, the most innovative countries in the world are South Korea, Sweden, Singapore, Germany, Switzerland, Japan, Finland, Denmark, France, Israel, the USA and other developed countries. Innovations have a significant contribution to their GDP growth (**EY, 2015**).

The innovative policy of developed countries aims at forming and developing the scientific and technological potential of the country. The economic growth of these countries is caused by the increase of production capacity, the creation and diversification of new products and services, the introduction of knowledge and advanced technologies in the process of production. As a result of intensification processes, the increased economy (good growth) ensures a long-term growth of GDP and national income, a reduction of inflation, raising the level and quality of living of population. Priority programs in leading countries of the world are the programs of scientific and technological development. In recent years, the expenditure incurred by these countries from state budget for innovations is as follows:

Table 2. R&D expenditure as a share of GDP by countries

Countries	2016	2015	2014	2013
Israel	4,3	4,3	4,2	4,2
South Korea	4,2	4,2	4,3	4,1
Sweden	3,3	3,3	3,1	3,3
Japan	3,1	3,3	3,4	3,3
Austria	3,1	3,0	3,1	3,0
Germany	2,9	2,9	2,9	2,8
USA	2,7	2,7	2,7	2,7
France	2,3	2,2	2,2	2,3
China	2,1	2,1	2,0	2,0

Source: World Data Atlace

[https://knoema.com/atlas/topics/Research-and-Development/RandD-Expenditure/RandD-expenditure-as-a-share-of-GDP?origin=knoema.ru&\\_ga=2.111977284.1304505994.1551078675-776431307.1551078675](https://knoema.com/atlas/topics/Research-and-Development/RandD-Expenditure/RandD-expenditure-as-a-share-of-GDP?origin=knoema.ru&_ga=2.111977284.1304505994.1551078675-776431307.1551078675)

### Public-Private Cooperation in Georgia:

Georgia's economy is one of the fastest growing economies in the region. The rate of economic growth, GDP growth rate, the number of private enterprises is increasing in comparison with previous years, although the figures of economic growth do not reflect the quality of the situation in the economy. The potential of different fields of economy (agriculture, metallurgy, mechanical engineering, etc.), which previously provided the country's welfare and development, is experiencing a crisis nowadays. Only 15 of 71 enterprises of the agrarian profile existing on the state balance are functioning. In the Metallurgical City (Rustavi) where once the entire population was employed in the metallurgical factory, today unemployment rate is 10% according to the official data and more than 30% by the unofficial data. Mechanical engineering is considered to be in the disappeared fields (**Nino Tsukhishvili, Saba Buadze, 2016**); (**Sophio Chareli, Sulxan Saladze, 2015**).

The state has privatized a part of the enterprises of this sector, but most of them are still in state ownership, most of which are either non-functional or loss-making.

The number of state enterprises in the country in 2012-2013 reached 1129. National Agency of State Property has started to liquidate, bankrupt and merge unprofitable, bankrupted and fictitious (non-functional) enterprises; some enterprises were handed over to private entities with the right to manage, many enterprises were privatized. As a result of these measures, their number decreased significantly by the end of 2013 and reached 373, from which only 13% of enterprises was profitable (Nino Tsukhishvili, Saba Buadze, 2016); (Sophio Chareli, Sulxan Saladze, 2015); (Kasradze Tea, 2017).

By 2014, 344 enterprises were on the state balance. Out of this, 24 enterprises have been transferred to different ministries with the right to manage (18) or to a private investor (6), 10 enterprises – to the joint stock company Partnership Fund. The remaining 310 enterprises, which are on the balance of the Ministry of Economy according to the sectors are distributed as follows:

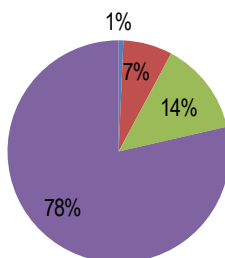
- Medical Services - 88 enterprises;
- Transport, transportation - 16 enterprises;
- Communication - 3 enterprises;
- Water supply - 2 enterprises;
- Construction services - 17 enterprises;
- Tourism - 13 enterprises;
- Out of 71 enterprises of agrarian profile only 15 were functioning;
- and so on. (State Audit Office, 2015)

The diagram 2 shows that only 2 out of 310 state enterprises are in the so-called "good" condition, 21 of them are at the lower level ("notable"), 40 companies are in the "substandard" position, and most of them (231 - approximately 75%) are in the so-called "suspicious" financial position or/and are not engaged in entrepreneurial activity at all.

By 2016 146 enterprises remain in the management of the National Agency of State Property.

**Diagram 2. Classification of enterprises entered into the management of the National Agency of State Property according to the financial status.**

■ Good ■ Notable ■ Substandard ■ Suspicious



In order to overcome the situation in the economy, it is necessary to use the private sector potential. The relationship between the private business and the state should not be limited to only financial relations and in this process the scientific-technical potential, know-how and intellectual capital of the private sector should be involved. For instance, the share of innovative active enterprises in EU countries is 70%. These countries do not only create high indicators of economic growth in the long term, but also in the world market they stand out with the growth of product competitiveness. Today the countries with developed market economy are focused on the creation of high-tech products that will reduce product cost and improve human life quality (Kasradze Tea, 2018); (Zarnadze Nino, 2007).

Certain steps have been made to establish and develop a public-private partnership in Georgia.

On July 1, 2018 a law on public and private cooperation was adopted, which defines the rules and procedures related to elaboration and implementation of the public and private cooperation project, public and private co-operation principles, the relevant institutional system, and also other issues related to public and private cooperation.

The public and private cooperation goals are<sup>1</sup>:

- A) to increase the efficiency of projects;
- B) to satisfy a public interest by creating a new public infrastructure and/or providing public services and/or improving existing ones;
- C) to attract private financing;
- D) to increase the spending efficiency of public finances;
- E) to distribute risks between public and private sectors;
- F) to use a private partner's know-how.

The legislative environment may be more or less prepared for the development of a private-public partnership, though the successful examples of this partnership are not many. It is necessary to activate the work in this direction, but the accents should not be made only on the profitability depicted in figures. It is important that a high profitability of production should be based on an intensive growth. In the framework of a partnership the state should request the implementation of the infrastructural changes from the private sector, the modernization of production through the introduction of modern technique and technologies, involvement of the local population in the production process and their training/qualification improvement in case of necessity, keeping ecological standards and caring about the environment, involvement of the scientific potential in the process of production; purchasing raw materials on the local market and so on.

It is necessary to raise awareness about the PPP (its positive and negative sides) in public, especially in the private sector. However, it should be said that the government itself does not know the essence of PPP well. Ministries and public officials do not properly understand the basic idea of PPP. There is a lot of work to be done in this direction.

It is also necessary to involve banks in implementing PPP projects. Banks have a big role in developing the country's economy. They have a large financial resource and they need to be convinced of the efficiency of PPP projects. This trend will increase domestic liquidity and help governments find an alternative financing for smaller PPPs that are not attractive to international investment banks.

A private-public partnership has both advantages and shortcomings, so they should be well-measured before making a contract. In particular, the public sector should clearly define the purpose of the project and the expected benefit for the public in advance and after that hold negotiations and be able to protect the public interests in the contract (**Zarnadze Nino, Narmania Davit, 2009**). If it offers a state partnership to foreign companies, then it should also demand some conditions from them - eg. It should request to hire and train local labor force. In fact foreign companies should not go against it, because local workers are always cheaper. In this respect, the state itself should be concerned about the qualification of local workforce. It should make more investments in the education sector (Gulua, Ekaterine, 2018); (**Gulua, Ekaterine, 2017**); (Gulua, Ekaterine; Kharadze, Natalia, 2018). The higher the skills and knowledge of the local workforce, the more the foreign companies will be interested in using local human resources. In the long term, local workers are always cheaper than those brought from abroad. (Kasradze Tea, 2013); (Kasradze Tea; Zarnadze Nino, 2018); (Kasradze Tea, 2018); (**Kasradze Tea, 2009**); (**Zarnadze Nino, Kasradze Tea, 2016**)

#### Conclusion:

Market economy creates new opportunities for the development of a production system to improve the well-being of the society (**Kasradze Tea, 2018**). The quality of life in the society can only be increased in case of the overall stable growth of economy. The quantitative increase of economic indicators does not always reflect the quality of the production system and on the whole the real condition of economy. Often the manufacturing system can generate greater returns or high level of profitability, but this growth is only associated with the increase in the cost of producing a large number of products. Such an increase does not reflect the trend of improving production, does not increase the efficiency of the product management system, does not decrease the cost of production, does not improve the quality of the product, does not transfer the production system to a new stage of development. That is why the growth of economy based on the extensification of factors is a "bad" instrument of development (**Zarnadze Nino, 2007**).

The policy of a production intensification should become the basis for economic growth in Georgia. The experience of developed countries that have managed to raise the well-being of the society through the implementation of the innovation policy in a country's economy will help Georgia to increase innovation and investment activities, create a new production

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<sup>1</sup> Law of Georgia on Public and Private Cooperation



capacity, increase gross domestic product and national income, reduce inflation and unemployment, create competitive products based on the scientific-technical progress.

In order to achieve the above-mentioned goals, between the state and business a harmonious, balanced, beneficial partnership is necessary for both parties, otherwise the boat in which everyone is rowing in different directions can never reach the shore.

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## Challenges of Financial Management of the Higher Education Institutions in Georgia

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### Abstract

The funding of the higher education institutions and its efficient management affects the functioning of the whole system. The level of development of an education and science has an important role in the economic development of the country. Georgia has enough potential to achieve economic development by intellectual and educated human resources. Despite the reforms implemented in the recent years, there are still many shortcomings and challenges left in the education system that are hindering the creation of well-educated and competitive human resources. Without strengthening the education system, it is impossible to participate in a global competition. The increasing of financing of the education system over the years does not mean raising the quality of education. Developing the correct strategy and tactics of the reform and adequate and efficient distribution of financial resources is crucial. The aim of the paper is to study impact of the existing funding policy on higher education system in Georgia. The structure and dynamics of the funding of the higher education institutions, the nature and importance of the already funded projects are examined in the study. The issue of promotion of development of education through the reforms implemented in the education system is also discussed and analyzed in it. The study is based on the qualitative and quantitative analyses. The recommendations issued within the framework of the study will support stakeholders to overcome the current challenges and improve financial management policy of higher education institutions.

**Keywords:** Financing of higher education institution, financial management

### Introduction

In the market conditions the Georgian educational market functioning, getting it closer to international standards is impossible without the problem analysis of qualitative, system creating component object - competition and the regularities of competitive environment formation which is the most important determinant for sustainable development of transforming economic, social, political and educational systems. (Antia, Vakhtang, 2018).

The level of education and science is crucial for economic development of the country. Education is a fundamental factor for development and achieving sustainable economic development without investing in human capital is impossible. Human capital is the central factor of economic growth. In particular, the product produced by human capital is the basis for self-sustaining economic growth. Consequently, a close and positive causal relationship exists between education and economics at macro and micro levels (Center for Social Sciences (CSS), 2017). Only in the conditions of a strong and socially fair educational system it is possible to solve social, cultural and economic challenges in the country (Government of Georgia, 2014).

Georgia has enough potential to achieve economic development with intellectual and educated human resources. Despite the reforms carried out in recent years, there are many shortcomings and problems in the education system that ultimately prevent the creation of an educated and quality human resource. Without the strengthening of education, it will be impossible to participate in a global competitive fight.

Growth of the education system financing from year to year does not automatically imply the increase of education quality. It is important to correctly implement and direct the reform strategy and tactics, the optimal distribution of financing the results to be maximally efficient. Financial management strategy of higher education institutions should provide the sustainable growth. Strong Financial management system is a core aspect of the institutional stability and growth. The strategy should be directed towards the transformation of education system. It is a main base of growth generally, tightly connected to overcoming of poverty and unemployment problems (Kasradze, Tea, 2013) (Kasradze, Tea, 2016) (Kasradze, Tea, 2014).

The goal of the research is to increase the efficiency of higher education institutions in Georgia, which is a major prerequisite of a general progress. This sphere of Georgia faces many challenges and requires significant qualitative reforming (Gulua, Ekaterine, 2018), (Gulua, Ekaterine, 2017), (Kharadze, Natalia; Gulua, Ekaterine, 2018), (Kharadze, Natalia; Gulua, Ekaterine, 2018), (Kharadze, Natalia; Gulua, Ekaterine, 2018), because the real qualification level of work force does not meet the existing requirements. It is very important to change approaches, attitudes towards management system of higher education institutions (Gulua, Ekaterine, 2013), (Gulua, Ekaterine; Kharadze, Natalia, 2018), (Kharadze, Natalia; Gulua, Ekaterine, 2018), (Gulua, Ekaterine; Kharadze, Natalia, 2014) for getting qualified motivated labor force in labor market (Gulua, Ekaterine; Mikaberidze, Akaki, 2015), (Gulua, Ekaterine; Kharadze, Natalia, 2018), (Kharadze, Natalia; Gulua, Ekaterine, 2018). The low rating of Georgia (93rd place) indicates incompatibility between qualification and job requirements, in the Higher Education and Retraining Section of the Global Competitiveness Index of the World Economic Forum. According to skillset of graduates, Georgia is ranked 123rd, according to digital skills among population – 101st, in terms of ease of finding skilled employees - on the 111th position, according to the critical thinking teaching - on the 92nd place, on the 116th- according to the diversity of workforce (Schwab, Klaus; Sala-i-Martin, Xavier; Samans, Richard, 2017-2018).<sup>1</sup>

According to Global Talent Competitiveness index Georgia is ranked 76th out of 119 countries in 2019, 4 places down compared to 2018, it was on the 72nd place, on the 52th place according to the involvement of talents, on the 92nd place according to attracting talents, on the 107th place in terms of growth of talents, on the 61st place in terms of maintaining talents, according to talents with vocational and technical skills (or VT skills) on the 80th place and on the 56th place according to Global Knowledge Skills (or GK skills) According to the detailed data from the same index, Georgia is on the 60th place on the basis of higher education; According to the expenses spent on higher education it is on the 93rd place<sup>2</sup>.

The lowest rating of Georgia indicates the same (87th position among 137 countries, 4.0 points from the maximum 7 points) the part of the higher education and trainings of Global Competitiveness Index of 2017-2018 World Economic Forum. Other well-established measures include the Human Development Index (HDI) that covers health, inequality and educational issues (Kasradze, Tea, 2018). According to this index Georgia is ranked 70th place in 2018.<sup>3</sup>

Among many instruments of improving employment indicators and overcoming poverty we consider education to be the most crucial. (Kasradze, Tea; Zamadze, Nino, 2018) The level of education is reflected on the employment level. The total number of economically active population in 2017 is 1983.1 thousand people, 276.4 are unemployed, the unemployment rate is 13.9%, the dynamics of this indicator is declining. In 2011 this figure was 17.3% (National Statistics Office of Georgia, 2018)<sup>4</sup>.

However, it should also be noted that this indicator does not allow the possibility of seeing the real state due to the shortcomings of his counting methodology.

61% of the unemployed people in Georgia have professional or higher education and belong to the middle or high qualification workforce category. 31% of the unemployed people got education at the time of joining the modern Georgian higher education system with Bologna system that indicates the problems related to the implementation of the standards provided by the Bologna system. In this regard it is important to strengthen the requirements of management and financial sustainability in the requirements of authorization and accreditation of higher education institutions (Center for Social Sciences (CSS), 2017).

<sup>1</sup> <http://reports.weforum.org/global-competitiveness-report-2018/country-economy-profiles/#economy=GEO>

<sup>2</sup> <https://gtcistudy.com/the-gtci-index/>

<sup>3</sup> <http://hdr.undp.org/en/countries/profiles/GEO>

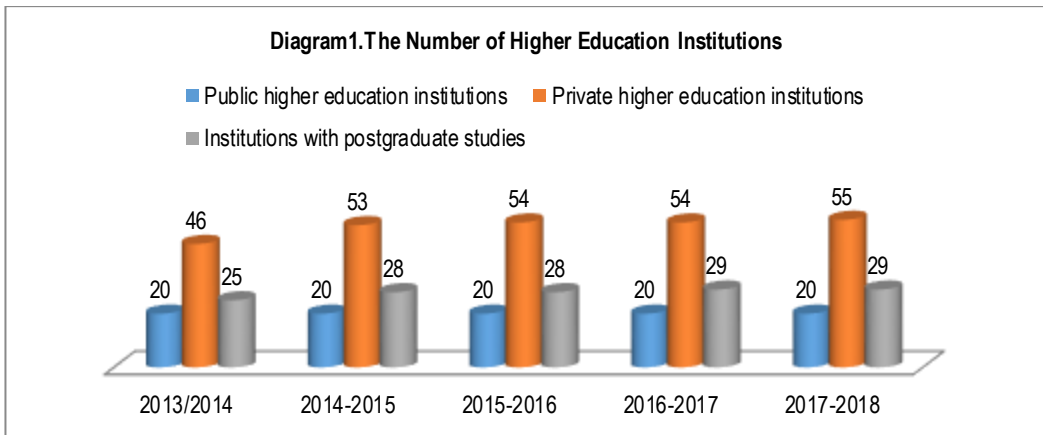
<sup>4</sup> Statistical Yearbook of Georgia, National Statistics Office of Georgia, Tbilisi 2018, pg42.

[http://geostat.ge/cms/site\\_images/\\_files/yearbook/Yearbook\\_2018.pdf](http://geostat.ge/cms/site_images/_files/yearbook/Yearbook_2018.pdf)

In the paper Georgia's higher education funding reform, structure and dynamics over the years, the nature and importance of higher education programs are discussed in the light of foreign practice and scientific literature analysis (Al-Hawaj, Abdulla Y. ; Elali, Wajeeh;, 2008) (Hussey, Trevor ; Smith , Patrick ;, 2010) (Davies, Brent; Davies, Barbara J.;; 2011) (Babo, Rosalina; Azevedo, Ana;; 2012) (Meek, Goedegebuure, Santiago, & Carvalho, 2010) (Locke, William; Cummings, William K.; Fisher , Donald;; 2011) (Deem, Rosemary; Hillyard, Sam; Reed, Mike;; 2007) (Scott, Amy; Hershey, Metcalfe, 2006) of the higher education system management and financing strategies. It is analyzed how the country's higher education system current funding policy contributes, on the one hand, to the autonomy of higher education institutions, and, on the other hand, to the real development of education quality.

### •The Key Indicators of Higher Education System of Georgia

There are 75 higher education institutions in Georgia, compared to 2013 their number is increased by 23 units. However, in 2006-2007 their number was 2.3 times more. Since 2014 the number of the state higher educational institutions have been 20, in 2006 their number was 18. The number of private higher education institutions is 55 according to the latest data, compared to 2006 their number decreased by 2.7 times<sup>1</sup>. Only 29 of the highest educational institutions in Georgia have a doctoral stage, in this direction there has been a positive trend since 2013 (Diagram 1).<sup>2</sup>



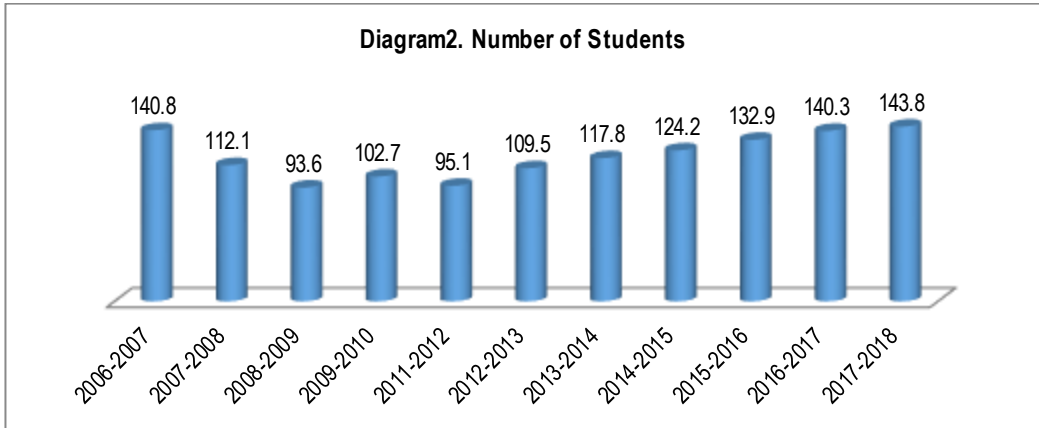
The financial incomes of higher education institutions in Georgia in the early years were directly related to the number of students, as these institutions got proportionally vouchers from the state. Then this rule changed, the revenues given to universities from the state budget until 2019 depended on the number of students having grants at national exams. In 2019 it was announced that this rule will change. However, the number of students determines a significant portion of the revenues of higher education institutions. The minimum fee for students at the university is 2250 GEL and at private universities prices are different. By the number of students we can determine the minimum amount of income in the sector, which is 323 550 thousand GEL.

The number of students in the 2016-2017 academic year amounted to 143.8 thousand. The smallest number in the last 10 years was recorded in 2008 - 93.6 thousand students (Diagram2)<sup>3</sup>

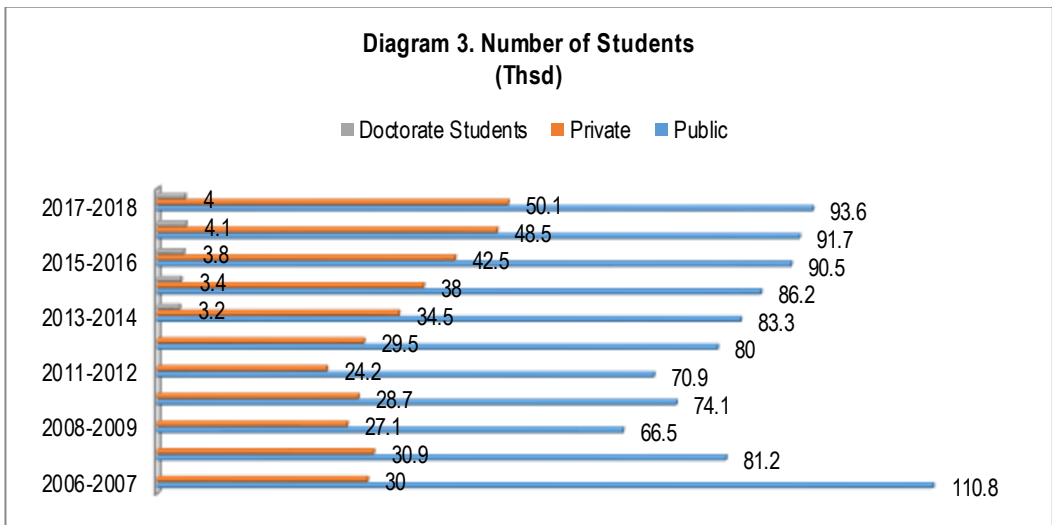
<sup>1</sup> Statistical Yearbook of Georgia, National Statistics Office of Georgia, Tbilisi 2018, pg73.

<sup>2</sup> The Same Source; pg.66.

<sup>3</sup> The Same Source; pg. 78.



According to the latest data, 93.6 thousand students were studying in state educational institutions in Georgia and 50.1 thousand students - in private educational institutions. Although the number of higher education institutions in the private sector is 2.75 times higher than the number of similar subjects in the public sector, the number of students in the state sector exceeds 1.87 times the number of private sector students. This difference in the early years was more visible, in favor of the state sector.<sup>1</sup> In 2017-2018 the number of doctoral students was 4,000, in this case also the dynamics has been growing since 2013 (**Diagram 3**)<sup>2</sup>.



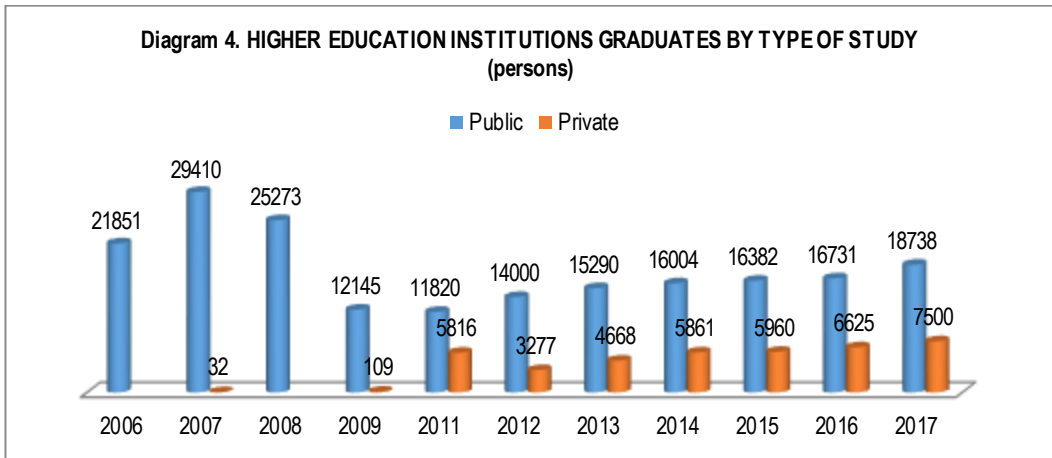
The number of graduates of higher education institutions in Georgia is increasing from year to year, the growth rate is 12.34%, while in 2016 this indicator was 4.53%<sup>3</sup>. It is noteworthy that in 2017, the number of graduates in the private sector increased by 13.2% and in the state sector by 11,99% (**Diagram 4**)<sup>4</sup>.

<sup>1</sup> The Same Source; pg. 73.

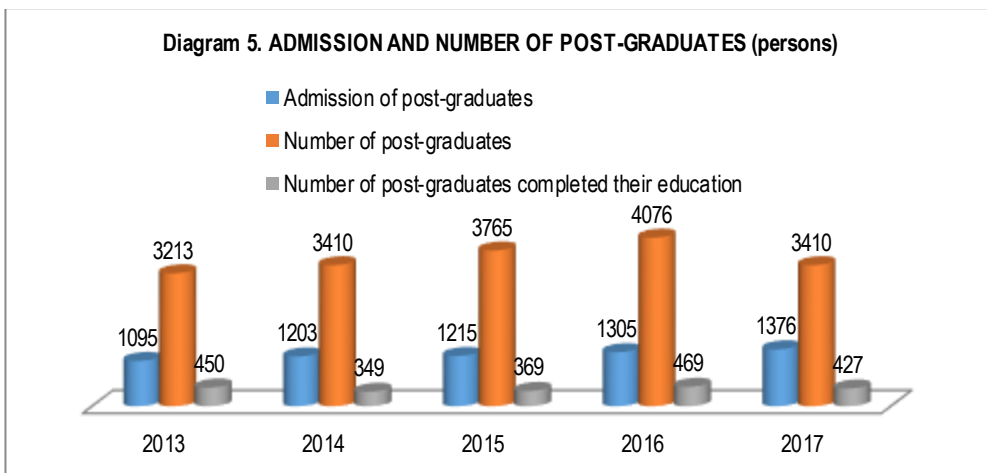
<sup>2</sup> The Same Source; pg. 66.

<sup>3</sup> The Same Source; pg. 75

<sup>4</sup> The Same Source; pg. 66.



The number of enrollment at doctoral programs has been characterized by an increasing trend since 2013, however, the number of doctoral students decreased in 2017 compared with 2016, also the number of doctoral graduates decreased during the same period<sup>1</sup> (diagram 5).



**•International practice and trends in the financing of higher education system**

There are three main sources of funding for higher education: state budget funds, expenses incurred by households/individuals and financing by other private sources. Countries differ significantly from one another in higher education financing in terms of the share of three sources listed above. The cost of the expenditure by households/individuals is very low in the majority of European countries. The share of this source is traditionally higher in the financing of higher education in those countries where the state spends relatively little on higher education and research. Apart from the state budget and household expenditures, in developed countries large sums are being spent on higher education and research also from other private sources. These sources are mainly different businesses, donors and banks (Chakhaia, 2013).

The private sector has a special role in financing the US higher education, where nearly 2/3 of financing are made by households and private institutions. In Scandinavian countries the picture is radically different. For example, In Norway,

<sup>1</sup> The Same Source; pg. 75.

only 1% of higher education financing comes on the private sector. Private sector plays an important role in education financing in OECD countries. Its share has increased by 11% from 2010 to 2015.<sup>1</sup>

As noted above, the share of the private sector in higher education financing is high in those countries where the state spends relatively little. The former socialist countries, including Georgia belong to the category of such countries.

The financer of European universities is predominantly the state. The percentage of the GDP spent annually on higher education by the state is often used to measure the indicator of the state's efforts to support the higher education system.

In 2014, half of the European Higher Education Area spent more than 1.2% of gross domestic product. Three countries with the highest expenditure are Denmark (2.3%), Norway (2.2%) and Finland (2%). Sweden, Ukraine, Austria, the Netherlands and Turkey spend more than 1.5% of gross domestic product on higher education. Average annual costs of higher education are low in Slovakia, Spain, Portugal, Russia, Czech Republic, Italy, Hungary, Albania, Bulgaria, Romania, Luxembourg, Kazakhstan, Georgia and Armenia and is less than 1% of GDP. It should also be noted that in the latter countries, except for Georgia and Luxembourg, from 2012/13 to 2014/15, almost everywhere enrollments of the students' who want to get higher education are reduced (Bologna Process Implementation Report, 2018). (Diagram 6).

Diagram 6: Annual public expenditure on tertiary education as a % of GDP, total with R&D and total without R&D, 2014

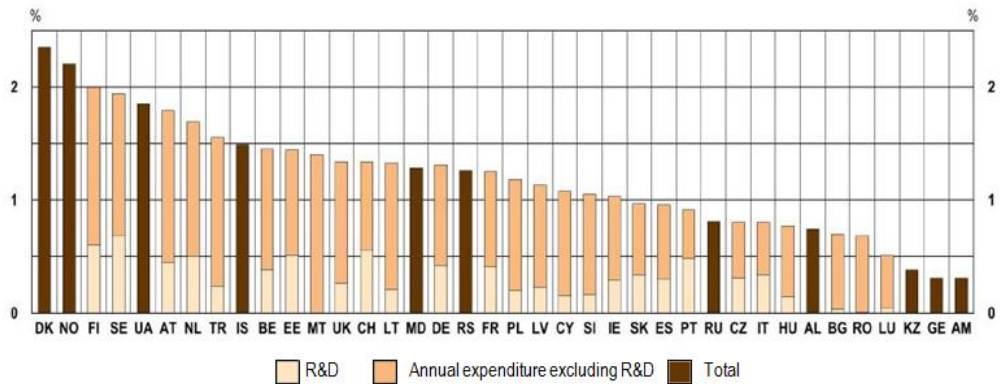
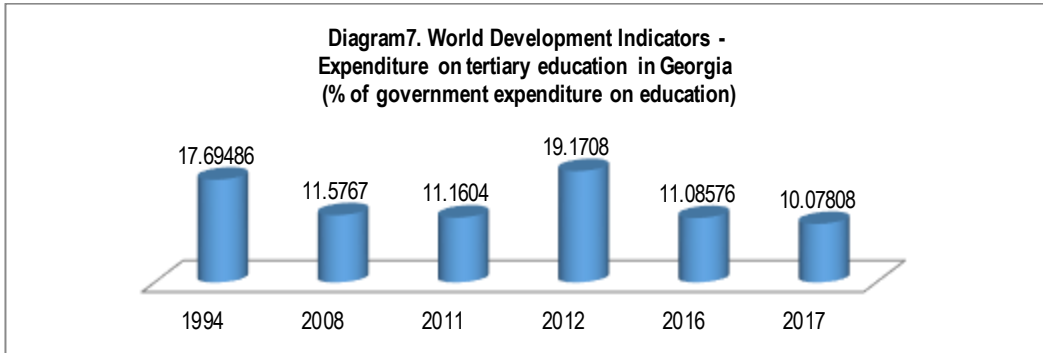


Diagram 6 also shows what part of the higher education annual expenditure is spent on research and development. In EHEA there is a wide variety of R&D costs. Sweden and Finland are spending about 0.6% of GDP in R & D. Bulgaria and Romania are spending the least of EHEA countries, respectively, 0.03% and 0.01% of GDP. It is also important to consider what part of the total expenditure is R & D costs spent by the state on higher education. There is the largest variation between countries in this. Portugal allocates more than half of the higher education expenditure for R & D (53%). Switzerland, Italy, Czech Republic, Sweden, Estonia and Slovakia spend more than 35% of the total expenditure on higher education on R & D (but less than 50%). Bulgaria and Romania, respectively, are spending 4.3% and 1.5% of the total cost of higher education on R & D (Education, Audiovisual and Culture Executive Agency, 2018). Unfortunately, about Georgia there is only the total data in the given report (Diagram 7)<sup>2</sup>.

<sup>1</sup> <https://www.economist.com/graphic-detail/2018/09/12/higher-education-spending-is-falling>

<sup>2</sup> <https://data.worldbank.org/indicator/SE.XPD.TERT.ZS?view=chart>

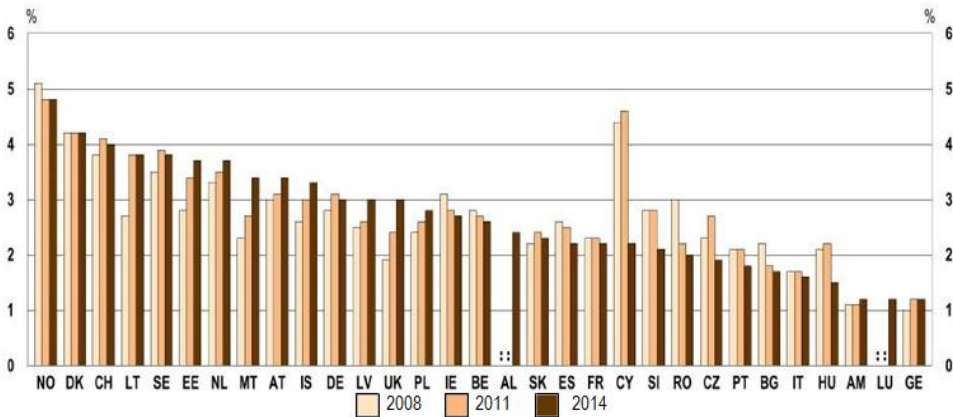




The share of the amount spent by the state annually on the higher education is used in the overall public expenditure as an indicator of how the state is trying to help the higher education system. The share of public expenditures on higher education in the total annual public expenditure indicate how much the education of higher education has a priority in comparison to other levels of education and other public expenditure (eg health care, pensions, infrastructure, police forces, etc.)

**Diagram 8** shows that in 2014, half of EHEA countries are spending more than 2.6% of their total public expenditure on higher education. The largest share of state expenditure on higher education is in Norway (4.8%), Denmark (4.2%) and Switzerland (4%). In 2014, less than 2% of the total expenditure on higher education was spent in eight countries – The Czech Republic, Portugal, Bulgaria, Italy, Hungary, Armenia, Luxembourg and Georgia<sup>1</sup>.

**Diagram 8. Annual public expenditure on tertiary education as a % of total public expenditure, 2008, 2011 2014**



Two groups of countries were identified when analyzing the evolution of the share of higher education expenditure in total state expenditure between 2008, 2011 and 2014. In the first group of countries (almost half of EHEA countries whose data is available), this figure is higher in 2014 than in 2008. This group includes Switzerland, Lithuania, Sweden, Estonia, Netherlands, Malta, Austria, Iceland, Germany, Latvia, the United Kingdom, Poland and Georgia. Annual public expenditure on higher education in these countries has increased faster than total state expenditure (or decreased slowly than total expenses). The sharpest increase in the share of higher education expenditure in these countries is observed in the United Kingdom - from 2.7% in 2008 to 3.8% in 2011.

In the second group of countries (almost half of the EHEA countries those data is available), this figure was lower in 2014 than in 2008. This group includes Norway, Ireland, Belgium, Spain, France, Cyprus, Slovenia, Romania, the Czech

<sup>1</sup> [https://eacea.ec.europa.eu/national-policies/eurydice/sites/eurydice/files/bologna\\_internet\\_chapter\\_1\\_0.pdf](https://eacea.ec.europa.eu/national-policies/eurydice/sites/eurydice/files/bologna_internet_chapter_1_0.pdf)

Republic, Portugal, Bulgaria, Italy and Hungary. Annual public expenditure in these countries on higher education increased at a lower pace than the total state expenditure (or decreased faster than public expenditure). The sharpest decrease in the share of higher education expenditure in the state expenditure from these countries was recorded in Cyprus - from 4.56% in 2011 to 2.2% in 2014. Only in 5 countries - Denmark, Slovakia, France, Italy and Armenia - the ratio of higher education and total expenditure remains unchanged in 2014 in comparison with 2008, it increased by 0.1% at most. This means that in these countries state expenditure on higher education increased or decreased by more or less the same pace as total public expenditure.

According to the data of the Ministry of Finance of Georgia, in 2017 from the state budget 1173 million GEL was spent on the education sector, from the consolidated budget - 1457 million Gel (**Table 1**).<sup>1</sup>

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1*	151	164	286	289	414	458	554	580	612	656	758	826	933	1074	1288	1457
2*	37	41	65	78	348	384	421	460	504	565	653	683	740	834	1025	1173

1\* 2002-2017 Consolidated (state and local) budget spending of Georgia on education (million GEL)  
2\* 2002-2017 State budget spending of Georgia on education (million GEL)

Expenditure on education from Georgia's consolidated budget is 12,7% of total expenditure. It is only behind the expenditure spent on social protection and economic activity (**Table 2**).<sup>2</sup>

Name	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
General public services	39,2	46,1	48,0	52,4	68,0	54,4	15,0	17,4	91,0	90,0	93,9	92,5	99,0	10,86	1173,3	1228,3
Defense	48,8	61,2	16,0	39,6	72,2	15,02	15,52	87,1	67,5	72,0	71,7	63,6	64,6	66,0	729,2	697,9
Public order and safety	85,8	113,6	27,2	28,6	38,2	72,5	10,10	88,2	86,5	88,0	90,9	90,7	95,5	10,10	1010,9	1052,3
Economic affairs	59,5	87,1	17,9	38,8	47,8	97,4	84,7	10,43	11,00	11,35	15,43	12,62	13,30	13,37	1546,8	2071,6
Environmental protection	X	X	X	X	X	75,4	87,9	11,4	12,0	11,0	88,5	13,4	16,2	13,9	143,4	144,6
Housing and community amenities	56,8	60,0	14,0	26,7	44,5	49,7	53,4	34,9	54,4	69,7	49,4	31,8	32,1	41,0	461,6	455,1
Health	59,8	29,5	95,4	20,4	22,5	25,6	31,3	36,3	45,4	39,8	41,6	52,4	69,4	90,5	1046,0	1136,3
Recreation, culture and religion	48,1	49,7	85,7	10,7	13,1	17,2	20,1	23,5	31,2	40,6	39,6	32,2	39,6	57,4	468,7	469,7
Education	15,0	16,4	28,6	28,8	41,3	45,8	55,3	57,9	61,1	65,6	75,7	82,5	93,3	10,74	1287,9	1457,0

<sup>1</sup> <https://www.mof.ge/images/File/2002-2017biujeti/2002-2017wlis%20xarjebi.xls>

<sup>2</sup> The same source: <https://www.mof.ge/4885>

Social protection	29,97	34,25	47,79	62,75	69,01	64,02	32,30	45,98	14,21	15,51	17,32	19,99	23,84	24,67	2654,3	2761,8
Total expenditure*	12,01	13,68	21,78	30,86	41,77	58,51	69,35	66,49	70,21	74,61	79,94	78,63	88,13	96,59	1052,2	1147,6

The budget allocation for higher education in Georgia amounted to 1,461,270.0 thousand GEL in 2018 in the field of education, science and culture, 148 505 thousand GEL for higher education, 65 600 thousand GEL for supporting science and scientific researches (3.7% for education in Georgia according to the Data of 2017. 1457 million GEL/37846,6 million GEL x 100); According to the state budget expenditure -3% - [1172,5/37846,6 X 100]. In 2018, on higher education 0.39% of GDP was spent. [149305000 GEL: 37846,6 million GEL x 100] 0.17% of GDP on promoting science and scientific researches<sup>1</sup>.

Table 3. State budget allocations of Georgia, Southland GEL

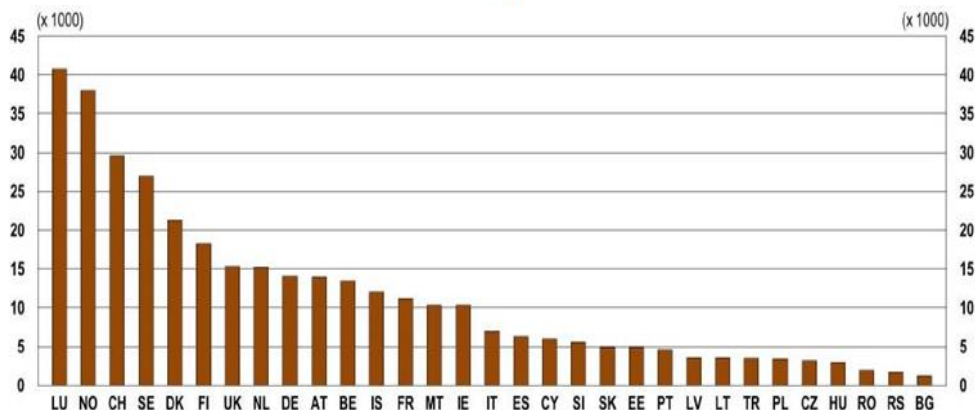
Name	2017 actual	2018 Plan	2019 Plan			
			Total sum	Budget funds	Grants	Credits
Ministry of Education, Science, Culture and Sport of Georgia	1,397,210.7	1,461,270.0	1,508,500.0	1,469,600.0	38,900.0	0.0
Higher Education	135,865.4	148,505.0	168,960.0	168,960.0	0.0	0.0
Supporting scientists and scientific researches	61,421.6	65,600.0	65,470.0	65,470.0	0.0	0.0
Inclusive education	4,785.4	5,135.0	17,710.0	17,710.0	0.0	0.0
Infrastructure development	133,001.5	91,204.0	135,500.0	135,500.0	0.0	0.0
Scientific-research activities in agriculture	5,038.0	5,150.0	6,542.0	6,542.0	0.0	0.0
Postgraduate medical education	126.5	800.0	800.0	800.0	0.0	0.0

An interesting and important indicator of the attitude of the state towards the higher education is the amount spent by the state on 1 student. Here is also a big difference between the countries. In some countries this indicator is 5 times higher. In 2014, state expenditure on 1 student of higher education stage in EHEA countries was more than 25,000 euros, in some countries - less than 5,000 euros. This figure is the highest in Luxembourg and Norway and the lowest in Romania and Bulgaria<sup>2</sup> (Diagram 9).

<sup>1</sup> <https://www.mof.ge/images/File/2019-bijeti-wardgena/kanoni/TAVI%20VI.DOCX>

<sup>2</sup> Euro-stat, UOE and additional collection for the other EHEA countries.

**Diagram 9. Annual public expenditure on public and private tertiary education institutions, per full-time equivalent student in euro 2014**



Unfortunately there is no information in the European Higher Education Area account in 2018 about the situation in this regard in Georgia. However, according to the data of the Ministry of Finance and the Statistics Office, the state spends 1038,3 GEL on the higher education of 143.8 thousand students in Georgia, which is 397 dollars.

• **Reform of higher education system and peculiarities of its state financing in Georgia**

The first steps to reform the higher education system in Georgia were made in the 90s, when the higher education previously fully subsidized by the state was changed and the privatization of expenditure began. It was basically carried out by the opening of private higher education institutions and by adding the so called "paid" seats to the existing public universities.

Fundamental reforms in the higher educational system aimed at the final dismantling of the old Soviet system and getting the higher education system of Georgia closer to the European education space by raising the education quality have started since 2004 and there have been many significant changes in the higher education system, including in the rule of financing.

Since 2004, in Georgia the direct funding of universities by the state has been replaced by proportional funding of the quantity of students. Direct funding of the higher education institutions by the state was reduced to a minimum and was almost completely replaced by funding students. Today HEIs receive funding from the state not by the number of students, but according to the number of successful students at the unified national exams. The rest of the students pay their tuition fees by themselves. The students enrolled at private higher education institutions after successfully passing the unified national exams also receive state education grants. The goal of such changing the financing system besides a financial provision of higher education institutions was to eliminate the existing corruption practice in the process of distributing and managing state funds for higher education institutions and receiving students at universities.

The above-mentioned rule of higher education financing is still in effect (the change of funding rule has been announced since 2020, details are not known yet, presumably the basic funding for universities will be introduced) and it has both positive and negative sides.

**The following can be considered to be positive sides:**

Transparency of the system;

We can easily say that the acting rule of financing on the higher education institutions has brought the corruption to a minimum in the process of distribution and disposal of state funds on higher education institutions.

Possibility of receiving public funding by private higher education institutions (Strengthening private sector), which increases healthy competitiveness between private and state higher education institutions and, thus, promotes education quality raising.

A positive side of higher education funding system may be an incentive programmed funding for students which has been launched since 2013-2014 by the order of the Minister of Education and Science of Georgia<sup>1</sup>, specialty program directions of the accredited educational bachelor's degree programs were defined which are fully financed by the state and the rules and conditions for granting programmed financing for higher education institutions were determined.

The goal of issuing program financing on the higher education institutions by the Ministry in the field of higher education is:

To promote targeted utilization of existing intellectual potential;

To develop humanitarian, natural sciences, social, technical, agricultural sciences and other priority programmed directions as integral parts of the national culture and education and to promote young people's interest in pursuing studies in this field.

To prepare students for such a professional activity that requires using scientific knowledge and scientific methods;

To increase public involvement and positive attitude towards the state policy and its implementation.

7 higher education institutions established by the state are authorized to receive program funding. (Ivane Javakhsishvili Tbilisi State University; Georgian Technical University; Iliia State University; Sokhumi State University; Akaki Tsereteli State University; Batumi Shota Rustaveli State University; Talavi Iakob Gogebashvili State University).

On priority program direction field/specialty<sup>2</sup> (**Table 4**) the amount of programmed funding for the university is calculated in accordance with the following principles:

Agrarian Sciences	1.Agronomy; 2.Veterinary
Education	1.Education Sciences; 2.Education of Teacher
Engineering	1.Engineering Physics; 2. Energy and Electronic Engineering; 3. Construction
Science/ Natural sciences	1.Mathematics; 2.Physics; 3.Chemistry; 4.Biology
Social Sciences	Economics
Humanitarian sciences	1.History; 2. Philology,with specialization of Georgian philology; 4. Philosophy
Interdisciplinary studies	Architecture

• The annual funding of the university in the sphere of each priority program direction field financing is 33750 (thirty-three thousand seven hundred and fifty), which will be given to the university on the priority program direction field/specialty from one to 15 any number of enrolled students.

• In addition to the above-mentioned funding, on each priority program direction field/specialty up to every six students enrolled after 15 students on the university will be issued annually 11250 GEL (eleven thousand two hundred and fifty). In 2016-2017 5655 students benefited from programmed funding <sup>3</sup>(**Table 5**).

Year	2013-2014	2014-2015	2015-2016	2016-2017
Amount	3795	5012	5653	5655

Programmed funding is undoubtedly a positive step for supporting and encouraging less popular specialties amongst entrants, though it is somewhat discriminatory because only some public higher institutions can receive funding within the programmed funding.

#### As for the negative sides:

• First of all, the scarcity of funding should be noted that is largely due to the fact that the main component of the university financing formula is not the number of students at the university (as in the European countries) but the HEIs are funded by the state according to the number of successful students at the unified national exams. Students are financed according to

<sup>1</sup> The Order N79; 24.06.2013.

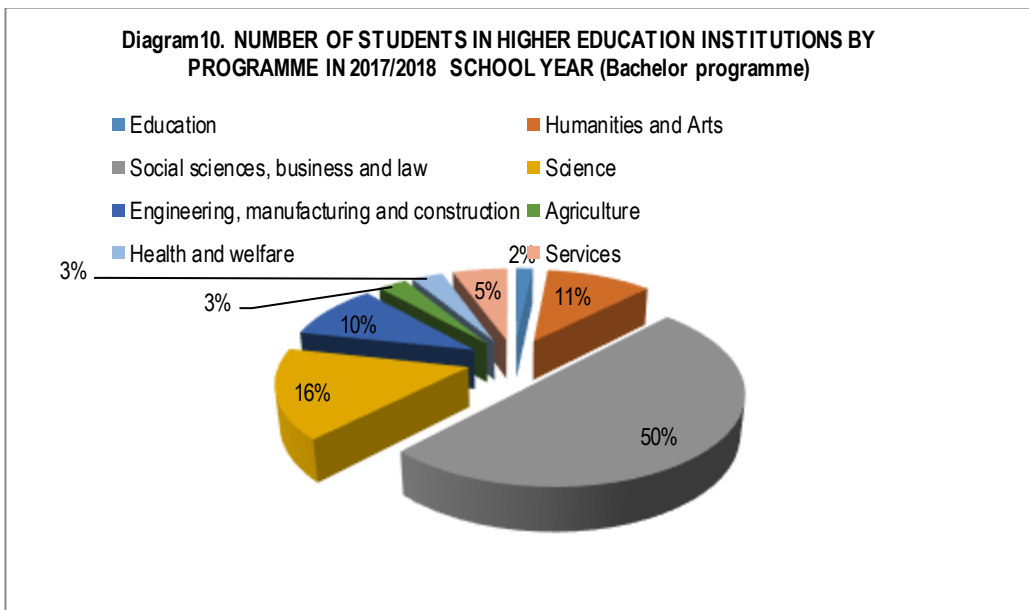
<sup>2</sup> <https://eqe.ge/geo/faq/category/22>

<sup>3</sup> <https://eqe.ge/geo/faq/category/22>

the received scores by 100% , 70% , 50% or 30% of the maximum (2250 GEL) of the tuition fees established in public higher education institutions. The rest of the students pay the tuition fee by themselves.

● This system of financing HEIs leads to artificial balancing of supply and delivery of studying programs. Educational institutions are increasing the supply of programs that are on demand and, on the contrary, are reducing the supply of less prestigious programs. Under the amendment to the funding rule in the academic year of 2011-2012 (Those entrants who were going to take exams of the following specialties: law, health care, business (except tourism), mass communication/journalism, international relations and public governance, could receive only 100% grant. The number of those willing to submit to the listed programs was very high and the majority of the receivers of studying grants enrolled in these programs and if their scores received at the unified national exams were not enough for a 100% grant, they could not get any financing at all. However, by this change the quality of the problem has declined to some extent but since 2013 70% and 50% grants are still given to all programs (and the amount of money determined for 30% grants have been added to the funding aimed at 50% grants) and today the above-mentioned problem still remains unsolved.

Social sciences, business and law are very popular from higher education programs in undergraduate students, 50% of undergraduates are studying at these directions. The least popular is Education, Agriculture, Health and Welfare are the least popular<sup>1</sup> (Diagram10).

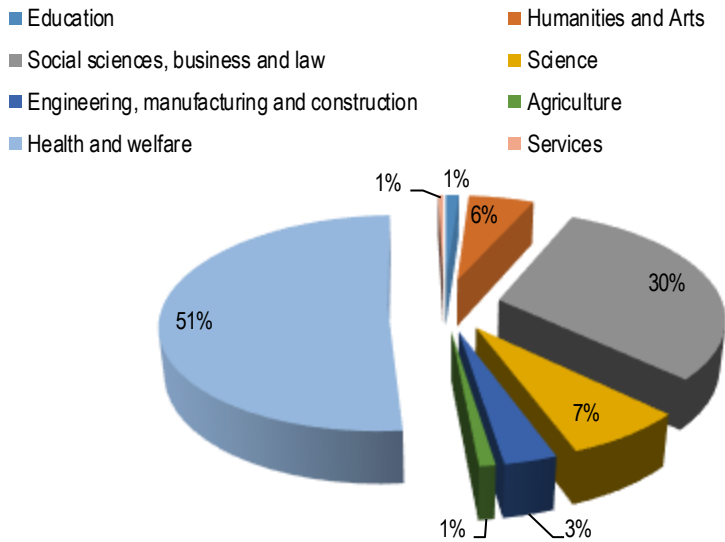


In 51% of MA Students health and welfare are more popular from higher education programs, in 30% - social sciences, business and law, the least popular are Services, Agriculture and Education <sup>2</sup>(Diagram11.).

<sup>1</sup> Statistical Yearbook of Georgia; National Statistics Office of Georgia; Tbilisi 2018, pg.74-75.

<sup>2</sup> The Same Source; pg. 74-75

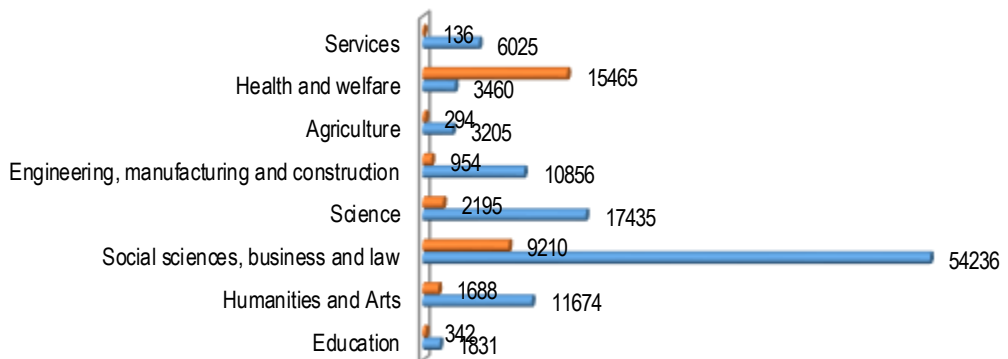
**Diagram 11. NUMBER OF STUDENTS IN HIGHER EDUCATION INSTITUTIONS BY PROGRAMME IN 2017/2018 SCHOOL YEAR (Magistracy, Certified physician (Veterinarian) or Residency)**



The absolute meanings of this statistics can be found on the diagram. (Diagram12).<sup>1</sup> The dominance of two directions is obvious: these are social sciences, business and law, health and welfare. As budgetary financing is directly related to the number of students, it is clear that the popular directions on the market are better positioned in terms of income than other directions, as they hold also the largest segment of the market.

**Diagram 12. NUMBER OF STUDENTS IN HIGHER EDUCATION INSTITUTIONS BY PROGRAMME IN 2017/2018 SCHOOL YEAR**

■ Magistracy, Certified physician (Veterinarian) or Residency    ■ Bachelor programme



• The drawback of such a rule of distributing state grant is also the fact that funding is in no way related to a student's academic achievement, while by the Western experience scholarship is based on studying. The student maintains a grant

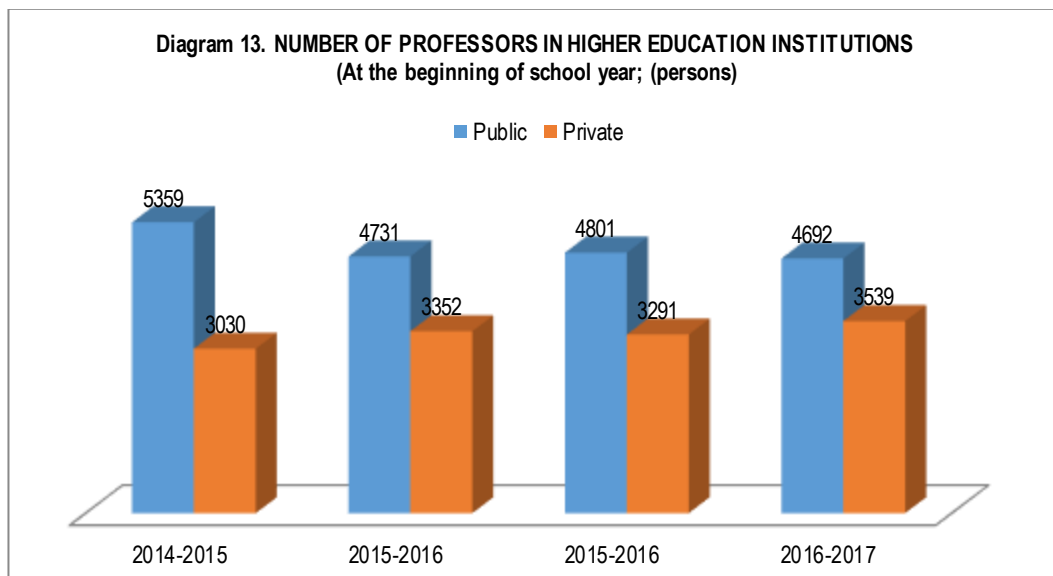
<sup>1</sup> The Same Source; pg. 74-75

based on the results of the unified national exams in Georgia for 4 years. The student is not accountable to the grantor (state). In 2017, there was the issue on the agenda that the academic achievement should be the pre-requisite of maintaining the grant, which we think would increase students' motivation to learn and, in total, increase the level of teaching and learning in higher education institutions. However, unfortunately the idea remained an idea.

- Another disadvantage of the existing funding mechanism is a relatively privileged position of the private higher education institutions, which means that approximately equal number of students are studying with state grants in private and public universities. Accordingly, they receive almost the same funding from the state. In the conditions of absence of basic funding from the state budget the state studying grant is the only means of receiving financing from the state for the public higher education institutions, and since the private higher education institutions, unlike public ones, can establish tuition fees in any amount, their common incomes are significantly higher than the income of public institutions (Gulua, Ekaterine, 2012) (up to 8000 GEL).

- Another weakness of the existing rule of financing is the low pay for academic personnel due to poor funding that will not be reflected positively on the quality of the studying and teaching processes.

The statistics of academic staff influence the costs of the higher education institutions on the one hand and on the other hand on its quality. Absolute number of academic personnel is reducing from year to year in the public sector and increasing in the private sector. At the beginning of 2016-2017 academic year 8231 units of professors were recorded. 36% in private, while 64% in the state sector<sup>1</sup> (Diagram 13). While the share of the total number of graduates in the private sector is 29% and in the state sector - 71%. This means that in the private sector the number of lecturers for a single student is more than in the public sector.

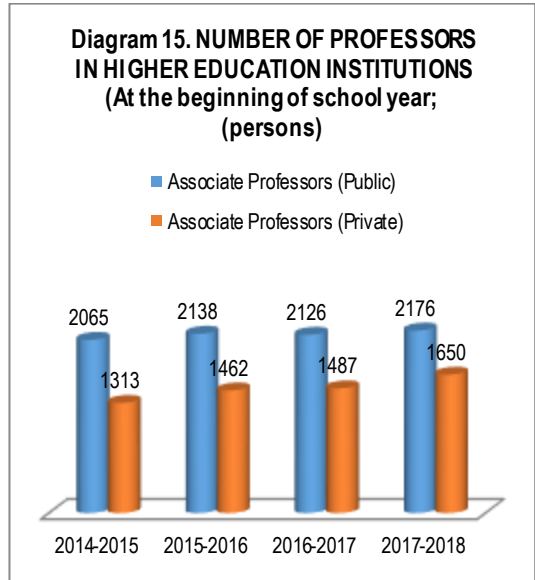
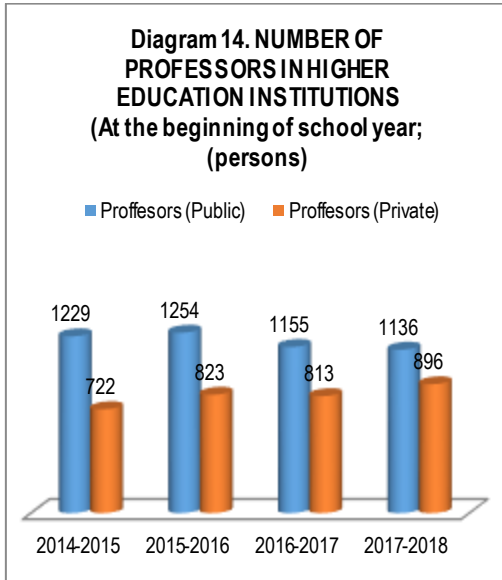


Interestingly, 24% of academic personnel in the state sector are professors and 46% - associate professors. There is almost a similar ratio in the private sector - 25% professors and 47% associate professors. The number of professors in the state sector is decreasing and the number of associated professors is increasing. In the private sector the number of employees of both categories is increasing<sup>2</sup> (Diagrams 14,15).

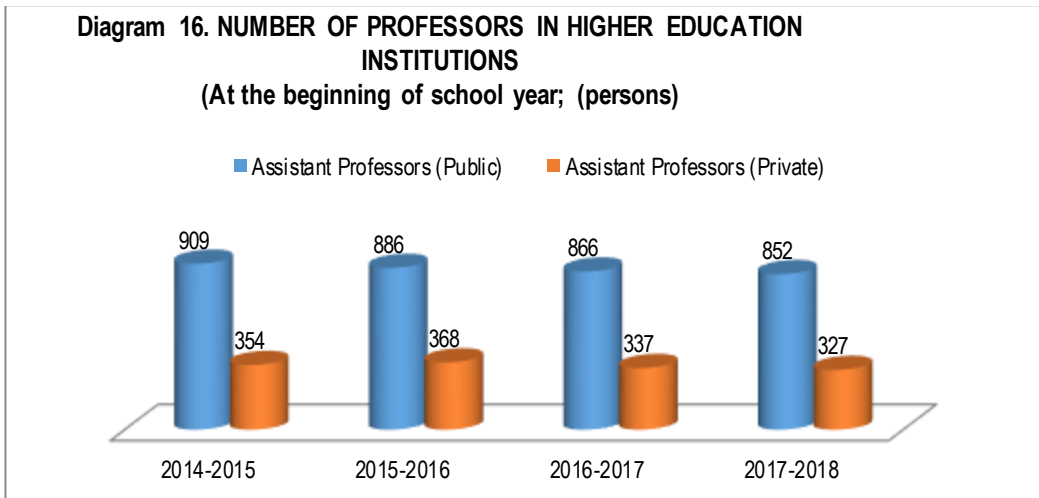
<sup>1</sup> The Same Source; pg 76

<sup>2</sup> The Same Source; pg 76





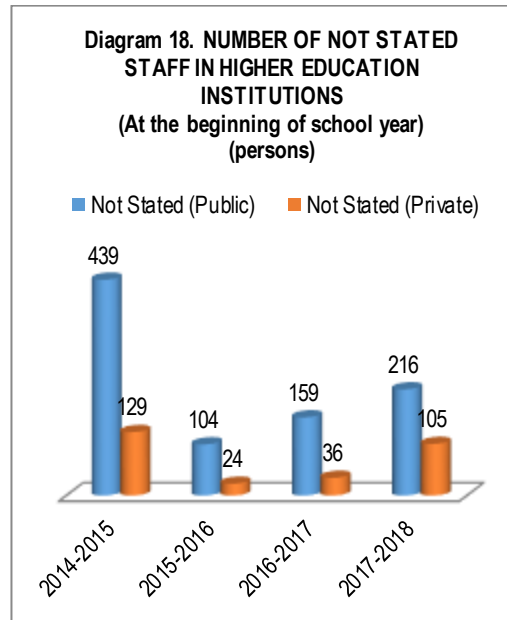
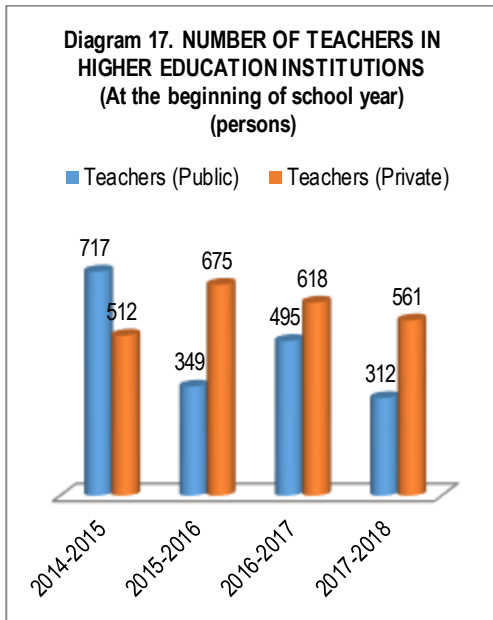
The number of assistant professors in the total number of the personnel in the public sector of higher education institutions is 18% , in the private sector - 9% . Their absolute number is decreasing from year to year in both private and public sectors, which means that less attention is paid to staff reserves<sup>1</sup> (Diagram16.).



The share of teachers in academic staff of state higher education institutions is 7% , in the private sector the similar indicator is 16% . Their dynamics in both private and public sectors varies. The share of non-identified academic personnel in the state sector constitutes 5% and in private sector - 3% . Since 2015 their dynamics has been growing in both sectors<sup>2</sup> (Diagrams 17,18).

<sup>1</sup> The Same Source; pg 76

<sup>2</sup> The Same Source; pg 76



The weakness of the existing rule of financing is also considered to be the fact that it is not socially oriented. From the fact that entrants get grants only by the results received at the national exams and it will be logical if we assume that the children of economically powerful families better manage to prepare for this exam, rather than the socially vulnerable people, and also the grant are mainly taken by those entrants who are less likely to need it. Unfortunately, there is no survey in social sphere of higher education financing in Georgia and this is only an assumption. However, it should be noted that the Law on Higher Education envisages funding of certain categories of students within the social program. In particular, the Government of Georgia with the consent of the Ministry of Education and Science will define the amount and condition of financing with state education grants within the social program of the enrolled students at the accredited higher education program at least with 6% and not more than 20% of the annual amount of financing with state education grants.

For the academic year of 2016-2017 in the higher educational institutions 2 520 000 GEL was allocated within the social program for the students who are studying on accredited higher educational programs based on the results of the unified national exams.

From this amount, 1 920 000 GEL was allocated for the students who are studying on accredited higher educational programs based on the results of the unified national exams of 2016, 600 000 GEL - for those students studying on accredited higher education programs based on the results of the unified national exams of 2014 and 2015.

It is important to optimize the expenditure structure by higher education institutions. Since the latter – the right balance between the long-term and short-term interests significantly determines the efficiency of institutions. It should be noted that the advantages of private sector subjects are higher in this regard, since their private interests, flexibility, independence provide results too. State institutions are less flexible, have other social commitments, are not free to dispose of property, which reduce the likelihood of their effectiveness.

In 2019, the total income of TSU was 71446360 GEL, incomes from economic activity (from tuition fee, studying grant, program and targeted financing and other activities permitted by legislation) amounted to 70% of the total income; the income received from the state budget (scientific research institutes and national scientific libraries) - 20%, from the National Science Foundation grants - 6%; from international grants - 2%; from the state budget - state scholarship - 1%; from the state budget – it received 1% for the development of educational and scientific infrastructure<sup>1</sup>;

<sup>1</sup>[https://www.tsu.ge/data/file\\_db/sajaro/2019biujetitsu.pdf](https://www.tsu.ge/data/file_db/sajaro/2019biujetitsu.pdf)

In 2018 the total expenditure of TSU was 68208353 GEL, the incomes received from economic activity (tuition fee, studying grant, program and targeted financing and other activities permitted by legislation) amounted to 72% of the total income; the income received from the state budget (scientific research institutes and national scientific libraries) - 17%, from the National Science Foundation grants - 5%; from international grants - 3%; from the state budget - state scholarship - 1%; from the state budget – it received 2% for the development of educational and scientific infrastructure;

In 2018 TSU spent 74410395 GEL in total; 44% from them was remuneration; 31% - goods and services; 11% - increase of non-financial assets; 4% - subsidies; 10% - other expenses. Grants and social security do not exceed one percent<sup>1</sup>.

The current incomes of Georgian Technical University which is the second according to the size, amount to 55 630 918 GEL in which 85% is for tuition fee – other incomes (lease, deposit, etc.) allowed by law are 10%; program funding received from the state budget - 4%; scientific research grants - 1%. The incomes received for facilitating the teaching of students with special educational needs (SSN) are insignificant. The costs amounted to 50 373 061 GEL. The expenses and representation costs of the staff and freestyle labor costs (40321058 GEL) are 80% of all expenses. For non-financial assets, it was 9.5%. The expenses and representation costs (40321058 GEL) of the staff and freestyle labor costs, business trips are 80% of all expenses. For increasing non-financial assets, 9.5% was spent.<sup>2</sup>

Iliani's income is 53 941199 GEL, income from economic activities is 76%; State subsidy - 8%; International grants - 8%; Local grants - 5% and programmed funding - 3%. The expenses amounted to 46 695000 GEL; The largest part of expenditure - 38,1% was spent on the remuneration of the freestyle employees, 33.8% - on workers' salary and the business trips and representative expenses in the total amount to 4%. Increase in non-financial assets amounted to 4 620 000 GEL.<sup>3</sup>

### Recommendations:

In modern conditions, special emphasis should be made on the problems of having access to higher education, inclusiveness, and the formation of the environment with equal opportunities. In the conditions of limited resources when distributing benefits, it is necessary to ensure the organic compatibility of the principles of effectiveness and fairness. These two principle cannot be effective apart from each other, in isolation. On the Georgian educational market in the conditions of intensive competition, practical solution to the challenges faced by the state higher education institutions directly depends on the qualified, competent, transparent and honest management of identification and generation process of the university priorities (Kharadze, Natalia; Gulua, Ekaterine, 2016).

Improvement of management, formation of democratic, transparent, fair systems would facilitate the optimal spending process of funds.

In the process of operating the budget process (at the stages of the consolidated budget project of the University as well as its realization) we should take the two key points - effectiveness and inclusion into account. The proper management of the university budgeting process is possible through the synergy of these two most important constituents. For the successful implementation of the functions determined by the management architectonics, direct involvement of the main actors - students, academic personnel, researchers, and the administration in these processes is essential. The strategic planning process of university budgets and determining priorities should be based on the principles that provide the specificity, measurement, reality, and timeframe of the goals (priorities) set.

It is necessary to establish in the university management the transparent approved principle of redistribution of responsibilities based on informed participation of stake holders in stable organizational structures, technology to ensure the purpose and transparency of university budget expenditures. Controlling these processes by the university community will help the staff to determine how efficiently the budgetary priorities of the university are defined, how well the budget serves the realization of tasks due to the direct mission and objectives of the educational institution. It will make clear how the sustainability of its organizational structures their proper, efficient functioning and cost-effective utilization of resources is provided. Without fully aware interested parties it is impossible to make decisions that provide sustainability of an organizational structure. Considering this circumstance is essential in the management process of any system. Ignoring this management principle of creating a system leads to destructive processes. The university budget should not be tailored to personal needs of individual privileged, narrow interest groups, and should not become a tool for realizing their hedonistic

<sup>1</sup> [https://www.tsu.ge/data/file\\_db/sajaro/2018\\_dis\\_biujeti.pdf](https://www.tsu.ge/data/file_db/sajaro/2018_dis_biujeti.pdf)

<sup>2</sup> [http://gtu.ge/pdf/biujeti/damtkebuli\\_biujeti\\_2018.pdf](http://gtu.ge/pdf/biujeti/damtkebuli_biujeti_2018.pdf)

<sup>3</sup> <https://iliauni.edu.ge/uploads/other/50/50181.pdf>

aspirations. The university resources should be used to make the qualitative improvement and renewal of the quality of the studying process and scientific researches, the full involvement of students in this process. The mechanism of management of university finances should be based on equal accessibility, competition and adversarial principles. Student projects should be financed based on competitions, by a specialized council in which students will also be present.

The current approach of funding is unsustainable and a significant increase in investment in higher education is needed to ensure that the sector remains viable and to satisfy the increased needs of the student and the market.

Receiving grants and other incomes except the state budget should be stimulated at the institutions. Commercialization of the university science (researches) and strengthening their applied aspects should become one of the priorities. For this purpose, contacts need to be activated with a business sector, government structures and the civil society. It is necessary to develop competitive educational programs with the involvement of leading scientists of the field, relevant field employers and students.

There is a sharp increase in demand from the state and private sectors on the sociological surveys to determine the perceptions and attitudes towards economic, social and political processes in the country. The abilities of university academic and scientific-research staff are not used in this direction, namely, the great traditions of Georgian sociological school. Special organizational structures should be created that will work on these types of orders. The positions of certain government agencies are surprising, they spend large sums on this kind of researches and for some reason do not use the resources of state universities (which are functioning under their patronage). They order the researches to the organizations whose reputation is sometimes suspicious. By the proper collaboration with the government one of the alternative sources of state funding may appear for state universities, which will additionally benefit both parties. During the transition from the centrally governed, administrative-commanding system to the economy based on the principle of market, free choice and responsibility, the state should implement and ensure the policy that supports an honest competition.

Today students' financing by the state does not depend on his/her academic performance. It is important to introduce transparent and fair mechanisms for partial or full funding of the socially unprotected contingent with high academic results who are especially talented, this should become one of the priorities of university budgeting. An organic, balanced settlement of market and socially responsible, socially oriented criteria of determining tuition fees is essential.

Switching to the tenure system and external reference mechanism is impossible without the care of highly qualified academic personnel and reproduction of scientist-researchers. The university budget should fully finance the students with exceptionally high academic motivation and research activities at the doctorate level. Provided that the staff, financed by the University, will remain in place for 5 years after the successful completion of the process and obtaining a doctoral degree and will serve the interests of the higher education institution<sup>1</sup>. It is also desirable the budget expenditure of higher education institutions to consider training costs for staff.

The main hindering factor of the efficiency of financial management of state higher education institutions is the extremely low level of transparency in budget process management, at the stages of forming budget priorities, as well as during its approval and further implementation stages.

The lack of the data about functioning of higher education institutions, the lack of information systemic processing and analysis indicates the general state of the system, democratization of the management system, publicity, and in general the actualization of the topic will contribute to the expansion of the system and increase efficiency.

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<sup>1</sup> Vakhtang Antia; Economy - oriented Education and the Management Priorities of the State Higher Education Institutions; Journal ECONOMICS; Tbilisi; December 2018. pg13.

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## Career Management Peculiarities in Educational Institutions

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### Abstract

Education is the most important component of career planning. Proper education allows the individual to have a strong foundation for a future successful career. It is interesting what are the peculiarities of career management in education field? Thus, our article deals with a comparative analysis between the education field, of career management and the public sector and private sector employers. We have formulated the following hypotheses: Hypothesis HP1: Have you ever participated in qualification raising courses with the help of the organization (without or with financing) that were related specifically to your work to perform? (Q7) affects the forms of raising qualifications by the respondents – as an individual and as a group (Q8), also whether they were promoted after upgrading the qualification (Q9); Hypothesis HP2: (Q13) Vertical and horizontal career growth of employees affects a respondent's career movements inside and outside the organization (Q14) Hypothesis HP3: Employment Field Q1 affects Have you heard whether your colleague's career is moving forward with the help of other influential people? Q23. In educational institutions, the peculiarities of career growth have been highlighted, such as a high number of employees who were accepted at work by means of a job contest, lower expectations of career growth, which have reduced the desire to be employed in the field of education. The promotion of employees is not always objective, raising professional qualifications is not accompanied by work and career promotion and increase in wages. Our conclusions and recommendations will have a beneficial impact on improving the education sphere.

**Keywords:** Career, management, business career, Educational Institutions, human resources management

### Introduction

Career management problems are equally important for any type of organizations. In our case, we have selected the employees from the public and private sector and also from educational institutions. Career management policy is directly related to the motivation policy. The overall development of the staff should be the interest of each field, what is the most important-measures taken should be based on the principles of justice. Our research has revealed problems in all three areas which creates a feeling of hopelessness and an employed person is often alienated from the organization. Mistakes made in the career management mostly affect the organization's unity, teamwork and development. Our special interest was the study of peculiarities in educational institutions.

### Literature review

One of the key steps in the human resource management is a proper selection of staff and the career management that can not be performed without properly established criteria. (Kharadze, Natalia; Gulua, Ekaterine;, 2018). In (Kharadze, Natalia; Gulua, Ekaterine;, 2018) most universities, perception of the existing criteria of lecturers' assessment is vague which leads to a negative influence on the formation of an organizational culture. (Gulua, Ekaterine; Kharadze, Natalia;, 2018) as it makes conflict situations inevitable. We have already conducted researches on this. (Kharadze, Natalia; Gulua, Ekaterine;, 2018) where the personnel management problems were identified. Our research was related only to employed students, focusing on their personal development plan. (Gulua, Ekaterine; Kharadze, Natalia;, 2018). There was also an unpleasant plan on the part of the organization to add to the care problems of the employed people's self-development (Kharadze, Natalia; Gulua, Ekaterine, 2016); (Pirtskhalaishvili, Dea; Dugladze, Davit;, 2018) We have examined in details the factors that work on self-development, such as the correct management of time (Ekaterine, Gulua; Natalia, Kharadze, 2017); (Kharadze, Natalia; Dugladze, Davit; Pirtskhalaishvili, Dea;, 2018) Where we focused on free time management (Kharadze, Natalia; Gulua, Ekaterine; Duglaze, Davit, 2017).; (KHARADZE & DUGLADZE, 2018) It is interesting to know about the works of our department professors on organizational culture where they talk about the connection between the organizational culture and the development of labor resources. (Paresashvili, Nino, 2016). While there are problems with unemployment in the country (Paichadze Nugzar, 2018) it is especially important to implement a proper personnel policy, to consider the world practice and adjust it to the Georgian reality, to improve the legislative basis (Nugzar Paichadze, 2018). The wrong personnel policy directly affects the development of the economics (Nugzar Paichadze, 2014)). How efficient is the management of the organization is reflected on its success (Amkoladze, Gocha; Gabrichidze, Amiran; Giorgobiani, Maia; Zedgenidze, Merab; Kharadze, Natalia, 2014) ; (Amkoladze, Gocha; Gabrichidze, Amiran; Giorgobiani, Maia; Lomsadze-Kuchava, Maia; Kharadze, Natalia, 2014) The right and fair management of the human resources makes fewer problems for the organization and it avoids conflict situations (Nikvashvili, 2016) Our colleague (Paresashvili, Nino, 2018) writes about the eternal problem of the conflict and gives recommendations to avoid it. We came to the conclusion that unfair personnel policy is the basis for all types of problems in an organization.

### Research Methodology

The research was conducted in the "Human Potential Management" laboratory at the Faculty of Economics and Business of Ivane Javakishvili Tbilisi State University and was organized by its manager and founder, an associate professor Natalia Kharadze. During the preparation of the questionnaire the works published at different times by the well-known specialists in the field were used. The questionnaire included 32 questions and 125 options for an answer. 560 respondents participated in the survey.

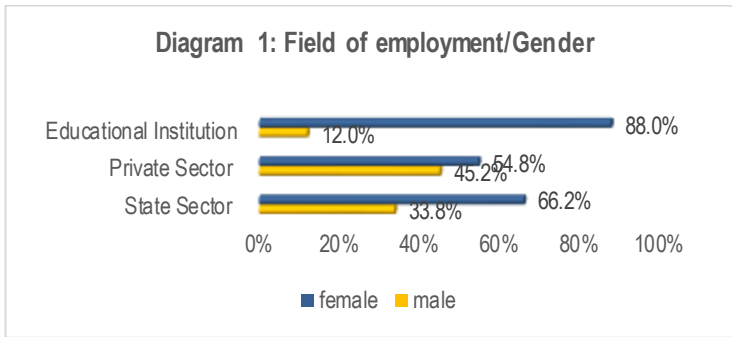
SPSS statistical program was used for statistical processing and data analysis by which the existence of the connection between the variables and its reliability, the formulation and inspection of hypotheses according to the study issues were determined.

The following statistical procedures and methods were used in analyzing the statistical data: Descriptive statistics, Graphical analysis, Correlation and Regression analysis, Chi-squared tests, various means of Dispersal analysis.

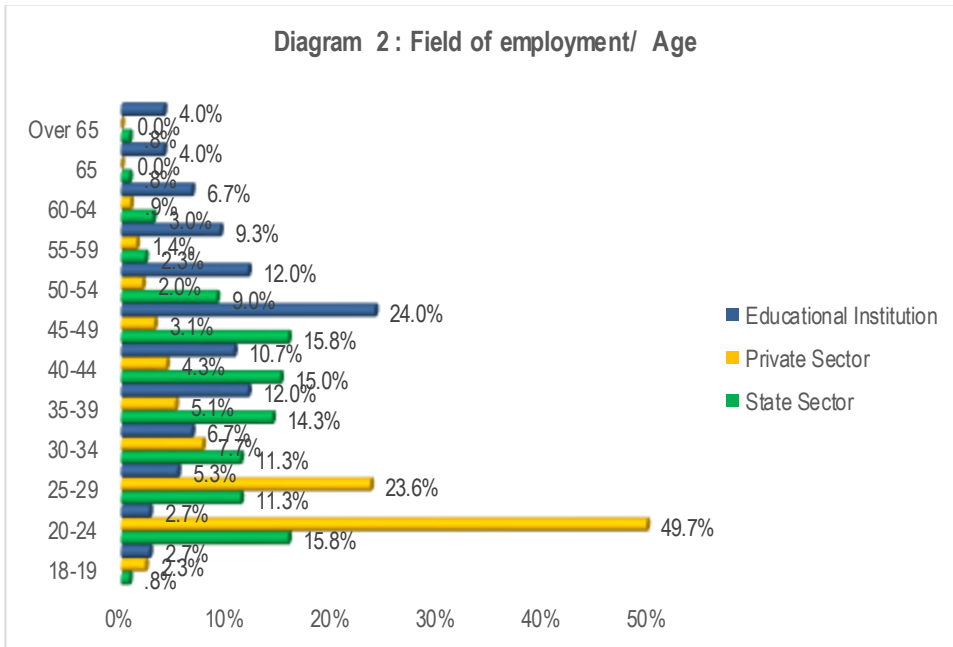
### Research Analysis

One of the directions of our research is to identify the peculiarities of career management issues in the educational space. For this the respondents of one organization of education were involved in the survey. This is enough to make parallels between the employed people's problems connected with their career in the public or private sectors that deal with career. First of all, we should note that the number of the men from the interviewed respondents by us in educational sphere was 12% and the women were 88%, while there is no such distinction in the ratio of the respondents surveyed in the private sector and from the surveyed respondents 54.8% were women and 45.2% - men. As for the public sector in this case from the interviewed respondents 66.2% are woman and 33.8% - men. (see Diagram 1) As the data has shown, the public sector is less attractive for men and even more they categorically evade the educational sphere. There are many reasons, though one might be a lower pay. In the education system, men fail to satisfy their own ambitions, first of all, to keep a family. Since the last century, the field of education was considered as a place of employment for women and we were less likely to meet men here. (Kharadze, Natalia; Kakhaber, Chikhradze, 2015) They were mainly employed in terms of physical education. The similar trend is maintained today. The personal development of women is characterized by the peculiarities and is influenced by our traditions (Kharadze & Gulua, 2018) From the state it is necessary to make young people interested and to work on breaking the old stereotypes.



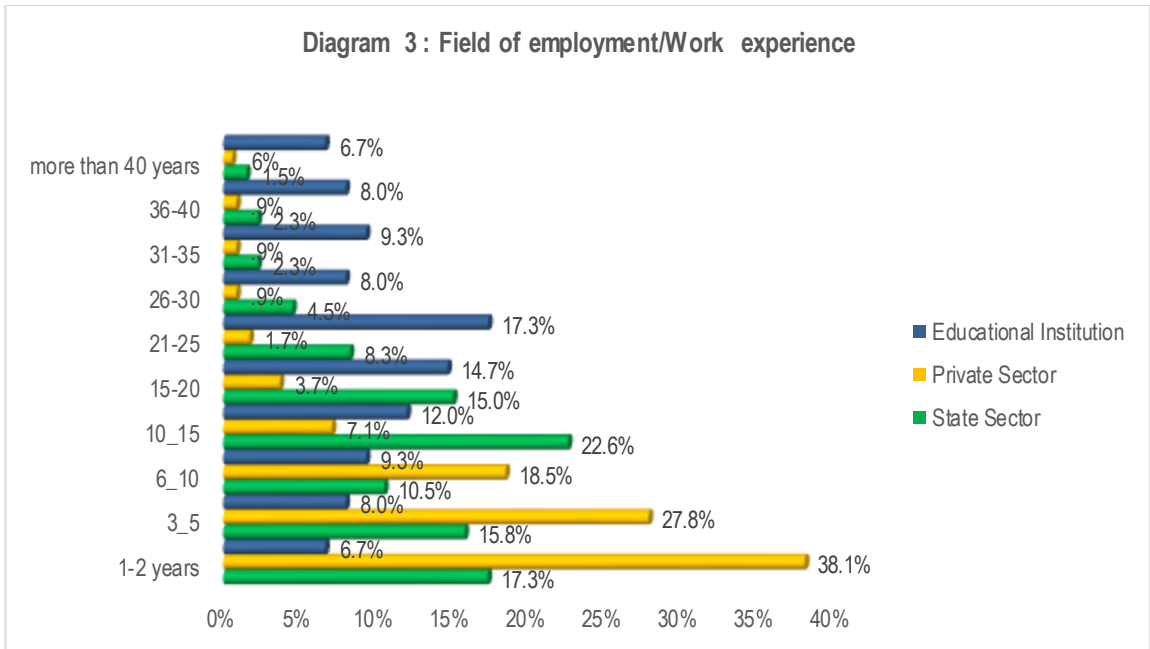


Out of the interviewed respondents in 20-24 age group 15.8% are employed in the public sector, 49.7% in the private sector and 2.7% in educational institutions, as for the 25-29 age group, 11.3% of the surveyed respondents are employed in the public sector, 23.6% in the private sector and 5.3% in educational institutions. With the increase of the age the picture is radically changed, in particular, in 45-49 age group when respondents are at the stage of maintenance from the interviewed respondents 15.8% are in the public sector, 3.1% in the private sector and 24% in educational institution, also in 50-54 age group 9% are in the public sector, 2% in the private sector and 12% in the educational institution, with the increase of the age the number of respondents in the educational institutions is significantly increased (see Diagram 2) As it seems educational field is not attractive for men. Social background does not allow them in spite of their vocation to be employed in the educational institutions, we think that this problem requires an attention. Staff aging process cannot endure the criticism, generations are less likely to change. It is important to increase the motivation of highly qualified staff, to use important initiatives to make young people interested. (Nugzar Paichadze, 2013)

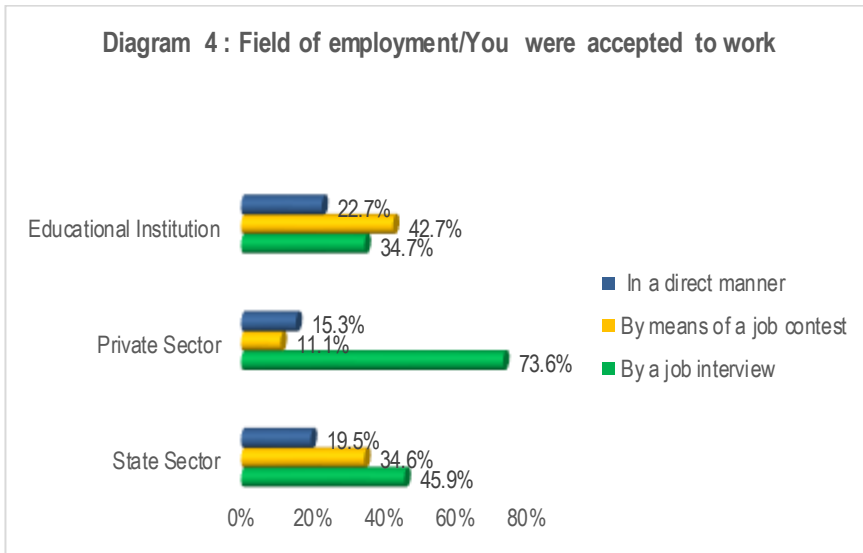


The fact that the aging process is very high in the learning institutions, is clearly shown in the research, in particular, the respondents with more than 40 years of work experience are 0.6% and this is natural because the private sector was formed during the period of the post-soviet space, on the other hand, in learning institutions 6.7% from the interviewed respondents have more than 40 years of work experience, also the number of people with 36-40 years of work experience is significantly higher in learning institutions and equals 8% while in the public and private sectors this indicator is 3.2% in total, and those who have 31-35 years of work experience in educational institutions are 9.3% and 3.2% both in private and

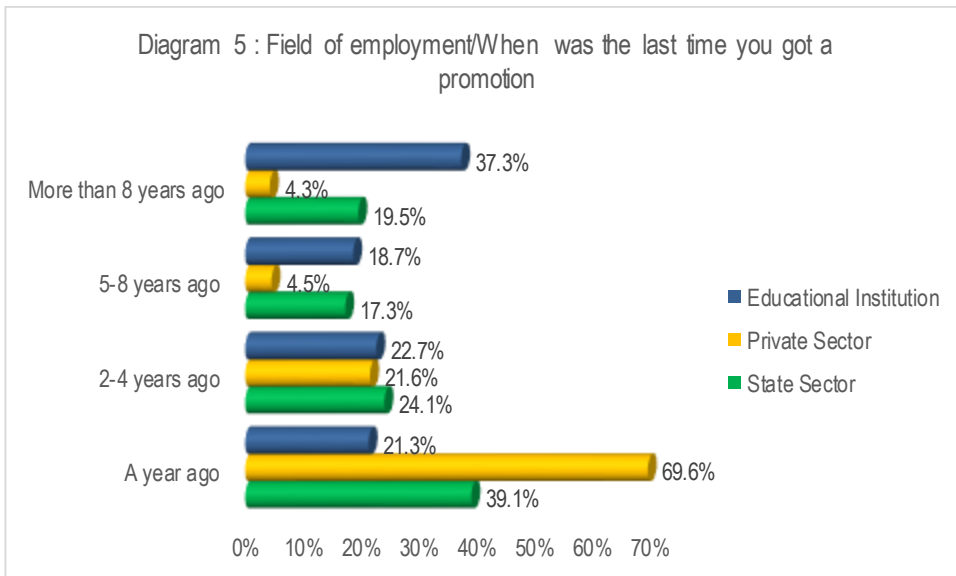
state sectors. With the decrease in work experience the number of employed people in learning institutions also decreases, in particular, the respondents who have 3-5 years of work experience in education system are 8% , 27.8% in the private sector and 15.5% in the public sector while in the public sector the number of those with 1-2 years of work experience accounts for 17.3% , 38.1% in the private sector and 6.7% in educational institutions. It is clear that the education field is not fascinating for job seekers. In addition, other studies have shown that in some cases the people employed in education field try as much as possible to maintain their positions and not to be replaced with young people because their age limit does not allow them to continue their activities in other fields. It is natural that in this respect the state must take a number of measures. It is important the teachers with merits to have benefits, their pensions to be increased and be able to take advantage of other useful activities. The retirement process is naturally painful and requires a psychological preparation, but both the organization and the state should care about it together not to become it a tragedy. (see Diagram 3)



Educational institutions are not an attractive area, and it is confirmed by the fact that the highest rate of appointing people in a direct manner in educational institutions is 22.7% , while this indicator is 15.3% in the private sector and 19.5% in the state sector, the highest number of the people appointed by means of a job contest is in educational institutions and it equals 42.7% while this indicator is 11,1% in the private sector and 34.6% in the state sector. (See Diagram 4) At first glance the fact of appointing people by means of a job contest in the educational institutions is a positive indicator, however, there are problems, in the private sector there are not sharply established criteria for evaluation. Last year the Human Potential Management Laboratory devoted the study to this issue in which we were examining the assessment criteria of the professors, only students participated in the study and we analyzed their data. It is important to develop a flexible and objective system of staff assessment in the learning institution that excludes nepotism and discrimination which is the basis for a conflict in the organization. (Paresashvili, Nino; Maisuradze, Teona;, 2017)

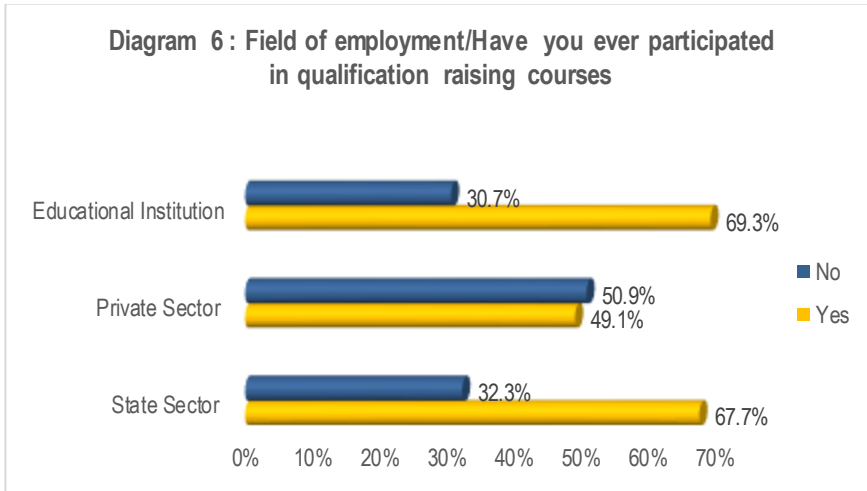


It is noteworthy that employees in the educational establishment have less opportunities of being promoted and improving their material welfare. The research has shown that the facts about the promotion of the respondents more than eight years ago are the most prevalent in the education system and is 37% , while this indicator is 4,3% in the private sector and 19.5% in the public sector. There are less possibilities for advancement in educational institutions, and maybe this is one of the reasons for why young people have less desire to be employed in these institutions. (See Diagram 5)

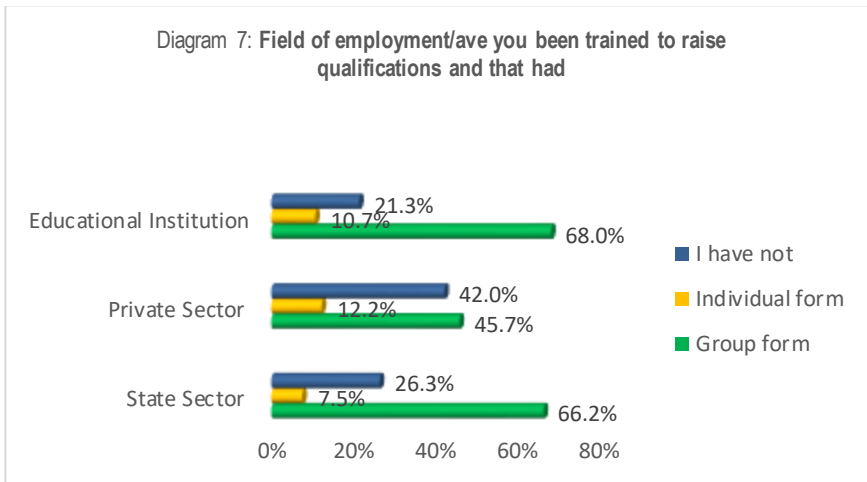


Great attention is paid to education reform in Georgia, after independence from the Soviet system education system has suffered from numerous fluctuations in the independent country. The post-Soviet system of education demanded a renewal and a number of reforms were made, though there were systemic shortcomings, and for many reasons, one of them was insufficient financing, the reform was not completed. The staff needed permanent retraining. Respectively, the survey has confirmed that 69.3% of the respondents from the educational institutions attended qualification improvement courses and 30.7% did not, the high level of attending qualification raising courses is in the state sector and the similar position was indicated by 67.7% and in the private sector – by 49.1% (See Diagram 6). It is also an important problem whether they

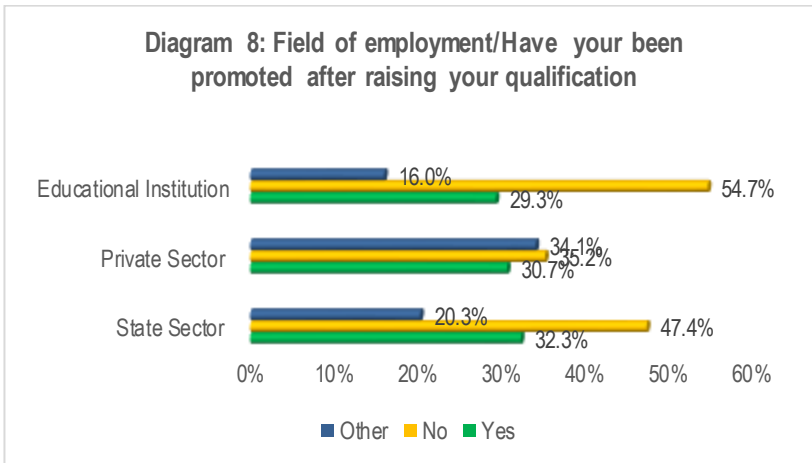
attend these training courses for the right purpose and if they correspond to the performance of the tasks that should be done by the respondent.



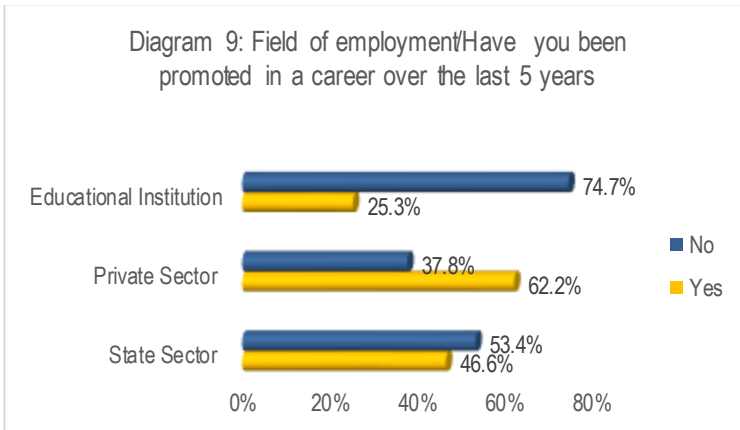
According to the survey, in the educational institutions as well as in the public sector there are many cases of qualification raising in a group form, namely 68% of the surveyed respondents in educational institutions and 66.2% in the public sector raised their qualifications in a group form (see Diagram 7) which indicates to the government expenditure.



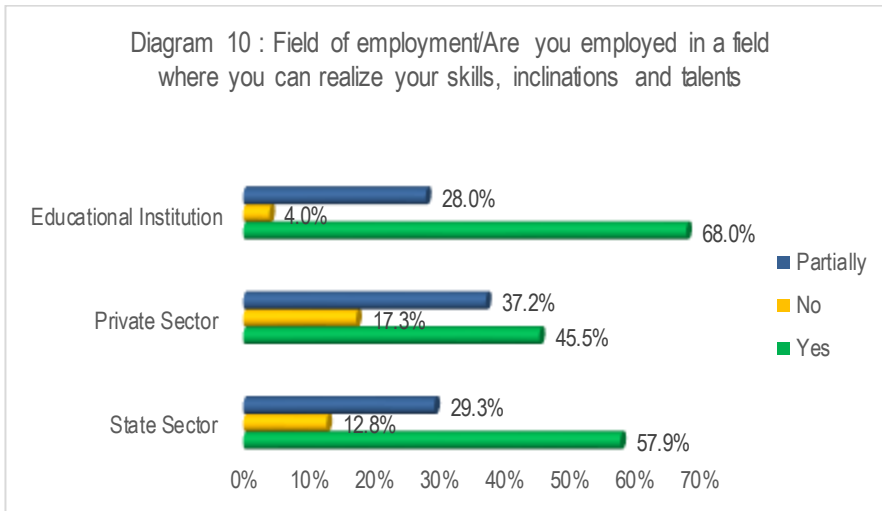
Raising qualifications in educational institutions is least followed by promoting the respondents. The study showed that 54.7% remain in their own positions after qualification raising, while in the public sector this indicator is 47.4% and 35.2% - in the private sector. The fact that the qualification raising is not followed by career improvement proves that their income is not increased. In the education system, attending such courses successfully serves only for maintaining the place. This is one of the reasons for why education sphere is not attractive to young people. (see Diagram 8)



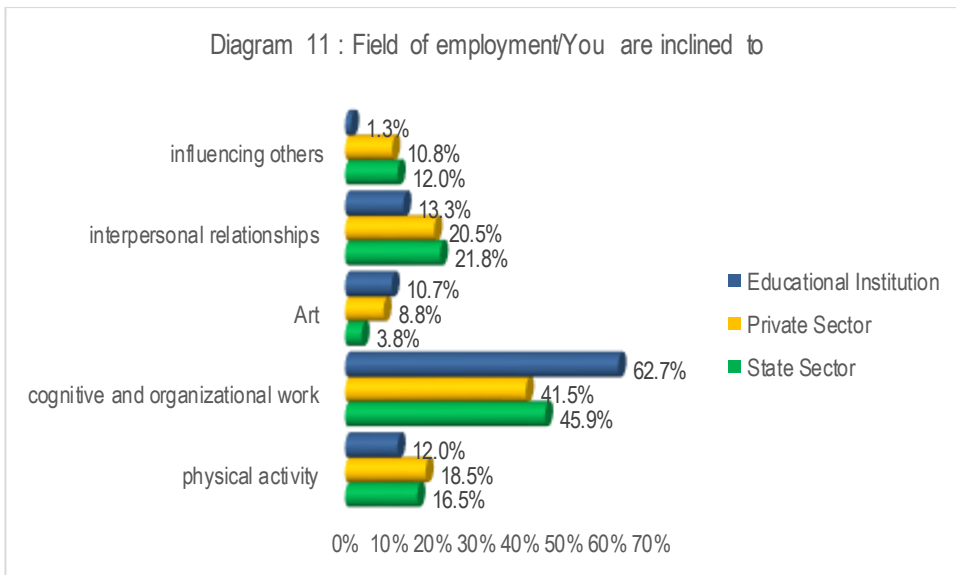
The survey data showed that after the qualification improvement in the educational institution only 25.3% of the respondents surveyed had a career movement while 74.7% of the respondents had not. In the public sector, the indicators were distributed in the following way: 46.6% had an advancement in the career after qualification raising while 53.4% had not, and in the private sector these indicators are - 62.2% and 37.8%. (See Diagram 9) The least expectation of advancement is in education field. It is important for the state to take measures and legislative amendments to grant sharp privileges to the staff of the educational system that are constantly focused on improving their skills and increasing their qualifications. Equalization or a small difference in salaries creates the feeling of a discrimination.



In any field and especially in the educational space, it is important to select such staff who has a tendency towards these professions. The education system is a delicate organism, working with young people requires specific skills and during selecting the staff special attention should be paid to these skills. It is a pleasure to note that the most percentage - 68% in the educational institutions have indicated that they can use their skills, only 4% are not able to use their skills and it is important to think about the reduction of this percentage. (See Diagram 10)



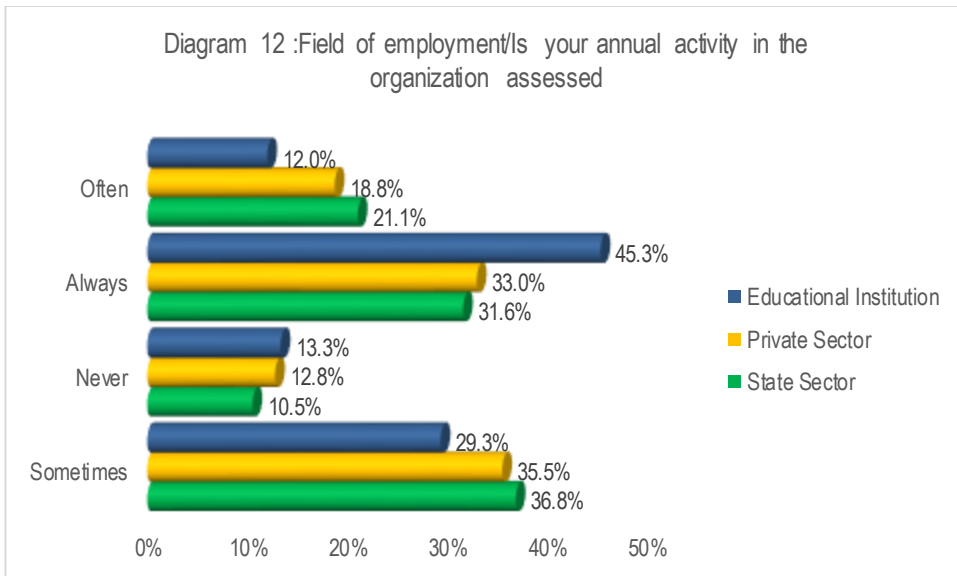
The human resource tendencies are crucially important in raising the effectiveness of their labor. The study has found that 12% of the respondents surveyed in educational institutions had an inclination to physical labor, 62.7% of the respondents surveyed in the education field have an inclination to cognitive and organizational activities, and only 13.3% indicated that they have an inclination to interpersonal relationships. It is impossible for the people employed in the education field not to be particularly attracted to communicating with people and not to have the similar habits. Otherwise, it will be impossible to have a positive impact on younger generation and their correct development. In the qualification raising programs it is important to take the shortcomings into account and retrain the employees in the educational institutions in this regard. (See Diagram 11)



In educational institutions it is important to evaluate the personnel's activities systematically. This assessment system should be based on multilateral data and include both the assessment of the audience and the results achieved by the listeners. Regrettably, the research has shown that only 45,3% in the educational institutions report their annual activities are assessed and in case of more than half of the respondents, this kind of assessment is rare and occasional. It is important

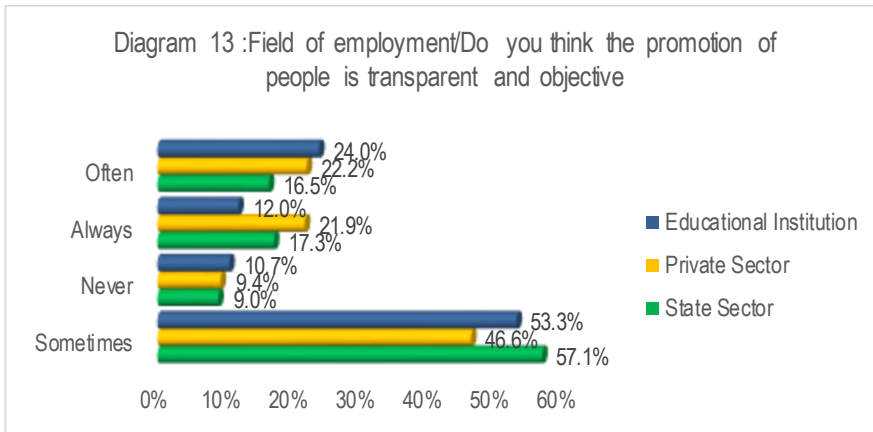
to pay attention to the assessment management system. In this regard, the most positive indicator was reported by the respondents employed in the public sector, their 21.1% reported they are assessed annually (See Diagram 12).

One of the most important parts of the plan for working with staff is to plan how to use the personnel. When selecting a work place for a particular individual, qualification characteristics should be taken into consideration as well as a person's mental and physical load and a candidate's possibilities in the given field. During the personnel planning the requirements towards the applicant should exclude professional diseases, traumas during his/her future activities. In parallel to the growth and development of organizations, human resource management programs, practice and procedures should be changed and developed. Otherwise, there will be a disproportion in the development of personal and material factors of production, which will negatively affect the effectiveness of human activities (Paichadze, Chokheli, Keshelashvili, Kharkheli, Tielidze, & Tchuradze, 2017).

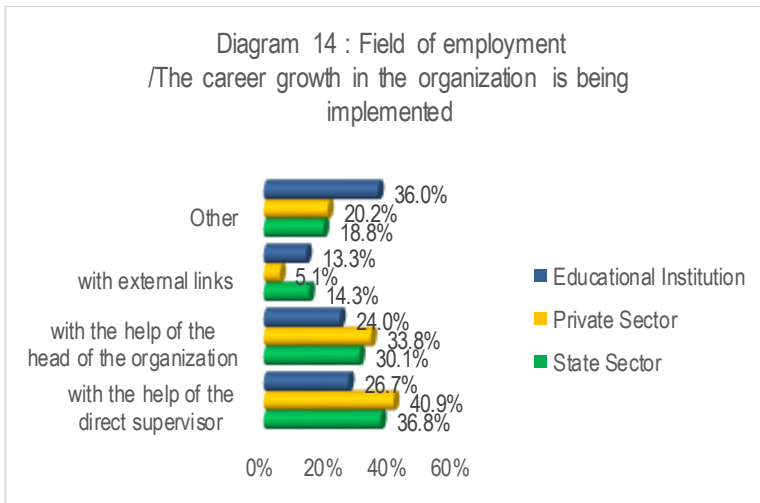


The unexpected indicators were observed in people's sense of justice during promoting people. 12% of the respondents in the learning institutions indicate that this process is always transparent. This indicator is 17.3% in the public sector and 21.9% in the private sector, 10.7% of the respondents in learning institutions, 9.4% in the public sector and 9% in the state sector categorically never consider this process to be transparent and objective (See Diagram 13). The sense of justice is the lowest in educational institutions. Then it is followed by the public sector and finally the private sector. We can assume that one of the reasons for this kind of mood in the education system is the existence of improper evaluation criteria.

In the process of selecting personnel it is important to use the following principle: active participation of organization members in forming criteria for staff selection. That is why students' opinions, such as the main resource of the university, cannot be ignored. From the basic principle of staff selection, it is important to have complexity, which implies comprehensive examination and assessment of the personality of the candidate during the selection of personnel. In our reality it is important not to violate a principle such as refraining from taking a new worker if the organization has internal resources and there is no need to fill it out from outside! We will be able to avoid conflicts in such a way (Paresashvili, Nino, 2018).

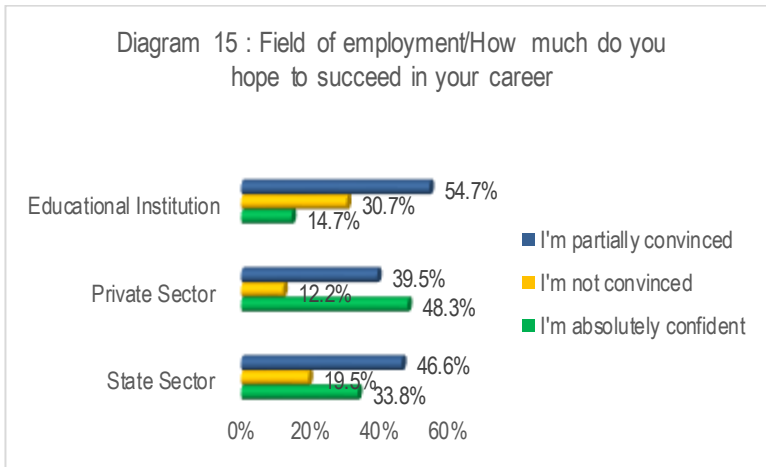


The respondents' responses about which person promotes the staff also determine the attitude towards career management. As it turned out 36% of the respondents in the education system did not answer the question while 18.8% in the public sector and 20.2% in the private sector avoided responding to this question. 13.3% from the employed people in the educational space indicate the necessity of external links for career advancement and approximately the same indicator 14.3% report this in the public sector while the private sector is much more independent in a decision making process. In the promotion process, the role of the direct supervisor is the least indicated in educational institutions and this indicator is 26.7%. (See Diagram 14) The data indicates to an unhealthy process. The most informed person about a colleague's activities and opportunities in the education system should be exactly a personal supervisor. Unnecessary interventions in the education field harm the image of the organization and complicate the attitudes between employees, which often lead to conflict situations.



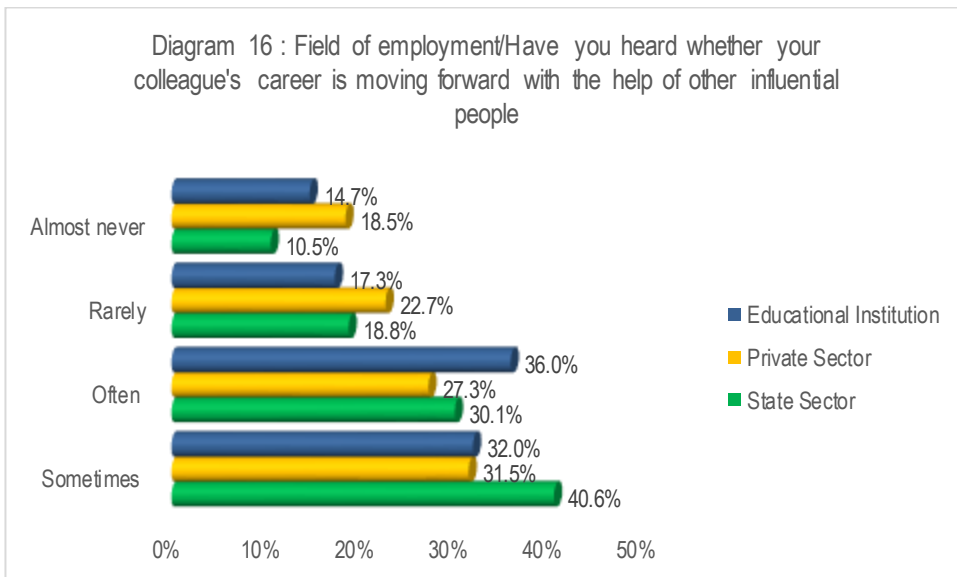
The chances of success by means of career growth are the least indicated by the respondents employed in the field of education. 54.7% of the interviewed respondents are partially convinced that they will succeed, 30.7% are not sure about this and only 14.7% believe that they will succeed. There is not such a feeling of hopelessness in any field. 46.6% of the respondents employed in the state sector are partially convinced in their success, 19.5% are not sure about this, and only 33.8% are sure that they will succeed by means of their career growth. In the private sector the same figures are as follows: 39.5% , 12.2% and 48.3% (see Diagram15).



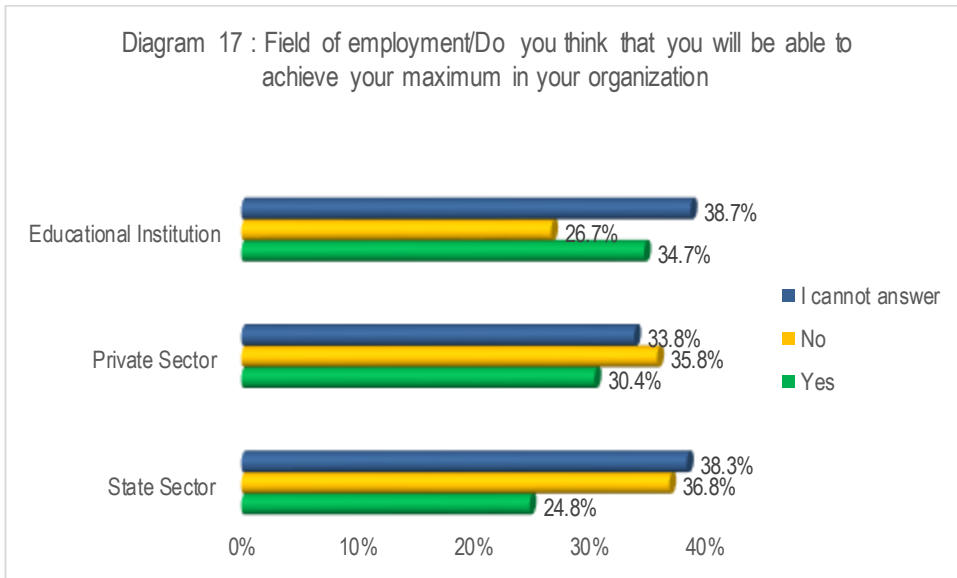


14% from the interviewed respondents in the learning institutions indicate that they have never heard about the intervention of an influential person in promoting their colleague and 36% indicate that they have "often" heard about such facts. As for the private sector, 18.5% of the interviewed respondents have never heard and 27.3% have often heard about this. In case of the public sector, the data is as follows: 10.5% and 30.1%. (See Diagram 16)

Unfortunately, the highest indicator is in educational institutions. We may assume that the respondents employed in the field of education have the closest connection with each other and have more information about each other's capabilities. Workers in learning institutions are familiar with their colleagues' scientific works, have information on various specific activities and colleagues easily evaluate each other's capabilities, thus making unfair decisions raises doubts. This is also affected by the high rate of the established, widespread nepotism in the country.

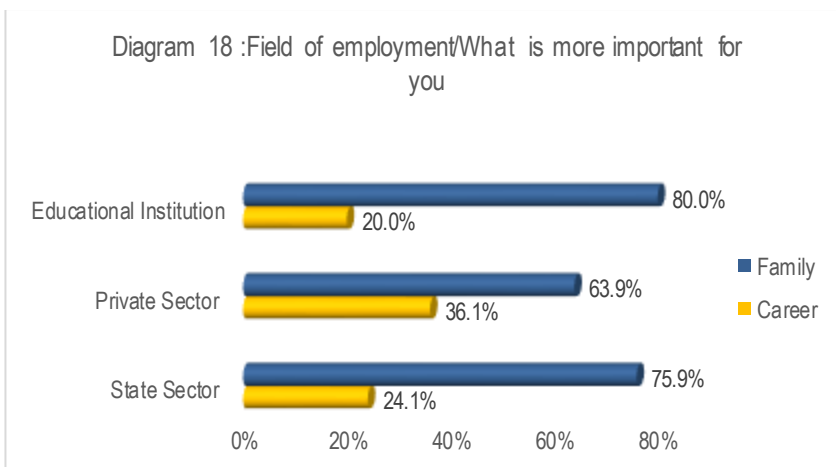


34.7% of the respondents working in educational institutions think that they will reach the maximum of their opportunities in the organization. 38.7% find it difficult to answer this question, which can also be considered as a negative signal and 26.7% think that in the organization they will not be able to realize their capabilities and achieve a maximum of their capacities. In total, 65.4% are desperate and do not see the chance to succeed in the future. (See Diagram 17)



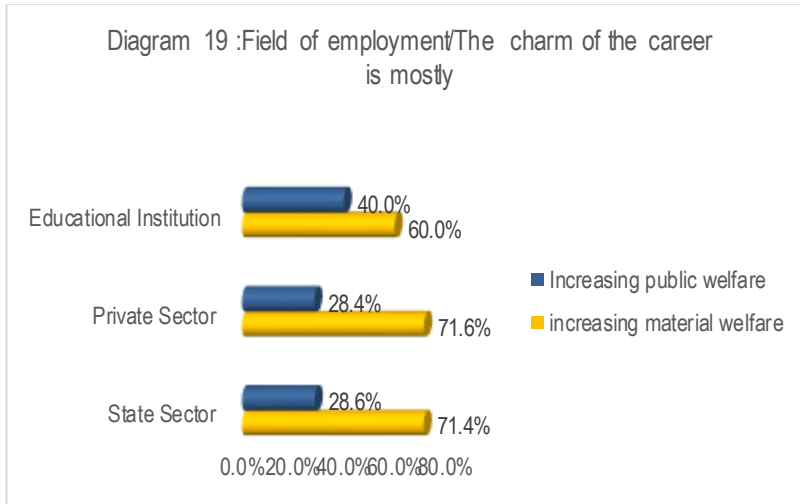
We have interesting information on how the respondents employed in different sectors make a choice between a family and a career. It turned out that 80% of the surveyed respondents in the learning institution prefer the family and only 20% prefer their career. Because of the influence of Georgian traditions, the field of education has always been associated with the place of women's employment. A woman's main duty in the family - to bring up her children was close to the education field. This attitude is still maintained nowadays. Thus, educational institutions are the choice of respondents. Thus, the respondents' choice in learning institutions is understandable.

In case of the respondents employed in the public sector the data is slightly changed and 75.9% prefer the family and 24.1% prefer the career. As for the private sector, the highest indicator of the respondents - 36.1% prefers the career. (see Diagram 18) Such an approach is clear, as the employees in the private sector perceive the organization and activities they create as "the children and family" - they create, increase and care for its maintenance. While their work is not or less perceived as the family for the employees in the public sector and in their case the career advancement is satisfaction of their ambition or in many cases increasing recognition.

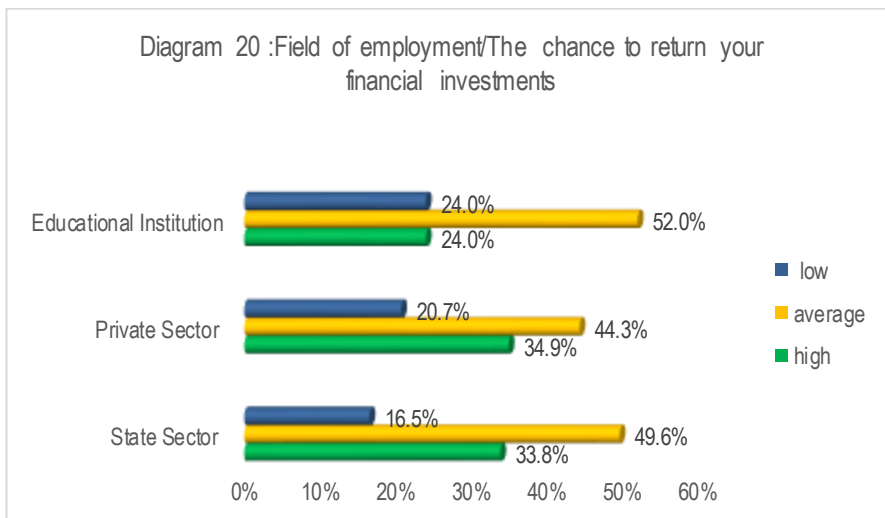


The survey has found that almost the same number of the interviewed respondents in the public and private sector think that the charm of the career is their material well-being and this number is 71.4% in the state sector and 71.6% in the

private sector. As for the employees in the education field and our respondents, 60% of them believe that the career charm is increasing the family well-being and only 40% think about the growth of public welfare. In fact, these figures themselves are not bad because 30-40% of the employees who think in accordance with country interests should have a positive impact on the general situation in the organization as well as in the country. But about how honest the answers are we can judge on the basis of country's development and public attitudes depending on whether or not the democratic values are quickly established around us and ugly cultural values- destroyed. Here, naturally, I mean nepotism. (see Diagram 19)

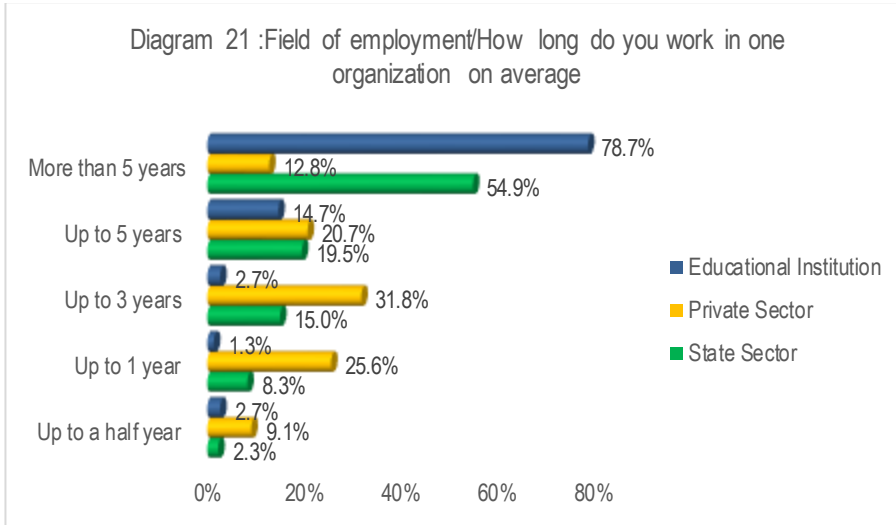


In the process of self-development people need to return investments made in education. Unfortunately, the survey has confirmed that only 24% of the respondents employed in the education system have high expectations to return these funds, 52% of the respondents have average expectations and 24% have low expectations. In case of the respondents interviewed in the state sector, data is improved and 33.8% of the respondents indicate high expectations, 49.6% have average and 16.5% have low expectations. While the respondents' data in the private sector is even better and is as follows: 34.9% , 44.3% and 20.7% (see Diagram 20). As we can see the respondents' expectations in the education system is the most negative, that is why this field is less attractive.



The highest percentage of work experience from one-to-two years has been observed by the private sector employees and this indicator is 66.5% , in the state sector the same indicator is 25.6% and in educational institutions - 6.7% and 78.7% of

the respondents in the learning institutions have more than five years of work experience in one organization, 12.8% in the private sector and 54.9% in the state sector. (See Diagram 21). According to the data, the respondents are still most firmly in educational institutions.

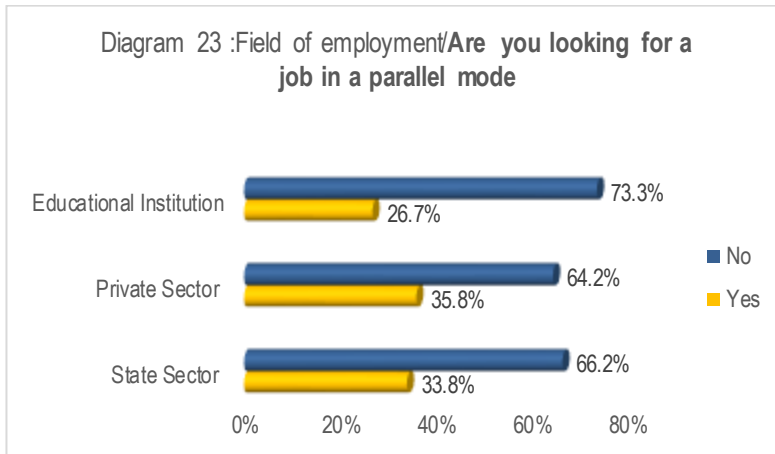


Employment by profession allows employees to use their capabilities fully if he/she has a profession chosen according to his/her own inclinations. The study has shown that 81.3% of the respondents in educational institutions work by their professions and 18.7% do not. In case of the respondents in the private sector 48.3% work by their professions and 69.2% - in the state sector (see Diagram 22)

Working by the profession indicates that the respondents correctly developed individual careers. The education field is distinguished by the most positive indicators in this case. However, in the education field 18.7% of the respondents who do not have a relevant profession for this field is high.



It is noteworthy that in any field the respondents are not satisfied with the existing situation and are looking for work. The highest number 73.3% was observed in educational institutions, 64.2% are dissatisfied with the occupied position in the private sector and are looking for work and 66.2% - in the public sector. (See Diagram 23) The picture is rather noteworthy. In all three sectors the signs of dissatisfaction emerged that can have many reasons.



**Formulating hypotheses and testing the reliability of the model according to the employment field using the complicated statistical procedures.**

Hypothesis HP1: Employment Field Q1 affects Q4 work experience

We used Pearson's Correlation Analysis to determine the strength of the connection between the variables of this hypothesis. We got the correlation coefficient 0,111. By means of the correlation, it was determined that between these variables there is a weak positive attitude. (See Table 1)

		Q1 Field of employment	Q4 Work experience
Q1 Field of employment	Pearson Correlation	1	.111**
	Sig. (2-tailed)		.008
	N	560	560
Q4 Work experience	Pearson Correlation	.111**	1
	Sig. (2-tailed)	.008	
	N	560	560

\*\* . Correlation is significant at the 0.01 level (2-tailed).

We established a statistically important link on 0.01 level by the Chi-squared test, between Q1 employment field and Q4 work experience. (See Table 2)

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	183.765 <sup>a</sup>	18	.000
Likelihood Ratio	168.598	18	.000
Linear-by-Linear Association	6.933	1	.008
N of Valid Cases	560		

Consequently, the hypothesis HP : the employment field Q1 affects Q4 work experience, has been confirmed.

Hypothesis HP2: The employment field Q1 affects Q20 By whom the career of the respondents is advanced.

We used Pearson's Correlation Analysis to determine the strength of the connection between the variables of this hypothesis. We got the correlation coefficient 0,083. By means of the correlation, it was determined that between these variables there is a weak positive attitude on 0.05 level. (See Table 3)

		Field of employment	Q20 The career growth in the organization is being implemented
Q1 Field of employment	Pearson Correlation	1	.083*
	Sig. (2-tailed)		.048
	N	560	560
Q20 The career growth in the organization is being implemented	Pearson Correlation	.083*	1
	Sig. (2-tailed)	.048	
	N	560	560

\*. Correlation is significant at the 0.05 level (2-tailed).

By the Chi-squared test statistically we established a statistical link on 0.05 level between the employment field Q1 and Q20 by whom the career of the respondents is advanced. (See Table 4)

#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	25.417 <sup>a</sup>	6	.000
Likelihood Ratio	24.200	6	.000
Linear-by-Linear Association	3.895	1	.048
N of Valid Cases	560		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.29.

Consequently, the hypothesis HP2: the employment field Q1 affects Q20 by whom the career of the respondents is advanced, has been confirmed.

Hypothesis HP3: The employment field Q1 affects Q23 Have you ever heard about an interference of an influential person into your colleague's career advancement.

To test the hypothesis we used the Chi-squared test. As a result, the statistical connection between variables has not been determined because the indicator is over 0,05. (See Table 5)

Table 5: Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.278 <sup>a</sup>	6	.159
Likelihood Ratio	9.434	6	.151
Linear-by-Linear Association	2.324	1	.127
N of Valid Cases	560		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 12.05.

Consequently, Hypothesis HP3: The employment field Q1 affects Q23 Have you ever heard about an interference of an influential person into your colleague's career advancement, has not been confirmed.

### Conclusions and recommendations:

In the educational institutions the following career growth peculiarities have been identified: here the share of choosing people by means of a job competition is high, job and career expectations are low which reduced the attraction to the given field. The promotion of colleagues is not always objective, professional qualification raising as a rule is not accompanied by the job and career advancement and respectively, the pay rise, which reduces the interest in upgrading professional qualification.

Based on the analysis of the conducted research, the relevant bodies and the management of the learning institution should take effective measures to solve the problems.

It is interesting to study the criteria of staff assessment in the leading educational institutions in the European countries and to implement them. Without modern approaches the educational establishment will become even less attractive, the frequent trials indicate to a serious problem that should become the object of the main research.

It is interesting to conduct a joint research with our colleagues and share ideas.

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## Career Management Trends in Terms of Gender

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### Abstract

Career management is a deliberate process including the involvement of an individual in various activities, resulting in a high level of performance, professional growth. Many people think that the career and the job that we choose represent the goal of our existence, and by this we can demonstrate ourselves and our natural inclinations. Our paper deals with career management. Our interest has been caused by gender peculiarities in career management. Gender Equality gives the opportunity to women and men to have an equal access in all areas of public life. In the course of research we set the hypotheses; Hypothesis HP1: Gender Q2 affects Q1 employment field (1)public sector 2) private sector 3) educational institution;); Hypothesis HP3: Gender Q2 affects Q5 how the respondents were accepted to work (by means of an interview, a contest, a direct manner) where we used the Correlation Analysis, a Chi-square Test; Hypothesis HP2: Gender Q2 affects Q4 work experience. Where we used the Correlation Analysis, the test about Homogeneity of Variance (Levene); Hypothesis HP4: Gender Q2 influences Q15 Are you invited to any kind of meetings? Where a single-factor dispersion analysis is used-One Way ANOVA, Correlation Analysis. The survey showed an interesting picture in terms of gender. The impact of the Georgians cultural values and traditions has been sharply revealed in women's career management process. Considering the conclusions and recommendations received as a result of the survey will eliminate the problems in women's career management.

**Keywords:** Career, women discrimination, nepotism, management, human resources management

### Introduction

The term "career management" was always popular, but it was perceived differently. Career management can be understood as a promotion, which meant moving from one position to another. People in one organization planned a career, it was a decade old and it was a normal event. Knowing your own place and "playing" your career correctly was the key to future promotion and accordingly to career management, but today we live in a different world, also very few employers have clearly defined consistent stages of possible development and a promotion, herewith, very few employees stay in one organisation for a long time to follow the career path. The promotion process is characterized by different approaches to women, which is defined by the culture and traditions of the country. The existing attitude towards women's career management is the subject of our research.

### Literature Review:

At any research conducted in our laboratory, we always focused on gender features. This issue was of interest. The culture of our country has been influenced by lengthy coexistence in the Soviet system. Despite the fact that after the 1917 revolution, gender issues had a significant role in making a new formation and in 1918 the constitution was adopted where women and men equality was emphasized, women's role was still limited to specific activities (Kharadze, Natalia; Kakhaber, Chikhradze, 2015). ; (Korganashvili, Larisa; Kharadze, Natalia; , 2014) Education is one of the key components of career planning, getting relevant education and occupying a place in the labor market is not easy. The barriers that a person has to overcome can be solved by systemic personal development and joint efforts of the universities and organizations. It is especially important to consider women's problems. (Kharadze & Gulua, 2018). A career planning process should start from school. It is important potential human resources to be able to use its time properly and distribute tasks according to the priorities, and we studied these problems in a gender perspective. (Kharadze, Natalia; Gulua, Ekaterine, 2017) ; (KHARADZE & DUGLADZE, 2018) which was also published in a joint monographical work (Kharadze, Natalia; Gulua, Ekaterine, 2017) The joint work of Professors' joint work at the University in Georgia is also about revealing the role of a woman as a leader and her role in the success of the company - (Amkoladze, Gocha; Gabrichidze, Amiran; Giorgobiani, Maia; Lomsadze-Kuchava, Maia; Kharadze, Natalia, 2014) ; (Amkoladze, Gocha; Gabrichidze, Amiran; Giorgobiani, Maia; Zedqenidze. Merab; Kharadze, Natalia. 2014). The fact that the career management does not start from work and caring about it should be started much earlier, was shown in one of our studies, where we studied the condition of the employed students. (Gulua, Ekaterine; Kharadze, Natalia; , 2018) We also studied the influence of such factors on a person's personal development as the time management (Ekaterine, Gulua; Natalia, Kharadze, 2017) at state and private universities.; (Pirtskhalaishvili, Dea; Dugladze , Davit, 2018), ; (Kharadze, Natalia; Dugladze, Davit; Pirtskhalaishvili, Dea; , 2018). Developing self-management skills makes it easier for young people to plan their own career correctly and determine their own abilities. (Kharadze, Natalia; Gulua, Ekaterine, 2016); (Kharadze, Natalia; Gulua, Ekaterine; Duglaze, Davit, 2017)

### Research Methodology:

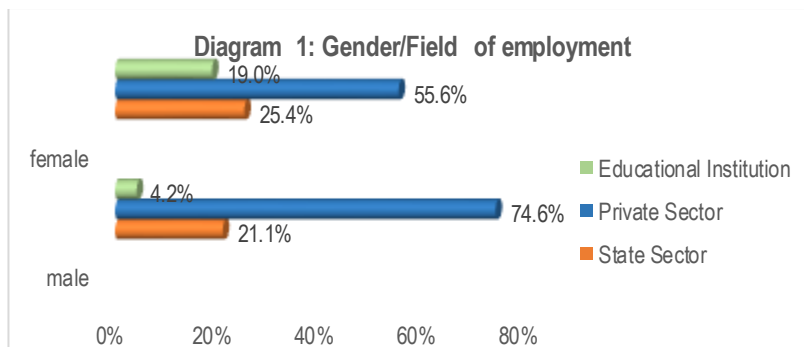
The research was conducted in the "Human Potential Management" laboratory at Ivane Javakhishvili Tbilisi State University. The questionnaire according to which the survey was carried out consisted of 32 questions and 125 options for an answer. The survey was attended by the respondents employed in Tbilisi, who were randomly selected in a short period of time.

SPSS statistical software package was used for statistical processing and data analysis.

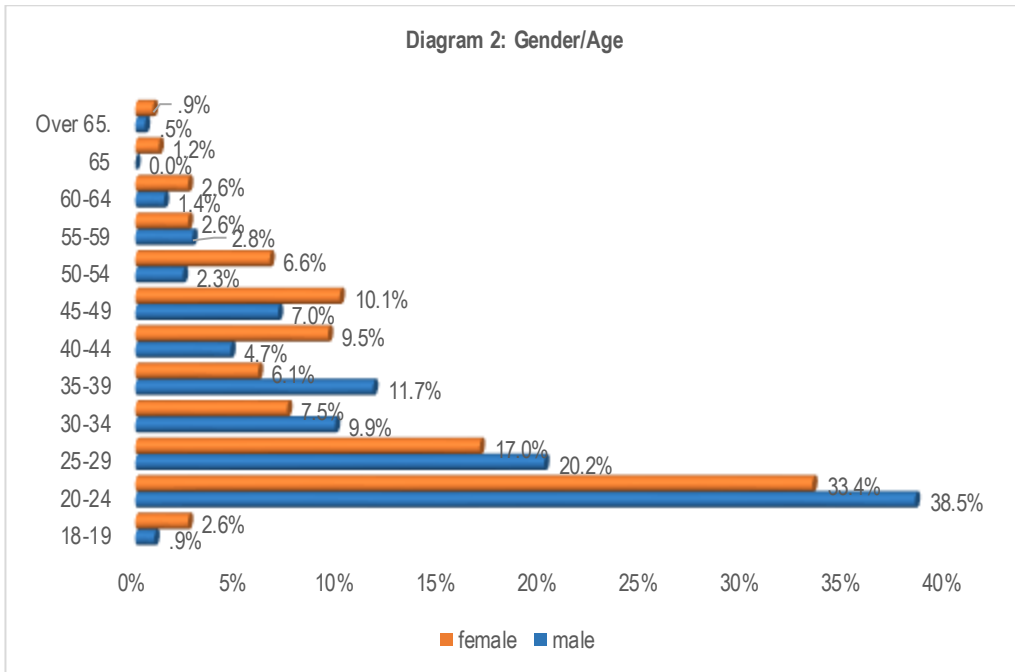
During the analysis of the data, methods and tests in statistical procedures were selected according to the type of variables. So, in order to analyze them, we had to use not only simple but difficult tools as well. The questionnaire data, which was discussed in the survey, was filled by 520 respondents.

### Research analysis:

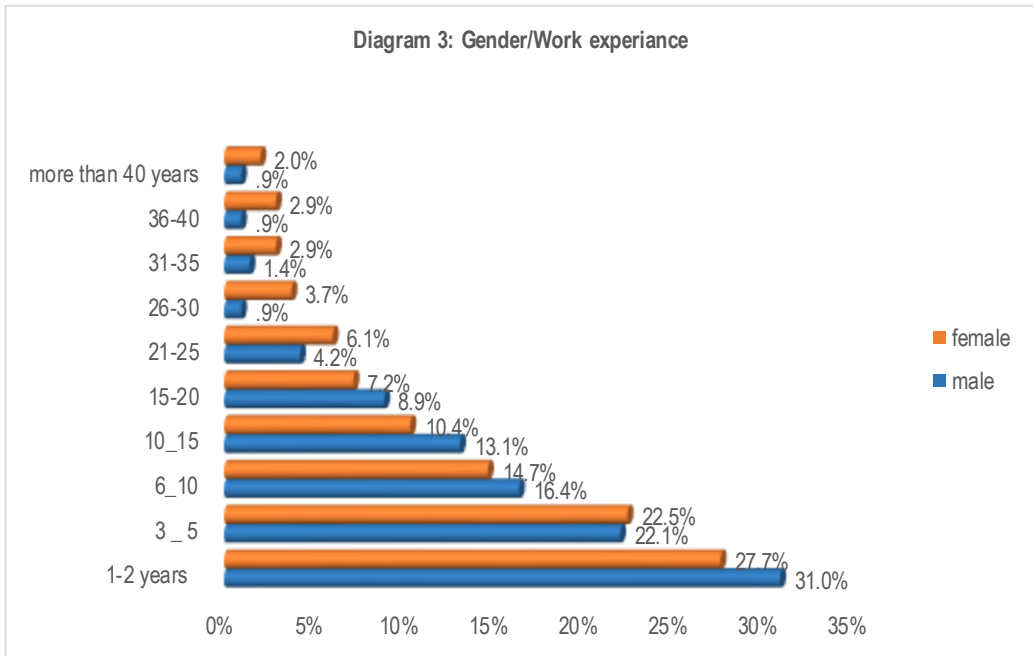
It is interesting to note what peculiarities the carrier management issues have in terms of gender. The study has shown that 19% of the surveyed women are employed in educational institutions, 55.6% - in the private sector and 25.4% in the state sector, compared to men with 4.2%, 74.6% and 21%. As expected, women's share in educational institutions is about 5 times higher, while in the private sector the number of men prevails among the respondents. In Georgia the man is considered to be the main "force" and he has traditionally taken the role of a family breadwinner. This tendency has been saved, so the private sector for the men is more fascinating because of high pay (see Diagram 1) Such a tendency is not only characteristic to Georgia. (Nugzar Paichadze, 2018)



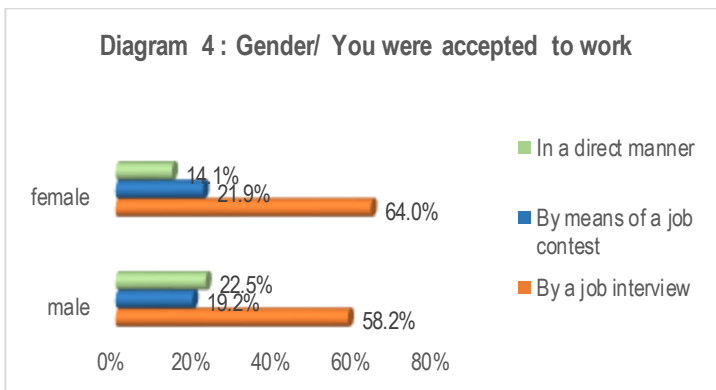
In terms of employment the age group of 18 to 40 respondents are far higher in men. And the percentage of the employed women over than 40 years is a bit but still higher than in men, for example, from the surveyed respondents in the 25-29 age group the share of women is 17% and the share of men is 20,2% , and in the 50-54 age group from the surveyed respondents the share of women is 6.6% , while the share of men is 2,3% . These data again may be linked to Georgian traditions, women up to 40 are mostly busy with family and children upbringing ( see Diagram 2)



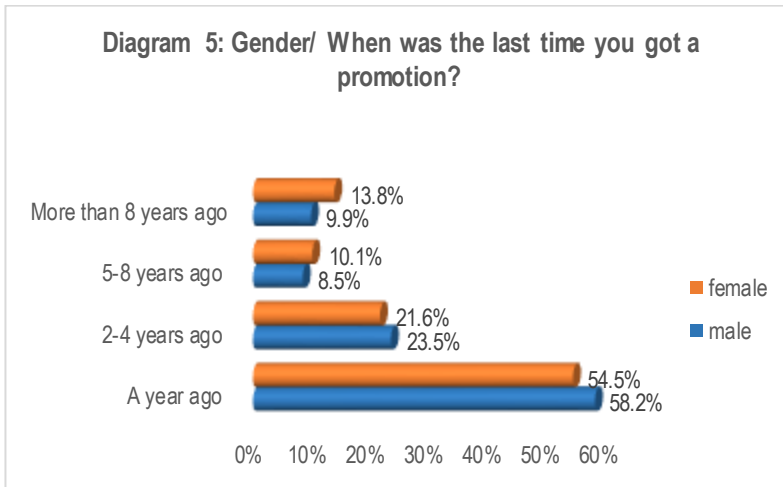
An interesting tendency has been observed in terms of work experience. 31% of the surveyed men and 27.7% of the women have from 1 to 2 years of experience, and 22.5% of the women and 22.1% of the men interviewed have from 3 to 5 years of experience. This tendency is maintained in all categories. From Women in all categories of employment opportunities from surveyed respondents are more. (See Diagram 3) Unemployment problems in Georgia are equally painful for all categories of respondents. (Paichadze Nugzar, 2018)



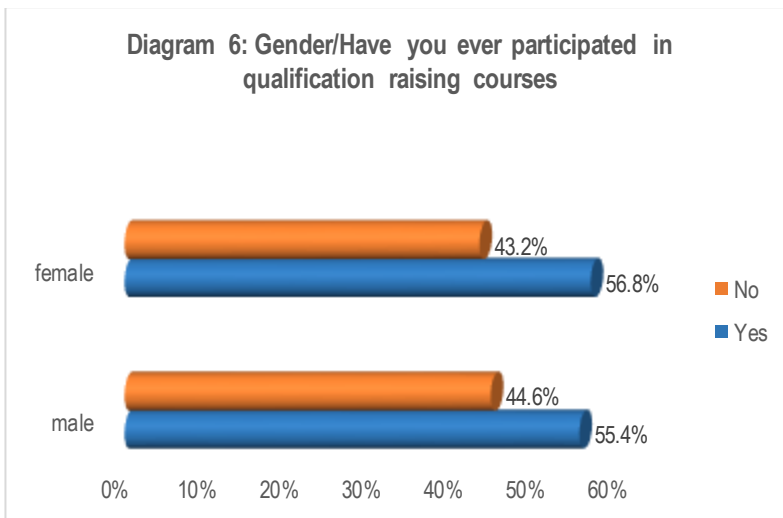
The study has shown that 14.1% of the interviewed women and 22.5% of the men were appointed to the post in a direct manner. 64% of the surveyed women and 58.2% of the men were appointed by means of a job interview (see Diagram 4) As we see the distinctive difference was observed in the conditions of appointing people in a direct manner. High level of engagement in organization management will make it possible to correct the existing shortcomings connected with appointing people to posts. (Nugzar Paichadze , 2014)



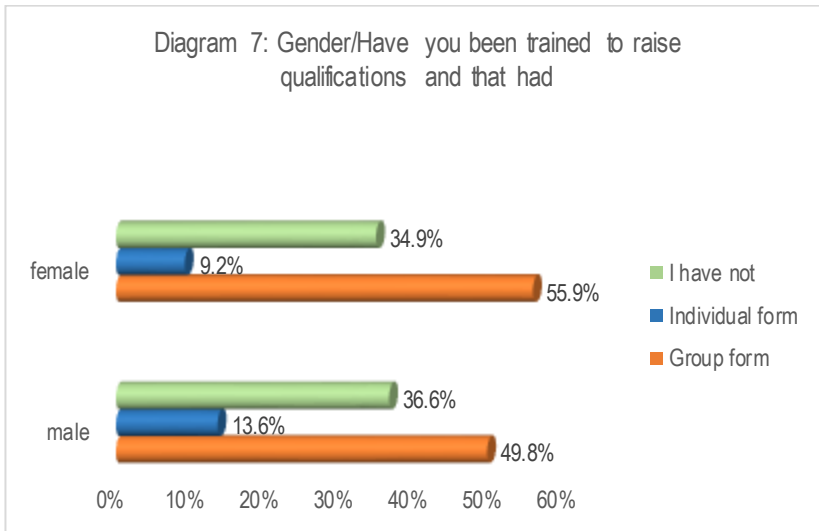
How the employees are promoted and by what features this process is characterized in terms of gender. About 54.5% of the women respondents and 58.2% of the men, were promoted a year ago, more than 8 years ago 13.8% of the interviewed women and 9.9% of the men were promoted, were interviewed by women who surveyed and 9.9% of respondents. We can assume that men's career growth is continuing with much more success, since the recent promotion rate is slightly but still higher among the men respondents (see Diagram 5). Such attitude points to the peculiarity of a corporate culture. (Paresashvili, Nino, 2016)



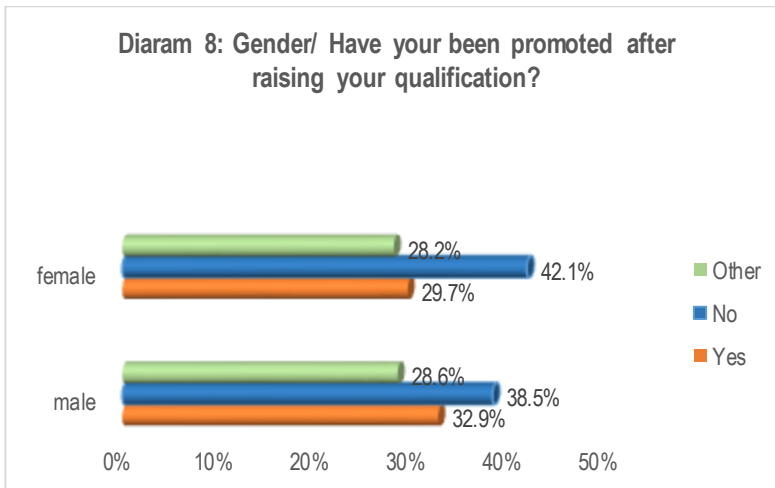
With the help of the organization, 43.2% of the surveyed women have participated in the qualification raising courses and 56.8% have not raised their qualification with the help of the organization. These indicators are 44.6% and 55.4% in men. We can conclude that no discrimination was observed in this regard. (See Diagram 6)



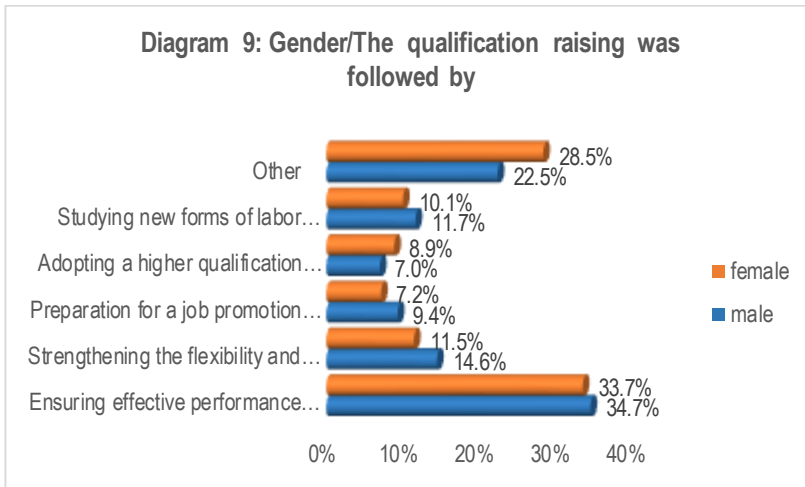
with a private or an organization initiative, 34.9% of the interviewed women and 36.6% of the men have not attended qualification raising courses, 9.2% of the interviewed women and 13.6% of the men have used individual forms of qualification raising while group forms have been used by 55.9% of the women and 49.8% of the men (see Diagram 7) Presumably, individual forms of qualification improvement are used with own money or in case of high ranking officials it is much more accessible for men.



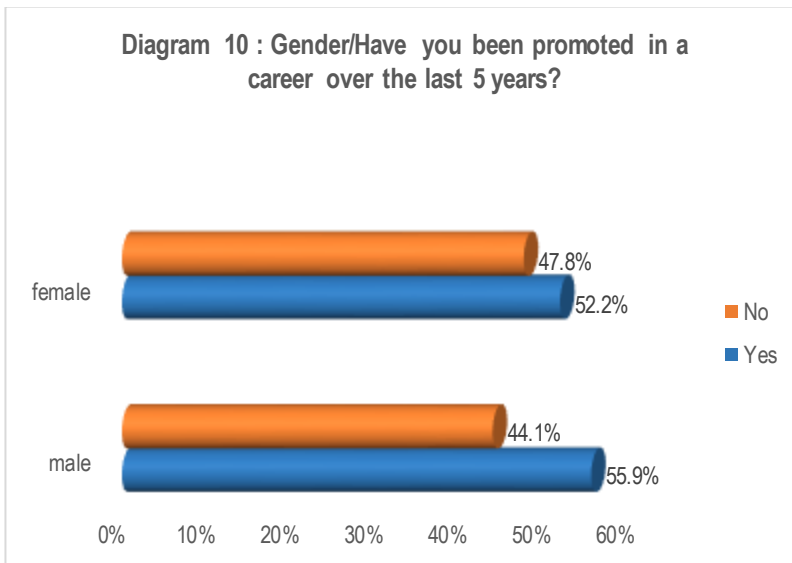
In case of 29.7% of the women surveyed and 32.9% of the men were promoted after raising their qualifications. There are almost 3 percent more promotion facts in case of the men. (See Diagram 8) 42,15 of the interviewed women respondents indicate that their career movements have not taken place after raising the qualification and the same is reported by 38.5% of the men. There is a little discrimination also in case of a promotion, which is presumably the reason for conflicts and it is also evident in other research. (Kharadze, Natalia; Gulua, Ekaterine, 2018)



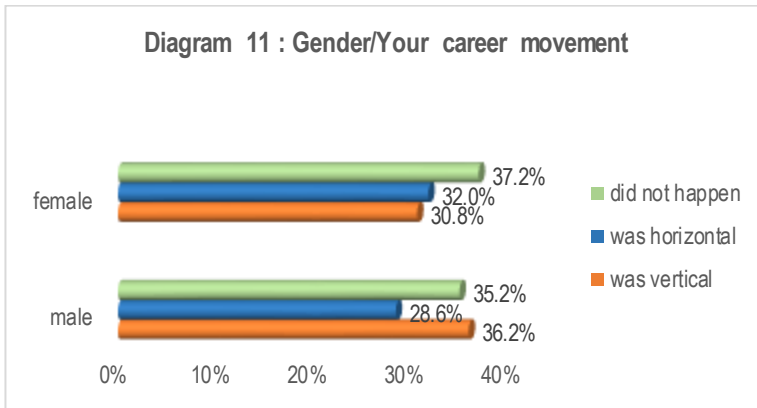
Upon qualification upgrading, it was necessary to ensure the effective implementation of new tasks; to improve the flexibility and innovation capabilities of management; to prepare for a position promotion or a horizontal movement; to get a higher qualification score or adapt to new techniques; to obtain new forms of labor organization and stimulation. It was found that 9,4% of the surveyed men and 7.2% of the women were prepared for a job promotion or a horizontal movement. As it seems from the two categories of the respondents the men indicated the career progression more in terms of a percentage. (See Diagram 9)



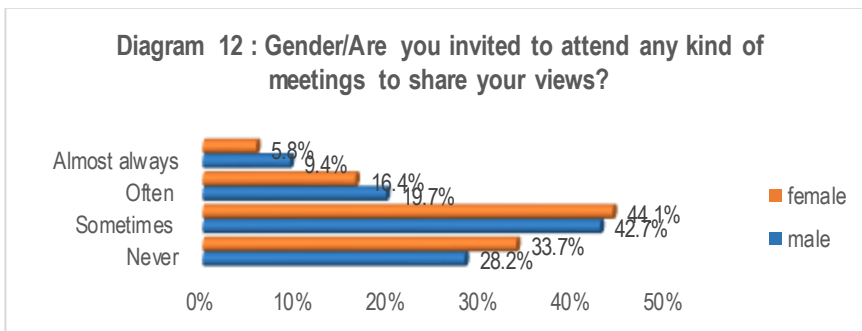
The tendency of recent years in terms of a promotion of respondents is interesting. It turned out that in the last five years among the interviewed women only 52.2% and 55.9% in men were promoted. (see Diagram 10)



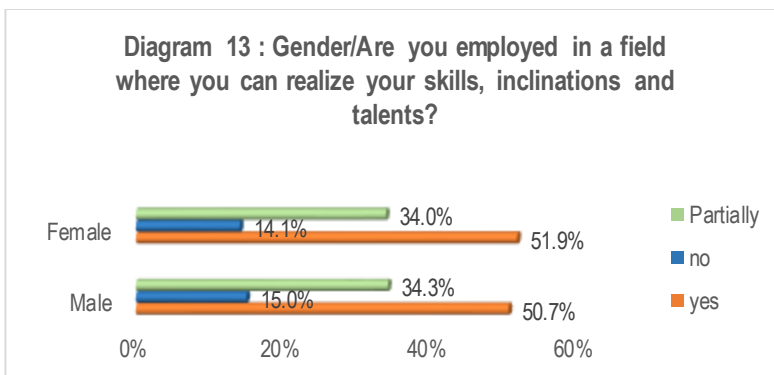
Career movements in the horizontal and vertical directions indicate the privileged position of the men, in particular, it turned out that the horizontal movement happened in 37.2% and the vertical movement took place in 30.8% of the interviewed women's career, as for the men their horizontal movement rate was 28,6% and vertical - 36,2% . (See Diagram 11) The indicator of promotion in the vertical direction is about more than 6% in men among the interviewed respondents. The society is not ready for women to be appointed on a high position. In other equal conditions, choices are made on a woman. Although in the cabinet of ministers and in the parliament they are trying to increase the number of women, it is not enough to completely make a woman free from a "secondary role". Most of the respondents report in private conversations that they prefer a manager to be a man. This issue is a subject of a separate research and we will continue to conduct a research in this direction since these decisions have a significant impact on the formation of an organizational culture. (Gulua, Ekaterine; Kharadze, Natalia;, 2018)



Secret career cases are revealed at different meetings by invitation of the people who do not have a high position. 5.8% of the surveyed women respondents report that they are almost always invited at such meetings, and 33.7% are never invited. As for the men, such meetings are almost always attended by 9.4% of the interviewed men respondents and 28.2% - almost never. As it seems the men are also privileged in case of a secret career. Although in some cases necessary and useful initiatives often come from women, it is also a sad fact that such initiatives are not accepted just because their author is a woman. (See Diagram 12)

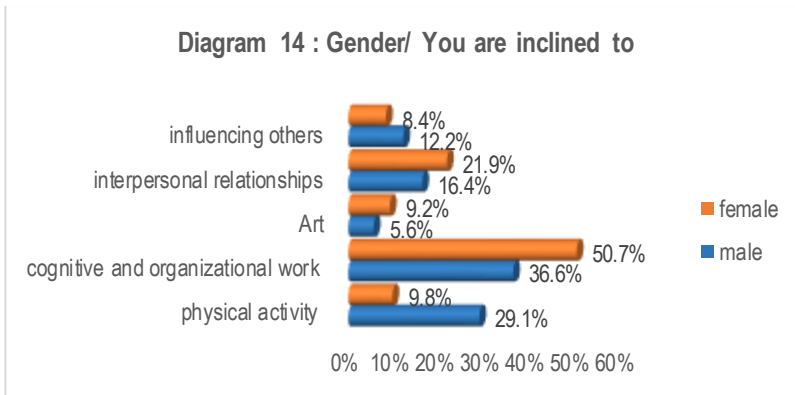


In terms of revealing their own skills both sexes are in the same difficult situation. More than 50% of them are unable to realize their skills at the workplace. The reasons for this are various. These may be the mistakes made in a career management, at the time of choosing a profession, and maybe nonprofessionalism of managers at the organization and weak management. (See Diagram 13)

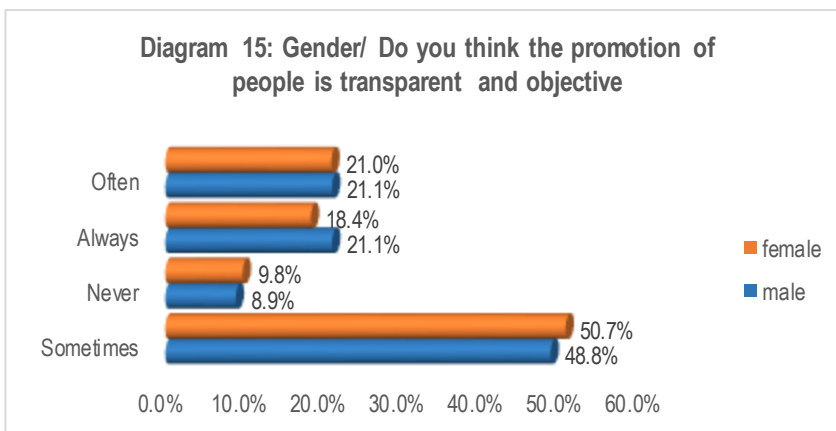




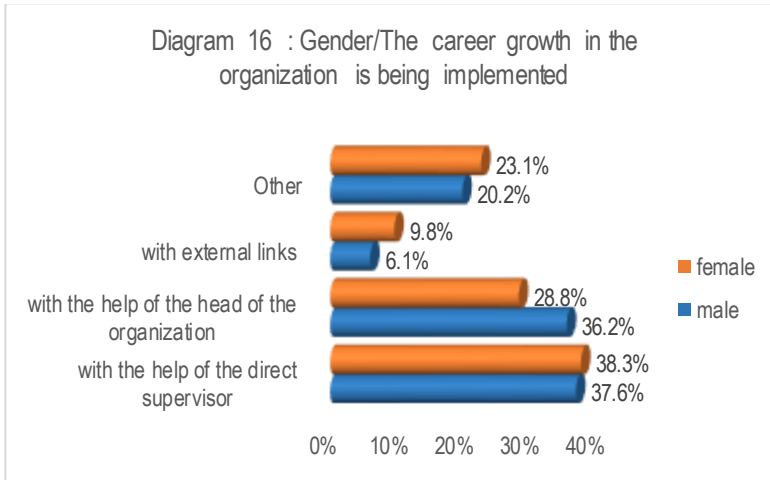
We have received interesting data in the identification of the respondents' inclinations. It was found that only 29.1% of the interviewed men and 9.8% of the interviewed women are inclined to physical activity. This indicator is natural due to the physical characteristics of a man, it is also interesting that 50.7% of the interviewed women and 36.6% of the men are prone to cognitive and organizational activity, 21.9% of the interviewed women and 16.4% of the men are prone to interpersonal relationships. These are the features that are vitally important for leadership positions, even though women are leading with these features, their promotion rate is much lower which indicates the signs of a discrimination. On the other hand, from the research it is shown that 8.4% of the women and 12.2% of the men have an inclination to influencing others. In the 21<sup>st</sup> century, we do not consider this feature for people who are in a leading position to be a healthy attitude. Naturally, it is acceptable to influence others in a decision-making process if it is possible to use modern psychological methods of persuasion, but I doubt that the respondents meant this! In the conditions of having managers with this inclination there are conflicting situations in the organization and an unhealthy model of an organizational culture is formed. (Paresashvili, Nino, 2018) (See Diagram 14)



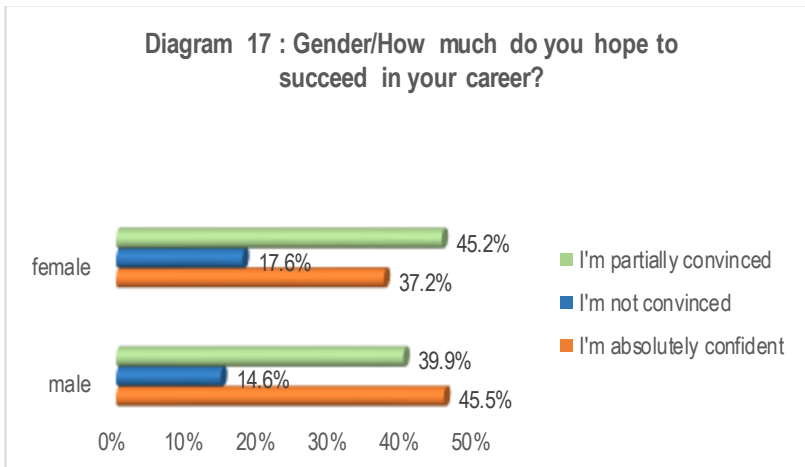
Representatives of both sexes have a feeling of unfairness towards the career management almost equally. About 50% of both sexes believe that the promotion process is not objective and transparent (see Diagram 15). I think this is a systemic problem that is influenced by Soviet methods of governance. It is hard for a country to adapt to the modern and European style of governance, to acquire democratic processes and to refuse in some cases the ugly traditions that the Georgian people have developed over the years and became almost a genetic code. Regrettably, also the mechanisms for conflict settlement in the conditions of the existing organizational culture are quite unrefined. (Paresashvili, Nino; Maisuradze, Teona, 2017) The respondents say in private talks that it is impossible to move forward without "relatives." It is a difficult process to crush these opinions. The Georgian people must work out this by strict compliance with the legislation. We will provide you with the initiative in recommendations.



37.6% of the interviewed women and 38.3% of the men indicate the role of a direct supervisor in a person's promotion. 23.1% of the interviewed women and 20.2% of the men did not answer this question (see Diagram 16). 9,8% of the interviewed women and only 6,1% of the interviewed men talk about external links in the promotion process. As it has been revealed women are more straightforward and do not avoid showing their views, these qualities are important for the leader's positions. In the management process management of knowledge is important, that will raise an employee's motivation and a woman's role should be high in this process, based on her qualities. (Nugzar Paichadze , 2013). However, the tendency is different.

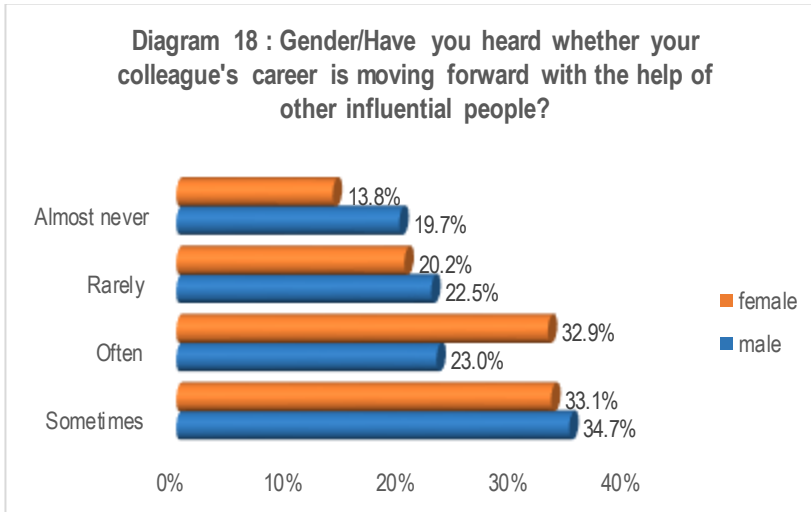


How much do they hope to achieve success and what is the respondents' faith in the future? As it has been found out 17.6% of the women do not have any hope to achieve success, while only 14.6% of the interviewed men have a similar position, 37,2% of the women surveyed and 45.5% of the men are completely convinced about their success. (See Diagram 17) This attitude is further proof that the society is not ready to recognize the possibilities of men and women alike.

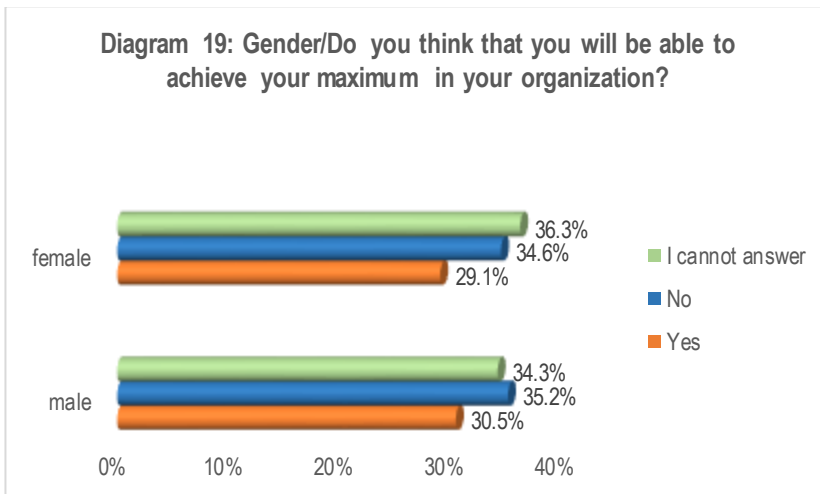


While talking about the interference of influential people in their colleagues' career progression 13.8% of the interviewed women report that they have never heard of such facts, and 19.7% of the interviewed men report the same position. In interviewed men and 32.9% of the interviewed women and 23% of the men frequently heard about such interference. (See Diagram 18) Presumably promotion facts are much higher in men and women's discontent is noticed in the answers. How strong this union is we will see later. It may be assumed that women's high inclination to communicative connections and

their characteristic features have an influence on obtaining information. Men are less involved in informal relationships that the previous studies have confirmed.

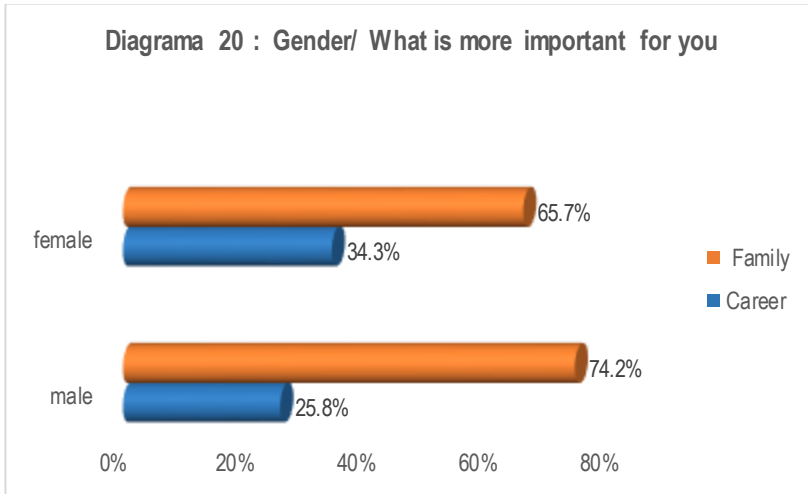


The feeling of achieving maximum of your capabilities in the organization is vague because in both sexes – in women as in men (36.3% and 34.3%) find it difficult to answer the question. This fact indicates the hopelessness of the employees which is determined by many factors (See Diagram 19). 30.5% among the interviewed men and 29.1% of the women have a hope of their bright future. The happiness of the society is in the belief of the future. These answers do not confirm a hope for future in the respondents.

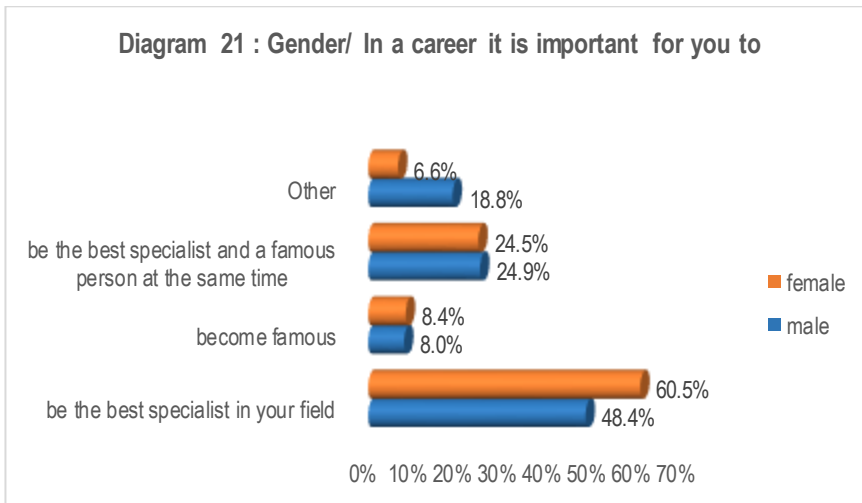


An interesting trend has been shown in the attitude towards family and career. It was found that for 65.7% of the interviewed women family is important and only 34.3% are choosing career, and in case of the men a family is privileged by 74.2% of the interviewed respondents and career is preferred by 25.8%. (See Diagram 20). The greatest desire for career advancement and equalizing with the man is clearly visible in these answers. Women try to take the responsibility of caring about the family on themselves, to be less dependent on men. Younger generation in Georgia seeks to succeed. The previous findings also showed that the number of married people is low in educational institutions. The stereotype according to which a woman only should take care of children in a family and a man is the main "breadwinner" is in the process of

destruction. This is also confirmed by the fact that in recent years many women have taken the initiative of taking care of the family and went far away in different European countries.



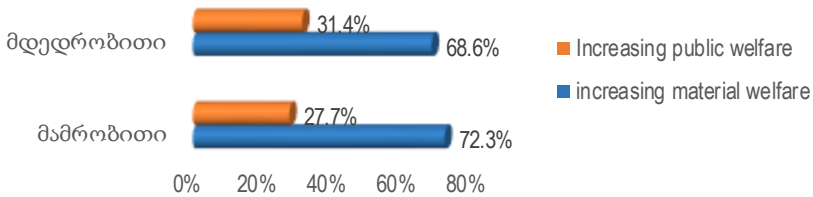
60.5% of the interviewed women think that career is important for them in order to become the best specialists in their field, while 48.4% of the interviewed men have the same desire. 6.6% of the interviewed women and 18.8% of the interviewed men gave vague answers to this question (see Diagram 21)



As it was shown from the survey, 31.4% of the interviewed women believe the charm of the career to be the growth in the society welfare and 68.6% think that its charm is an increase in material well-being, while in case of the men the data was distributed as follows: the welfare of the society was indicated by 27.7% of the surveyed men and increase of material welfare – by 72,3 % . (See Diagram 22). This indicator further confirms our belief that women are distinguished by much higher sense of state thinking, and, therefore, it is important for women to be promoted in any field. The state sector as well as the private sector needs personnel who are thinking and acting in accordance with the state interests.

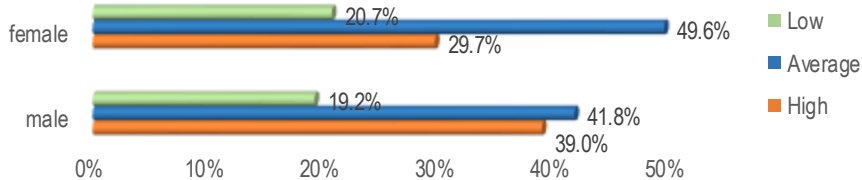
The special desire of the men to increase their earnings and emphasis on material welfare may be the influence of cultural value too. More precisely, in the Georgian society the man is still unable to adapt to becoming equal to a woman and attracting finances in the same way.

**Diagram 22 : Gender/The charm of the career is mostly**



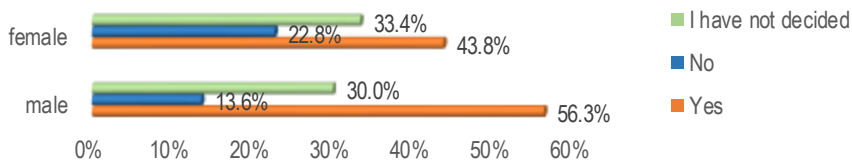
There are many facts of women's discrimination and a feeling of hopelessness in the study. The women have a less hope of winning back the investments made in education compared with the men. In particular, 39% of the interviewed men believe that the chance of returning investments made in education is high while only 29.7% of the surveyed women have the similar expectation (see Diagram 23). The reason for such an attitude may be the realization of people in other fields. Traditionally, men often refuse to work with their own profession and the main reason for this is an income growth.

**Diagram 23: Gender/The chance to return your financial investments made in your profession in the career management process is**



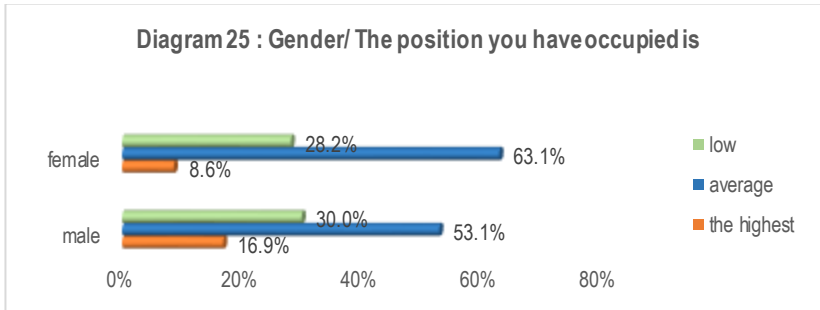
22.8% of the interviewed women and 13.6% of the men (see Diagram 24) have a desire to continue their career on the present position. A high number of the men are ready to change their jobs and increase their own material welfare as it has been shown above.

**Diagram 24: Gender/Are you going to continue your career in your organization?**

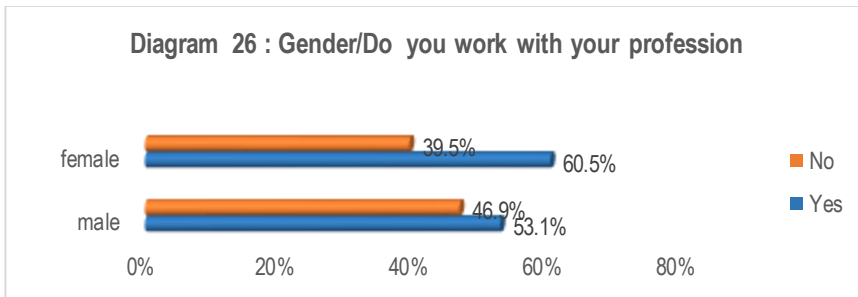


The study has found that from our chosen respondents the low positions are occupied by 28.2% of the interviewed women, the average positions – by 63.1% and the high positions – by 8.6% while in men these indicators are 30% ; 53,1% and 16,9% . The advantages of the men respondents in case of high positions are obvious and it is about 9% more compared with the women. Although women are employed on far lower positions their ambition to seek a better job is low. Perhaps

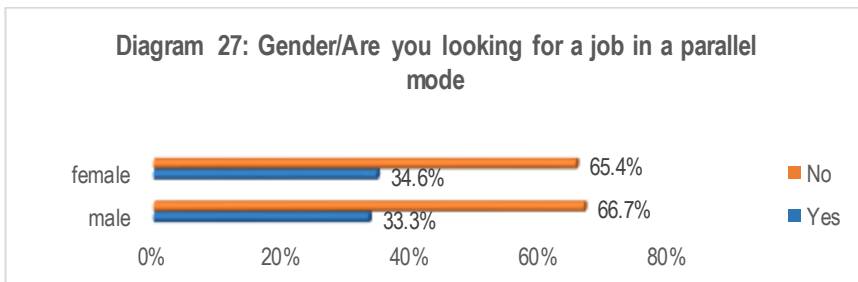
the reason for this is still the established values. In case of the women there are fewer chances to advance. (See Diagram 25)



Whether they work with their profession or not gives important information about how much correctly they managed their personal career, as it was found 60,5% of the interviewed women and only 53,1% of the men work with their own profession. The impact on these indicators is likely the trace of the Georgian traditions. Frequently the medical university graduates choose business as their own career, these attitudes are answered well in our society with the Georgian film "Bridegroom without a Diploma" where the main character's vocation is handcraft and family insist on him becoming a lawyer. I think such attitudes are still many while "choosing" a profession and these stereotypes need to be destructed in society and we need to work on this for a long time. Our country has started caring about the vocational institutions and the propaganda to promote them but it is not enough. The demolition of stereotypes built for centuries needs generations. (See Diagram 26)



The number of job seekers in both sexes is nearly the same. More than 65% of the interviewed respondents in both sexes are not searching for a job, and more than 33% are looking for a job and are not satisfied with an occupied position, (see Diagram 27)



**Formulating the hypotheses and testing the reliability of the model using the complicated statistical procedures in terms of a gender**

The following hypotheses have been developed into the research process;

Hypothesis HP1: Gender Q2 affects Q1 employment field (public sector 2) private sector 3) educational institution)

We used Pearson's Correlation Analysis to determine the strength of the connection between the variables of this hypothesis. We got the correlation coefficient 0,085. By means of the correlation, it was shown that between these variables there is a weak positive attitude (See Table 1)

Table 1 : Correlation		Q2 Gender	Q1 Field of employment
Q2 Gender	Pearson Correlation	1	.085*
	Sig. (2-tailed)		.043
	N	560	560
Q1 Field of employment	Pearson Correlation	.085*	1
	Sig. (2-tailed)	.043	
	N	560	560

\*. Correlation is significant at the 0.05 level (2-tailed).

By the Chi-square Test statistically we established a link on 0.05 level between a gender and Q2 Q1a field of employment (State sector 2) private sector 3)educational institution) (See Table 2)

Table 2: Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	30.169 <sup>a</sup>	2	.000
Likelihood Ratio	34.000	2	.000
Linear-by-Linear Association	4.074	1	.044
N of Valid Cases	560		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 28.53.

Respectively, the hypothesis HP1: The gender Q2 affects Q1 a field of employment (state sector) 2) private sector 3)educational institution) has been confirmed.

The hypothesis HP2: The gender Q2 affects Q4 work experience.

We used Pearson's Correlation Analysis to determine the strength of the connection between the variables of this hypothesis. We got the correlation coefficient 0,095. By means of the correlation, it was shown that between these variables there is a weak positive attitude (See Table 3)

Table 3 : Correlation		Q2 Gender	Q4 Work experience
Q2 Gender	Pearson Correlation	1	.095*
	Sig. (2-tailed)		.024
	N	560	560
Q4 Work experience	Pearson Correlation	.095*	1
	Sig. (2-tailed)	.024	
	N	560	560

\*. Correlation is significant at the 0.05 level (2-tailed).

The fifteenth (see Table 4) provides the results of Levene's statistics, the difference of averages (the same T value) equals to 11.896 the statistical significance level P (Sig.) does not exceed 0.001, i.e. there is a link between a gender and Q2 and Q4 work experience.

Table 4: Test of Homogeneity of Variances (Levene)	df1	df2	Sig.
	1	558	.001

Respectively, the hypothesis HP2: The gender Q2 affects Q4 work experience, has been confirmed.

The hypothesis HP3: the gender Q2 affects Q5 How the respondents were accepted to work: by a job interview, by means of a job contest, in a direct manner.

We used Pearson's Correlation Analysis to determine the strength of the connection between the variables of this hypothesis. We got the correlation coefficient -0,089. By means of the correlation, it was shown that between these variables there is a weak negative attitude on 0,05 level (See Table 5)

Table 5 : Correlation		Q2 Gender	Q5 You were accepted to work
Q2 Gender	Pearson Correlation	1	-.089*
	Sig. (2-tailed)		.035
	N	560	560
Q5 You were accepted to work	Pearson Correlation	-.089*	1
	Sig. (2-tailed)	.035	
	N	560	560

\*. Correlation is significant at the 0.05 level (2-tailed).

By the Chi-square Test we established a statistical link on 0.05 level between a gender Q2 and How the respondents were accepted to work: by a job interview, by means of a job contest, in a direct manner (See table 6)



	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.548 <sup>a</sup>	2	.038
Likelihood Ratio	6.406	2	.041
Linear-by-Linear Association	4.461	1	.035
N of Valid Cases	560		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 36.89.

Respectively, the hypothesis HP3: the gender Q2 affects How the respondents were accepted to work: by a job interview, by means of a job contest, in a direct manner has been confirmed.

The hypothesis HP4: the gender Q2 affects Q15 Are you invited to attend any kind of meetings?

We used Pearson's Correlation Analysis to determine the strength of the connection between the variables of this hypothesis. We got the correlation coefficient -0,089. By means of the correlation, it was shown that between these variables there is a weak negative attitude on 0,05 level (See Table 7)

	Q2 Gender	Are you invited to attend any kind of meetings to share your views?
Q2 Gender	Pearson Correlation	1
	Sig. (2-tailed)	.036
	N	560
Are you invited to attend any kind of meetings to share your views?	Pearson Correlation	-.089 <sup>a</sup>
	Sig. (2-tailed)	.036
	N	560

\*. Correlation is significant at the 0.05 level (2-tailed).

From table 6 received as a result of a single factor dispersal analysis it is shown that  $F=4,409$ ,  $P=0.036$ ;  $P<0.05$ , i.e. there is a link between the groups on 0.05 level. (See Table 8)

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.418	1	3.418	4.409	.036
Within Groups	432.575	558	.775		
Total	435.993	559			

Respectively, the hypothesis HP4: the gender Q2 affects Q15 Are you invited to attend any kind of meetings? has been confirmed.

### Conclusions and recommendations:

Women's interest and desire to move forward is still low in Georgia. However, in recent years the breakdown of existing stereotypes is noticed according to which for women the most important is successful family activities and not the career progression.

As for most of the men, career growth is the main source of income and material welfare, and their interest in career advancement is much higher compared with the women.

In order to achieve a gender equality, all organizations should have transparent criteria not only for hiring people but for promoting them as well. (Kharadze, Natalia; Gulua, Ekaterine, 2018); Kharadze, Natalia; Gulua, Ekaterine, 2018 The above criteria should include career growth within the limits of relevant qualification and time period. Such an approach will reduce the facts of nepotism.

The necessity of establishing an organizational culture based on knowledge.

(Gulua, Ekaterine; Kharadze, Natalia, 2014) where it will be possible to use all employees' initiatives regardless of their gender to achieve the goals of the organization.

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## Household Economy in the Rural Sector of the Border Region between Ecuador and Colombia and Alternatives to Overcome Poverty

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### Abstract

This research examines the present-day reality in the rural area on the border between Ecuador and Colombia, focusing on the current situation of the rural women; this study looks at the process of self-awareness, validation and empowerment of these women in this border region. As a consequence, the fundamental objective is to analyze and evaluate the participation and empowerment of rural women and to identify their contribution to alleviate the worst conditions of poverty. This study also examines the ability of these rural women to influence the public policy process and to improve gender equity and quality of life. Rural women are confronted with a wide array of economic, social, political and cultural challenges. These women lack stable employment opportunities; their incomes are variable and depend on a livelihood based upon agriculture and livestock. Their common characteristics include low educational attainment level, gender disparities, relatively higher unemployment rate, exclusion from decision-making circles, lack of opportunity, lack of institutional support, sexism, androcentric domination, inappropriate workplace behavior and domestic violence; All extremely unfortunate outcomes that both derive from and are exacerbated by low income levels and increasing levels of poverty among this rural population.

**Keywords:** Public Policy, Poverty, Family Agriculture, Associativity, border impacts

### Introduction

The problems confronted by rural women are diverse, at the economic, social, and cultural levels. At the economic level they do not have stable employment opportunities; their incomes are variable since they depend on agricultural and livestock work. They have lower levels of education. They are confronted by gender inequality, unemployment, and exclusion in decision-making, lack of opportunities, and lack of institutional support. They live in an androcentric culture in which they work largely in the informal sector and are faced with domestic abuse and violence. All of which tend to exacerbate the primary problem, that of extremely low levels of income of the rural population.

The central concern of this research is the following: Does the participation and empowerment of rural women contribute to alleviating their high levels of poverty and contribute to the design of public policies that improve their standards of living and quality of life? As an investigative hypothesis, it is proposed that their participation and empowerment contribute to improving and overcoming conditions of poverty among rural women.

The general objective is to analyze the participation and empowerment of rural women and their contribution to reduce poverty and design public policies that improve gender equity. More specific objectives include Identifying the factors that strengthen or hinder the participation and empowerment of rural women in a municipality on the border of Ecuador and Colombia; Analyzing the strategies that allow for the reduction of poverty conditions among rural women in the border region and identifying the contribution of public policies in reducing poverty conditions of rural women in the municipality.

### 1. BACKGROUND

In order to advance the current research, a literature review was undertaken on public policies that benefit rural women and the rural sector, as well as the different thematic fields that this research addresses. This allowed us to understand and identify the successes and failures in the field of policy formulation that, despite good intentions, had little impact on the

quality of life of the rural population. In Ecuador and Colombia, public policies have been formulated with the purpose of benefiting rural women; however, monitoring of their implementation has not been carried out, nor has there been an adequate evaluation of their effectiveness with regard to their improvement on quality of life.

It is understood that living in a rural environment contains elements of territorial and geographical isolation compared to a more urban and cosmopolitan environment. It is a space that possesses a natural wealth; environmental and cultural resources, particular ecosystems, and various forms of production. Where social relations are intertwined with particular cultural views; these elements give it a specific particularity. It is constituted in a complex system where the different dimensions of social and cultural life interact and where a territorial identity is supported. It is the space where social relations are interwoven, where a social and productive organization coexists.

### 1.1. FAMILY AGRICULTURE

There are essential features that distinguish rural modes of agricultural production such as the exclusive or majority use of family labor, whether provided by one or more members of the family. In this way, rural agriculture can be more exploitative when the amount of work contributed by family members is greater and the number of family members involved in the work process is increased (Gómez and González, 1999: 28).

In the Ecuadorian and Colombian cases, family farming is recognized as a peasant economy: family agricultural units with rural producers, containing the following characteristics; low levels of education, intensive use of family labor, insecurity in health, scarce technological development, hiring of seasonal labor, especially during harvest periods. Family farming contributes significantly to the food security of peasant families; and it is a source of supply for urban environments.

In the economic activity of family farming there is diversification of crops and rotation of them, there is no planning in production to guide the crops that are planted. Failure to take market supply into account can lead to a situation that creates a decrease in the price in the market, affecting the income of the producers. Family farming knowledge is derived from agricultural practice that occurs within a specific cultural environment that relies upon traditions and customs in production and marketing. There exists an historical context that links rural women to family farming. In fact, one of the most salient characteristic elements of the workload performed by rural women is the combination of domestic household work coupled with agricultural activity.

As Bock (2006) points out, the structure of agriculture and the reality of rural life has irrevocably changed, starting from the liberalization and globalization of markets, these changes have a direct impact on the quality of life of agrarian rural families, because with this competition and globalization has come a considerable effect on household income. The result has been both a lowering of the level of product prices in addition to an increase in production costs. Subsequently, this has forced many families in the rural areas to move to the city.

## 2. METHODOLOGICAL PROCEDURES

Qualitative research is interested in the perspective of the subjects themselves (Millan 1974: 38). The focus of the research approach allows for a perspective from the subject's point of view. It is framed in a research model with greater focus on social change because it is based on a recognition and acknowledgement of the intrinsic value of the knowledge of the reality in which the subjects live. It is a systematic process of learning, since it implies that people carry out critical analysis of the situations in which they are immersed.

An approach was made through participant observation, sharing the circumstances, from the daily life of the social subjects, their activities, interests and preferences. Participant observation can be considered the quintessential example of capturing the nature of reality, rather than alternative techniques of qualitative research methods (Callejo, 2002).

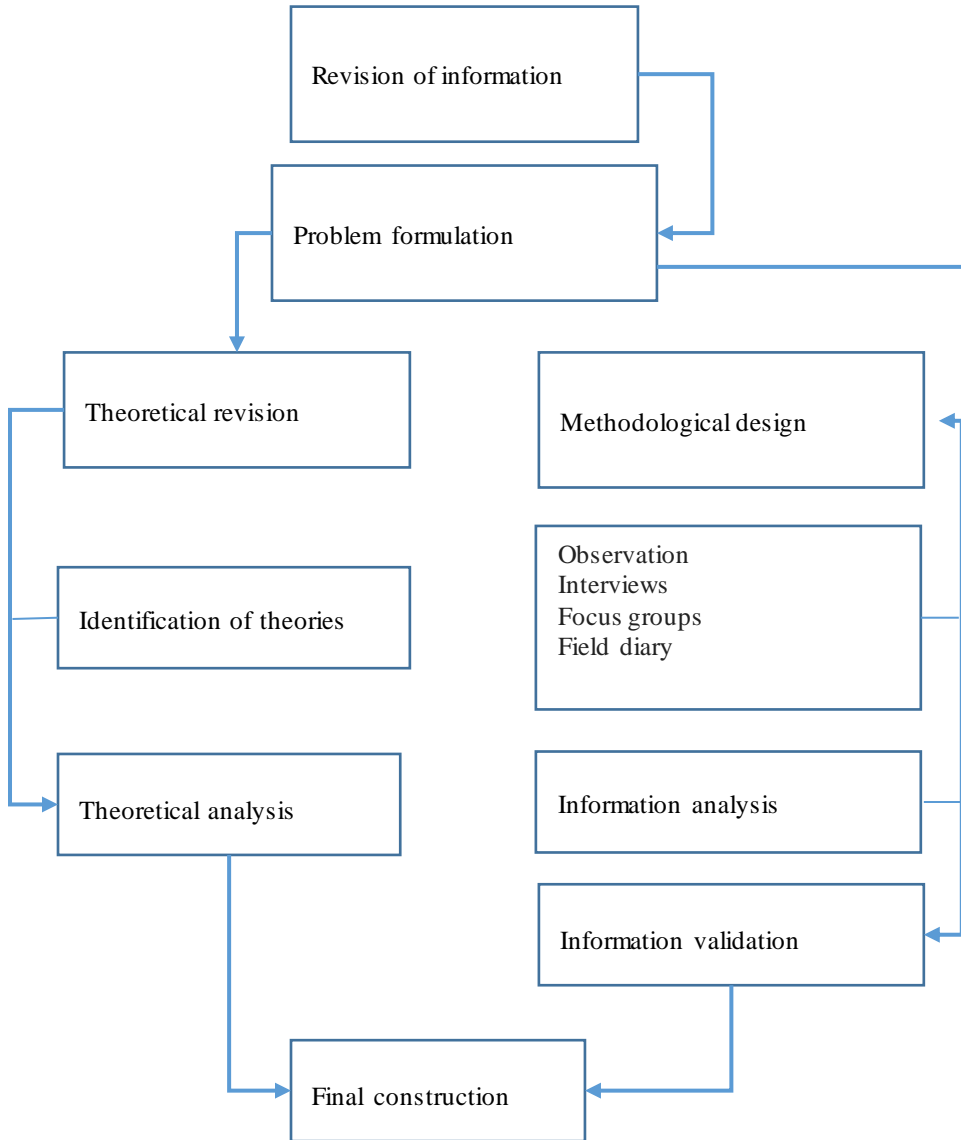
Field visits were conducted where the life situation of rural women, their economic, cultural and social conditions, the way of life in rural areas, working conditions, productive activities and daily life were observed. An in-depth interview was conducted, like an ordinary conversation, with some particular characteristics of participant observation applied (Callejo, 2002). It is about capturing the meanings in an open dialogue that encourages conversation. The interview allows access to the universe of meanings from the perspective of the actors, not only the texts but the situations of the context from the vision and cultural approach of the same. In order to carry out the interviews, it was necessary to establish preliminary contacts, coordinate the times and agree on places, in an attempt to accurately capture the reality of the subjects, so as not to interrupt their daily lives.

Each interview lasted approximately 3 hours, listening to their stories, their hopes and despair in a warm conversation. The women who participated belonged to organizations in the rural sector, linked to productive activities. An interview script was designed in which each one of the variables corresponding to the proposed objectives was addressed.

Discussion groups were held for their dynamism and the possibility of capturing the opinions of the interest group, a meeting with an open and semi-structured group interview, where the discussion is encouraged from personal experiences, with respect to the guiding questions posed in the research. This allows for the establishment of an open conversation, a dialogue from the perspective of rural women. The preparation for the event was arranged beforehand, the rural women of the selected areas were invited, and the logistics were prepared, including identifying the meeting site. Discussion groups for this study were based on the possibility of building and understanding, from the dialogue with the interviewees, the significance of participation and empowerment from rural women. A dialogical approach enabled the construction of the significance and meanings, through an unstructured, free, and spontaneous, group discussion that was both facilitated and stimulated through a reflective discourse.

The duration of each group was 3 hours which allowed sufficient time to address the pertinent questions that serve as the basis for this research. The research questions were developed based upon the variables of participation and empowerment. The interviews were guided by a survey discussion script to facilitate a conversation that would yield responses to the variables being studied. The dialogues and discussions generated in the participation groups were recorded on sound tape and transcribed in magnetic writing. The coding and categorization were done by disaggregating the text, thus achieving greater description, understanding and interpretation of the categories that emerged. This, in turn, led to the reconstruction of new meanings and insights.

#### **Figure 1: Research design**



Source: self-made.

**Table 1. Profile of the people interviewed Profile of interviewees**

Profile of interviewees	No.	Duration	Dates
Women who participate in II-level organizations (networks).	10	3 horas	The interviews were conducted in the following periods:
Rural women leaders	10	3 horas	

Leaders of grassroots social organizations	10	3 horas	Interview women municipality of Pasto – Colombia and Tulcán – Ecuador 2017 – 2018  Interview women municipality of Pasto - Colombia and Tulcán - Ecuador 2017 – 2018  Interview women municipality of Pasto – Colombia and Tulcán – Ecuador 2018 - 2019
Women from savings fund organizations	10	3 horas	
Total	40		

Source: self-made.

**Table 2. Analysis categories**

Categories	Description	Indicators
Aspects of Participation	a. Concept about participation	Recognition of the participation of women  Factors that enhance  Factors that hinder
	b. Organizational forms	Organizations
Empowerment of women	a. Concept on empowerment	Recognition of empowerment  Empowerment factors
Poverty conditions of rural women	a. Economic activities	Productive activities  Domestic activities  Labor activities
Public politics	a. Policies and rural women	Incidence of policies  Benefits of public policies

Source: self-made.

### 3. CHARACTERISTICS OF THE NARIÑO DISTRICT COLOMBIA

The district of Nariño is located in southwestern Colombia. The district has agricultural potential, due to its strategic geographical location, derived from its thermal terrain, there is a large number of areas inhabited by peasant farmers, which allows for both alternative family employment and as a source of income for rural women who are linked to these activities.

The rural situation is characterized by: low levels of technology of production, scarce marketing channels, low levels of income of the peasant population, and limited production in some areas due to the conditions facing the agricultural sector. Public policies do not provide protection nor opportunities to small rural producers. They are totally disconnected from the



social, cultural and economic reality of the sector; likewise, no appropriate strategies are designed for the promotion and strengthening of rural condition to benefit local inhabitants.

The department has had to face a series of social and economic problems, many of these structural, such as poverty; situations of violence and armed conflict that cause displacement of the rural population to the city; generating an increase in the level of unemployment and conditions of marginality. This increasing marginalization, both social and economic in nature, is reflected in the various social indicators.

One of the most important characteristics of the economy in Nariño is related to the existence of family farming; a production system where the family participates, with the contribution of labor, for work, especially rural women, who contribute to the generation of income.

The municipality of Pasto is located in the south west of Colombia, in the middle of the Andes mountain range in the mountainous massif called Nudo de los Pastos. The city is located in the Atriz Valley at the base of the Galeras volcano, close to the border with Ecuador. There is a high fractionalization of property, small tracts of land, which is subdivided even further as the nuclear family continues to grow. Rural women play an important role in the family economy.

### **CHARACTERISTICS OF THE CARCHI DISTRICT ECUADOR**

The district of Carchi is located in the north of Ecuador, in the geographical area known as the interandes region or mountain range, mainly on the nodes of the pastures to the northeast, the Chota basin in the south and on the outer flanks of the western mountain range in the west. Its administrative capital is the city of Tulcán, which is also its largest and most populated city. Tulcán, located in the district of Carchi, is near the Colombian-Ecuadorian border, which is one of the areas most affected by the armed conflict in Colombia.

The district of Carchi has agricultural potential due to its geographical location. It is nearly identical to the south of Colombia. It is a border region in which agriculture is one of the main activities that generates resources for the inhabitants of Carchi; Among the products that are best grown are: potatoes (they generate a very important and significant percentage of the national supply of the tuber), beans, peas, corn, wheat, barley, oats; to the northwestern yucca, banana and tropical fruits. Trade from the bridge of Rumichaca, door that joins commercially and touristically Ecuador and Colombia.

Agriculture is A representative social factor and its impact on vulnerable population there are more people involve in this economic agricultural activities, the transport factor has a high influence between Ecuador and Colombian border commerce. The presence of transnational armed groups such as the FARC's dissidents still maintains its presence in territories of the Ecuadorian-Colombian border, such as San Lorenzo and Tumaco, and this presence is conditioned by the development of relations between Ecuador and Colombia on issues of fundamental political agenda such as border security where armed and drug trafficking actions have transcended borders, increasing the insecurity and violence of this border region.

The rural situation has experienced the same as the Colombian reality: low levels of technology of production, scarce marketing channels, low levels of income of the peasant population, and limited production in some areas due to the conditions facing the agricultural sector. Public policies are focused on the central government AND there is a big center – periphery disparity in relations between Quito and Bogota and their respective border regions.

## **8. CONCLUSIONS**

### **Rural Territory**

The rural development model is shaped by the following characteristics: a) inequitable and exclusionary; due to the presence of armed groups in Colombia that leads to innumerable rural conflicts, b) failure to recognize the differences among social actors, and c) does not consider the environmental resources and potential of these rural areas. The current development approach does not allow for the generation of a model that accommodates the convergence between the rural and the urban areas.

This present situation allows for the development of: a) a relatively non-competitive rural sector, b) a land tenure system in Colombia and Ecuador that has many litigation conflicts, c) most of the properties are without formal or adequate legal documentation; the peasants do not possess legal property titles. This hinders greatly the necessary access to and involvement with public policies that might support rural areas (access to credit, etc.).

### **Public Policies**

The policies that are formulated do not consider the true daily situation of women, especially rural women, the different policies for the rural sector, nor the lack of follow-up on their implementation and impact on the poverty conditions of rural territories. No progress has been made in the construction of conditions or opportunities that allow the rural population to influence the decision-making scenarios or real participation in the formulation of public policies. The low levels of participation lead to policy proposals that are out of sync with reality and employ strategies that do not adequately address the conditions of rural women. It is required that the design of social policies for the rural sector consider the cultural, social and economic contexts, development of adequate infrastructure for the improvement of economic conditions and the overcoming of poverty. Policies should make it possible for women to acquire greater economic autonomy.

### **Rural Women**

Women report that one of their main problems is the low levels of income from economic activity, caused by the intermediation in marketing, as well as the deficient conditions in production. Rural women mention that the problems of the market of agricultural products are related to: a) inexistence of stable prices, b) high costs of production inputs, 3) intermediaries, and d) low prices for products caused by excess supply in the local market.

However, rural women have developed mechanisms to face their situation from productive initiatives. These women have developed the ability to participate in organizational spaces, contributing to empowerment as rural women.

### **Participation and Empowerment**

It is recognized that women's participation in social organizations has advanced and that the knowledge of their interests and rights has improved. However, the ignorance and defense of their interests persists from a gender perspective. Rural women who participate in social organizations have developed mechanisms to face their situation through productive initiatives. The success of social programs and projects implemented with rural women has been propitiated by the strengthening of social capital. Social capital can be understood as the ability of social organizations to act collectively in common development purposes. Rural women through associativity have managed to improve their income levels, carry out collective actions and learn to work together; linked in network, they have been trained and have acquired skills and competences for entrepreneurship.

The active participation of rural women generates social empowerment and participation. These are factors that enhance the experiences of rural development allowing the inclusion of rural women in the improvement of living conditions. The reinforcement of autonomy and self-esteem are closely linked with social empowerment. Women have found that if they work together, in groups or networks, they gain access to the goods and services they need to expand their opportunities.

## **9. RECOMMENDATIONS**

### **Strengthen research on rural development**

In the dynamics of research, and especially the sense of education, it is necessary to bring the professional, the student, and the volunteer together to build science and promote development with the farmer. Whoever manages to understand this dynamic will be able to identify the needs inherent to the field and thus could intervene to improve the quality of life.

### **Strengthen empowerment and promote the participation of rural women**

Promotion of community participation in the structuring and implementation of social programs and projects in the territories is a fundamental element to generate economic, social and cultural sustainability. Strategies should be implemented that allow the empowerment of rural populations, so that they become agents of their own development.

### **Formulation of public policies with a gender focus**

Monitoring of public policies aimed at women requires that there be an effective political will. Political will implies not only carrying out programs and projects that have them as a target group but also applying a gender approach. The analysis of public policies must recognize the current situation of women and both allow and encourage them to participate in their design and implementation. This makes possible a) a rapprochement between the objective of the policy and its practical achievements, b) a comparison of the formulation in accordance with reality, and c) an ability to analyze how they affect the social, economic, cultural, and environmental or political issues that gave rise to said policies with a gender focus.

### **Generation of skills and abilities in rural women**

It is critical to search for and identify the mechanisms by which training generates skills and abilities in rural populations so that they manage their development in a sustainable manner and can access services. It is necessary for the local institutions to continue to foster development of skills and abilities in the rural population. Training programs should include creation of an information system that allows for an appropriate follow-up to the different social policies supported by public and private entities. It is critical to both measure and monitor the changes in the quality of life of rural women. It is necessary to strengthen skills and abilities in women entrepreneurship and allow rural women to advance business and economic developments in rural areas. This includes strengthening of agro-industry for the generation of added value and promoting the articulation of organizations around productive economic development.

### **An agrarian reform that contemplates the gender perspective**

It is fundamentally important to consider rethinking and proposing an agrarian reform with a gender perspective for Ecuador, Colombia and Latin America that focuses on women. An agrarian reform with a gender perspective that includes social justice and equity will contribute to build political stability, improve productive activity in rural areas, and help enormously to provide sustainable economic development.

### **Inter- institutional articulation to promote development**

Articulation of local and regional actors to promote economic development with a gender perspective is essential. If public and private entities continue in a disarticulated work with regard to development, it will not be possible to achieve successful transformations. It is necessary to design programs with articulated inter-institutional actions to support women and aid the transformation and alleviation of poverty conditions of rural women.

### **Financing programs for the rural sector**

One of the problems of the rural sector is the difficult access to financing by small producers, due to the low capacity to manage and share irrigation, and the lack of special lines of credit that adjust to the differentiated conditions of their agricultural activity. This makes it extremely difficult to market their commerce and to generate added value to the production of small producers. This problem is exacerbated by the absence of infrastructure for storage and transportation as well as organization and associativity of producers to minimize intermediation.

### **Strengthening the Urban - Rural Focus**

Food security in urban areas depends directly on rural areas, from which the city is supplied; it is considered in the same way that the water supply depends on the natural resources of the rural areas. The rural cannot continue to be considered as an isolated and disconnected territory of the urban, marginalized, with little development. On the contrary, rural areas should be seen as a territory that has economic, social, cultural and environmental potential that can help to promote a comprehensive policy that understands rural dynamics and articulates urban development projection.

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## Opportunities for Future Research

As Colombia contemplates and navigates through the growing pains associated with any transition from a war-torn nation to a peaceful and prosperous one, certain areas appear ripe for further study and consideration. Educational training programs, and education more broadly, can help produce a populace with enhanced skills and abilities to support local, regional and national development strategies as well as to promote democratic values, attitudes and behaviors. It is compelling to argue that both phenomena, increasing education and promotion of democratic ideals, are desirable outcomes for a Colombian society struggling to transform itself and to emerge successfully from its post-conflict era transition.

In a post-conflict Colombian society, the reestablishment and consolidation of democratic values, attitudes and behavior—indeed democratic institutions themselves—are paramount. However, democratic institutions alone are not sufficient to guarantee majority rule with respect for minority rights and democratic stability. It is the values and norms to which the citizens adhere that provide the ultimate guarantee. This means a willingness to tolerate the rights of those who disagree with the majority and hold opposing views. In the absence of such tolerance, democratic stability will be weak at best. Therefore, in addition to support for democratic institutions, there must be ample public support for political tolerance, and elite and powerful groups must demonstrate tolerance towards the opposition and other minorities for a stable democracy to flourish.

Another key component to any notion of democracy and a fundamental building block of democratic theory is the centrality of participation to the democratic process. Education and training programs can foster, encourage and support community and political organizations. Participation in these programs and organizations often stimulates innovation and promotion in defense of democratic processes and institutions built upon the notions of trust and reciprocity. It is important to support democratic regimes as both an end in itself and because it is a critical element in promoting sustainable development. This objective is facilitated through the establishment of democratic institutions, free and open markets and an informed and educated populace.

In Ecuador and Colombia, political participation is restricted by a multitude of factors. Not all citizens have equal access to the political process. Factors affecting access include distance from voting stations, fear of government retaliation, fraud, limitations placed on women who are faced with competing obligations, restrictions placed on peasants who cannot afford to leave the source of their livelihood, etc. Education has proven to be a powerful predictor of political participation. Specifically, those who have a higher level of education tend to participate more.

Greater education apparently equips citizens with the intellectual tools to be able to link their interests with their behavior, but, perhaps more importantly, it gives them community respect so that when they participate they will be taken seriously by their peers. Education is directly related to income and those with higher incomes have more free time to participate and find it easier to obtain the resources to participate.

Therefore, future studies that examine the role of rural women in local, regional and national economic development strategies in a post-conflict Colombian society may do well to include a more extensive analysis of the critical roles that increased educational and training programs can have on the institutionalization and consolidation of democratic stability and processes.

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## Determinants of Shopping Mall Attractiveness: the Case of Shopping Malls in Nairobi, Kenya

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### Abstract

In the recent past there has been massive growth of shopping malls in Africa. As a result, in some countries like Kenya, shopping malls have to fight to ensure they attract shoppers to the mall and as a result maintain the image and the current tenants while attracting new quality tenants. This study focused on identifying and validating a tool to measure the determinants of shopping mall attractiveness. Data was collected from residents of Nairobi City in Kenya. A total of 303 respondents participated in the study. Initially a tool with 38 items was developed from the literature and after subjecting it to a factor analysis, validity and reliability tests a 17 item scale was achieved. Confirmatory factor analysis (CFA) and structural equation modelling (SEM) were used in the determination of shopping mall attractiveness dimensions. From the analysis of data, five key determinants of shopping mall attractiveness were identified. These included: design and aesthetics; service options; convenience and safety; service employees; and, utilitarian value. Amongst the five dimensions, convenience and safety was identified as the most important in influencing shopping mall attractiveness.

**Keywords:** Shopping mall; Shopping centres; shopping mall attractiveness; Kenya

### Introduction

The last decade has witnessed a drastic growth of shopping malls in Africa. This growth has been majorly driven by increasing urbanization, population growth, increased economic growth and political stability, internationalization efforts by global retailers, changing consumer lifestyles and rising household incomes among other factors. According to research by Sagaci (2018), between 2011 and 2018, there was a marked growth of shopping malls in Africa from 225 to 581 malls. South Africa had the largest mall numbers followed by Egypt and Kenya. By 2020, it is projected that Kenya will have 73 shopping malls. In Sub-Saharan Africa, Kenya has the largest shopping centre space after South Africa, and with the largest development pipeline (Sagaci, 2018).

According to Cytton (2018), in Kenya, Nairobi leads in the gross leasable area (GLA) with more than 50% of the malls accounting to over 60% of the GLA in Kenya. This is followed by Mombasa and Kisumu with 10.0% and 7.4% GLA respectively. The trend in shopping mall growth has been worrying as some malls struggle to attract tenants for the available space. As at 2017, the retail sector had an average yield of 8.3%, and occupancy rates of 80.2%, a decline from 2016's 8.7% and 82.9%, respectively. This was due to increased supply and a tough economic environment. Though the sector had shown some recovery in 2018, the growth of the sector posed critical sustainability challenges as a result of oversupply of mall space and changing consumer trends.

To differentiate themselves, newer malls were more focused at being destination malls than just shopping malls. Destination malls have been found to perform better than normal shopping malls (Cytton, 2018). Destination malls are large integrated retail centres where the driver of traffic is not shopping but different experiences. In these centers, dining, leisure and

entertainment become core with shopping being an adjunct activity but not the key driver to the mall. Such malls have also been categorized as “eat, drink, work, sleep” places with a primary focus being on creating exceptional experiences. In Kenya, there were three destination malls located in Nairobi. These were Two Rivers Mall, The Sarit Centre and Garden City Mall.

The success of the shopping malls is premised on several factors. The location of the mall close to major highways for high visibility and near attractive catchment areas is critical. This also allows for ease of accessibility of the mall as shopper’s desire convenience in mall entry and exit. The design of the mall is also important. A mall should have an attractive layout, enable ease of movement around and between floors; open spaces, and; provision of sufficient walking space as well as parking space. Inherently and more cardinal is tenancy. Shoppers are attracted to a mall by the types of tenants (tenant mix) as well as the anchor tenant(s).

## Literature Review

A shopping mall is a group of retail business planned, developed, owned and managed as a unit. A shopping mall is defined as an aggregation of retail and other commercial establishments owned and managed as a single property (International Council of Shopping Centers, 1999). Levy, Weitz and Pandit (2014) defined shopping malls as closed, climate-controlled, lighted shopping centres with retail stores on one or both sides of an enclosed walkway. The development of shopping malls started in the United States of America in the 1920’s and later spread to other countries in the world (Kowinski, 1985). Nelson (1958) indicated that shopping malls are developed on the principle of cumulative attraction according to which cluster of similar but complementary retail outlets have greater drawing power over the geographically dispersed outlets. Various authors use the terminology shopping mall and shopping centers interchangeably. Whereas there is arguments that the two are different, it is generally agreed that these two words both refer to a large space that allows a person access to more than one store. In this paper the two words are used interchangeably.

Shopping malls offer services to its consumers in the form of a convenient access to a desirable mix of retailers within a managed environment to provide a satisfying and safe, shopping and leisure experience (Kushwaha, Ubeja & Chatterjee, 2017). According to Cil (2012) in shopping mall, outlets arrangement and layout are designed to ensure both the increased usage of the mall and customer improved sales. The layouts take into account the needs of the customers and the arrangement should attract the attention of the visiting customers.

The growth and development of shopping malls has been driven by several theories. In the current study, in order to understand shopping mall evolvement, three main theories are explained including: the Central Place Theory; Retail Agglomeration Economics, and; the Retail Demand Externalities.

The **central place theory** focuses on explaining retail trade between cities (Damian, Curto & Pinto, 2011). This theory was formulated by two scientists in Germany: geographer Walter Christaller in 1933 and economist August Losch in 1940. Generally, consumers based on their convenience would likely shop in the closest outlet to them (Anderson, 1985). Similarly, consumers prefer to do their shopping in larger shopping centres/malls due to the variety on offer than in smaller malls who may have limited offering. The central place theory provides a framework for analyzing the size and location of retail centers. Based on this theory, shopping malls bring about an agglomeration of a variety of retail outlets at a centralized location. The agglomeration of diverse retailers in particular towns or shopping centres increases the attractiveness of those places for consumer shopping (Bucklin, 1967).

The **economies of agglomeration theory** is based on the cost savings arising from urban agglomeration. This is as a result of firms that are related being located near each other leading to economies of scale as well as network effects. When firms in a related sector cluster together, they may have complementarities that would allow significant reductions in costs of production. The clustering drives customers and suppliers to the cluster location than would a single firm do and

therefore lead to each firm benefitting. The basic concept of agglomeration economies is that production is facilitated when there is a clustering of economic activity.

In retail location theory, Nelson (1958) indicated that the agglomeration of retail stores is based on the theory of cumulative attraction and the principal of compatibility. According to Nelson, when stores dealing in the same merchandise are near to each other, they are likely to do more business compared to being scattered. When stores locate in clusters, consumers can achieve an easier and cheaper overview of the products available without facing additional transportation costs, since the proximity between the stores enables the consumer to easily go from store to store (Kantola, 2016). A larger variety helps fulfill the consumer's needs in multipurpose shopping in order to reduce his/her search and transportation costs (Fujita & Thisse, 2002). Due to the reductions in transactions costs, many consumers choose to shop at stores located in a shopping center setting over isolated located stores (Kantola, 2016).

The **retail demand externalities theory** refers to "the effects a store derives when customers are drawn to a particular shopping centre or store by the presence of high-order retailers (sometimes anchor tenants) or an appealing tenant mix" (Damian et al., 2011). Certain stores generate externalities by drawing customers to other stores, while many stores primarily benefit from external mall traffic. Therefore, to varying degrees, the success of each store depends upon the presence and effort of other stores, and the effort of the developer to attract customers to the mall. In designing and leasing shopping centre space, developers recognize that the attractiveness of the centre to customers, and thus to tenants, depends on the types and sizes of stores that it contains. Shopping malls help reduce consumer search costs by assembling choice through the provision of a large number of stores in a single location.

The subject of shopping malls and its attractiveness has been studied over a long period of time (Borusiak, Pierański, Florek, & Mikołajczyk, 2018). However, due to the proliferation and performance issues of the mall the subject has received renewed interests. All over the world growth of shopping malls and centres has been recorded despite the suboptimal and declining performance of these establishments. A shopping mall is deemed to be attractive based on its capability to be perceived in a way that it induces positive emotions, positive cognitive appraisal and encourages people to approach or to get inside (Dębek, 2015). Attractiveness is therefore a function of shoppers and tenants needs, demands and preferences. The attractiveness of shopping malls has also been found to be as a result of their ability to address utilitarian shopping needs as well as leisure and hedonic potential (Ng, 2003). Ng further states that shopping mall attractiveness is based on the mall's ability to fulfill a shopper's cognitive, physiological and social needs, moderated by a shoppers' individual characteristics and situational factors.

Shopping mall attractiveness has been defined as a multi-dimensional feature, having several factors including: product related factors and its attributes; site-related factors; environment-related factors; retailer related factors; customers related (Dębek, 2015; Borusiak et al., 2018).

Borusiak et al. (2018) in studying factors affecting mall attractiveness among university students found the most critical factors being offer perception, location and decoration, comfort of shopping, entertainment, and toilet accessibility. Can, Kurtulumusoglu and Atalay (2016) in a study among youths / students found convenience of the mall location and entertainment as being important for this respondent group. In a study on mature shoppers, Hu and Jasper (2001) identified five major factors which influenced them including convenience, choice, crowds, ambiance, parking and hedonic shopping orientation. In a study of teens (12 – 17 years), Wendy and Sandra (2005) found that the most important attributes were: mall friendliness to teens; "cool" stores in the mall; mall being a good place to hang out with friends; and mall attractive design.

In a different study, Can et al. (2016), identified several factors affecting mall attractiveness. The factors were mall loyalty programmes; traffic around the mall and parking facilities; facilities for disabled people; the quality of the mall locality; and the quality of mall visitors. In a study on the attractiveness of shopping centres in the Czech Republic and Slovakia, Kunc,

Križan, Bilková, Bartík, and Maryáš (2016) identified several important endogenous factors as the gross leasable area and tenant mix. They also identified other exogenous factors such as parking and accessibility. O'Reilly (1931) identified the endogenous factor of mall size and distance on mall selection and concluded that larger shopping centers present a higher attraction to customers, who would be willing to travel longer distances to arrive to them. Finn and Louviere (1996) identified six dimensions affecting mall attractiveness namely merchandise, atmosphere, services, accessibility, anchor tenant and trendiness. In another study in Malaysia, Wong and Nair (2018) found that a shopping mall's success depends what a shopper goes through from the moment they get into the malls parking area to the time of exit of the mall parking. They identified six dimensions that makes a shopping mall attractive to urban shoppers with the most important being child friendliness and parking facilities.

In a study on community shopping malls, Wongkerd (2017) found that shoppers visited the community malls mainly to shop and for entertainment. He found that community shopping mall image was the most important attractiveness dimension of community shopping mall to consumers. Other factors included entertainment, convenience of shopping, ambience of the mall, security at the mall, lifestyle of consumers, reduced shopping time, architecture of the mall, and rewards associated with the purchase at malls. According to Levy et al. (2014), a shopping mall image is comprised in the totality of functional and emotional qualities while Hunter (2006) and Ooi and Sim (2007) stated that the shopping mall image is defined by the anchor shop and the physical appearance of the shopping mall. Makgopa (2016) studied South African shoppers and found that consumers desired comfortable shopping experiences, socialization and entertainment in the shopping malls. A similar study in Southern Africa by Dubihlela and Dubihlela (2014) identified various features in shopping malls, such as merchandizers, accessibility, service, amenities, ambience, entertainment and security as important in attracting shoppers to a mall.

In other studies, the attractiveness of the shopping mall is influenced by the anchor tenant. Konishi and Sandfort (2003) defined an anchor store as "a store that increases, through its name's reputation, the traffic of shoppers at or near its location". An anchor store is a business within a shopping mall whose aim is to significantly increase the mall's appeal (Damian et al., 2011). Yuo et al. (2004) noted that shopping mall attractiveness varies based on the presence of anchor tenants and the extent to which it can draw customers to the mall. Researchers have also found that anchor tenants have the ability to attract attention in a shopping mall and hence determine the level of success of a shopping mall. They also determine the number of customers that visit the shopping mall, commodity retail prices at the mall and the level of profit achievable at the mall.

## **Objectives of the Study**

The objective of this study was to identify the determinants of shopping mall attractiveness. This was achieved through a process of validating a shopping mall attractiveness scale then using the same to determine the dimensionality of shopping mall attractiveness.

## **Methodology**

The research design for this study was both descriptive and explanatory. The target population of this study were shoppers who visited various shopping malls in the City of Nairobi, Kenya from where the sample for this study was drawn. Altogether, 385 questionnaires were randomly distributed to the target respondents. A structured questionnaire was developed and administered to collect primary data. The questionnaire was developed from various mall attractiveness scale items as used by various researchers. A scale with about 38 items developed from the literature was subjected to a pretest to check on its suitability. Some item wordings were changed to reflect appropriate meaning and relevancy in the Kenyan situation.

Factor analysis was used to explore the data and its structure. To determine the number of factors to extract, the principal component analysis was used as the extraction method while the rotation method was oblique rotation, specifically Promax (Tabachnick & Fidell, 2007; Thurstone, 1947) with Kaiser Normalization. After the factor analysis, confirmatory factor

analysis (CFA) was performed to test the fit of the model used. The scale's internal consistency was tested by using reliability analysis with Cronbach's alpha (a minimum of 0.7 was deemed acceptable) while the construct validity was tested by employing confirmatory factor analysis (CFA) which was performed using the structural equation modeling (SEM).

### Sample Demographic Profile

As indicated before 385 questionnaires were distributed with 303 returned representing a response rate of 78.7%. From the responses, 48% of the respondents were males while 52% were females. In terms of the distribution of the respondent's age, 3.6% were below 20 years; 51.8% between 20 – 30 years; 30.7% between 31 – 40 years; and, 13.9% over 40 years. In terms of occupation, 59.1% were self-employed, 19.5% working, and 21.5% not working. Regarding frequency of mall visits, only 2.6% visited a mall daily, 42.6% once a week, 21.1% several times a week and 33.7% once monthly.

### Data Analysis

#### Reliability Tests

The scale's internal consistency was tested by using reliability analysis with Cronbach's alpha (Hair, Anderson, Tatham, & Black, 1998). The Cronbach alpha for the variables used to construct the scales was 0.948. A Cronbach alpha of 0.70 is considered acceptable (Nunnally, 1978). The adequacy and suitability of the sample for factor analysis was checked using the Kaiser-Meyer-Olkin (KMO) measure. KMO returns values between 0 and 1 and as a rule of thumb KMO values between 0.8 and 1 indicate that the sampling is adequate. In this study, KMO test was 0.896 fulfilling the requirements for adequacy of data for factor analysis. The Bartlett's test of sphericity was also used. For factor analysis to be recommended, the Bartlett's test of sphericity must be less than 0.05. In this study, data were suitable for performing EFA as indicated by the Bartlett's test of sphericity yielding significance ( $p < 0.001$ , Approximate Chi-square of 2711.03, with 210 degrees of freedom).

#### Factor Analysis

In order to examine the dimensionality of the scale construct, exploratory factor analysis was undertaken. To determine the number of factors to extract, the principal component analysis was used as the extraction method while the rotation method was oblique rotation, specifically Promax (Tabachnick & Fidell, 2007) with Kaiser Normalization as recommended.

Five factors emerged after satisfying the two required tests including the Kaiser criterion (eigenvalues greater than 1) and a scree plot. These three factors accounted for 62.4% of the total variance. In identifying the items loading on each component, out of the 38 items in the questionnaire, 17 items were found not to satisfy the requirements for inclusion as their factor loadings were below the recommended 0.5. The items were omitted. From the analysis, and based on the highest factor loadings of the remaining items, the first factor was composed of four items, the second factor was composed of five items, the third factor was composed of six items, while the fourth and fifth had three items each.

Based on the items in each component, some suggested themes arise. The factors were named as Design and Aesthetics, Service Options, Convenience and Safety, Service Employees, and Utilitarian Value. The table below provides the various items and their factor loadings.

**Table 1: Factor Analysis Component Loadings**

Statement	Component				
	1	2	3	4	5
My desired mall has attractive interior wall and floor color schemes	.899				
My desired mall has latest interior design	.824				
My desired mall has an attractive architecture	.790				

The design of my desired mall is innovative and inspiring	.752	
There are multiple options of shopping, entertainment and eating	.800	
There are a variety of stores in the mall	.734	
The Mall provides a one roof solution – All under one Roof	.697	
The mall has convenient opening and closing hours	.598	
It is easy locating desired stores in the mall	.504	
It is convenient to access the mall from the highway or road		.839
The Mall is generally clean		.675
The mall is near to my home or workplace		.615
It is safe to shop at the mall		.587
It is easier to access and leave the mall's parking bays		.585
The mall has security & safety features		.506
Staff working in the mall are knowledgeable		.872
Staff in the mall are friendly		.835
The staff in the mall are helpful		.762
There are comparatively low prices in shops within the mall		.864
Shops in the mall give discounts		.692
There is free parking in the mall		.618

Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.

a. Rotation converged in 8 iterations.

Reliability Analysis for the variables

In terms of reliability, as shown in the Table below, all the shopping mall attractiveness elements were found to be fit as they all had a Cronbach Alpha score above 0.7.

**Table 2: Determinants Reliability**

Dimension	Number of items	Cronbach's Alpha
Design and Aesthetics	4	0.863
Service Options	5	0.772
Convenience and Safety	6	0.792
Service Employees	3	0.830
Utilitarian Value	3	0.721

### Components Relevance

The components derived through factor analysis were tested to derive the most relevant in the Kenyan environment. The highest mean score for the factors was posted by Service Employees (3.87) followed by Design and Aesthetics (3.83), Convenience and Safety (3.78), Service Options (3.57) and lastly Utilitarian Value (3.46) as indicated in the table below.

**Table 3: Components Relevancy**

Component/Determinant	Mean
Design and Aesthetics	3.8288
Service Options	3.5733
Convenience and Safety	3.7757
Service Employees	3.8708
Utilitarian Value	3.4629

### Confirmatory Factor Analysis (CFA)

After the factor analysis, confirmatory factor analysis (CFA) was performed to test the fit of the scales. The scales' construct validity was tested by employing CFA. According to Byrne (2009) CFA can be used to determine whether the sample data is compatible with the hypothesized model of the study. Maximum likelihood estimation procedure was selected as the best

method to conduct CFA as normality is assured in the data set. Several fit indices were used to test the model fit. The chi-square, degrees of freedom, the root mean square error of approximation (RMSEA), comparative fit index (CFI) were determined as recommended by Hair et al. (2010).

In assessing goodness of fit, the ratio of chi-square to degree of freedom ( $\chi^2/df$ ) is used. According to Hooper et al. (2008),  $\chi^2/df$  should be less than 3 to indicate acceptable fit. In this study,  $\chi^2/df$  was 2.250 indicating an acceptable fit for this model as it was less than the 3. For the RMSEA, MacCallum, Browne, and Sugawara (1996) suggest that a RMSEA value of between 0.00 and 0.05 indicates a close model fit, a value of between 0.05 and 0.08 a reasonable fit, and a value of more than 0.08 a poor model fit. In the current study a RMSEA of 0.064 was achieved indicating a reasonable model fit. The Comparative Fit Index (CFI) values should range between 0.0 and 1.0 with values closer to 1.0 indicating a good fit (Hooper et al., 2008). The CFI of this study was .913 indicating a good model fit. The various indices are provided in the table below.

**Table 4: Goodness of Fit Indices**

Measurement	Index	Threshold	Interpretation
Chi- square ( $\chi^2$ )	402.739	-	-
Degree of freedom	179	-	-
$\chi^2/df$	2.250	Between 1 and 3	Excellent
RMSEA	0.064	<0.06	Acceptable
CFI	0.913	>0.95	Acceptable
SRMR	0.056	<0.08	Excellent

### Assessing Validity of Scale Measures

After EFA, it has been recommended that scale validity is undertaken and specifically construct validity. Generally, to assess the construct validity of a test, convergent validity and discriminant validity are adopted (Campbell & Fiske, 1959).

#### Convergent Validity

According to Fornell and Larcker (1981) criterion, the convergent validity of a measurement model can be assessed by the Average Variance Extracted (AVE) and Composite Reliability (CR). AVE values above 0.7 are considered very good even though 0.5 is also acceptable. Based on the test of the scale, convergent validity was achieved as all the constructs posted an AVE greater than 0.5 which is acceptable (See table below). On the other hand, all the factors recorded a CR of above 0.7. These results indicate that the scale had achieved convergent validity.

**Table 5: Convergent and Discriminant Validity Measures**

Factors	CR	AVE	MSV
Design and Aesthetics	0.864	0.613	0.499



Service Options	0.776	0.541	0.509
Convenience and Safety	0.801	0.525	0.509
Service Employees	0.831	0.620	0.490
Utilitarian Value	0.729	0.574	0.318

### Discriminant Validity

Discriminant validity refers to the extent to which factors are distinct and uncorrelated. According to Fornell and Larcker (1981), discriminant validity can be assessed by comparing the amount of the variance captured by the construct (AVE) and the shared variance with other constructs (maximum shared variance – MSV). According to Hair et al. (2010), discriminant validity is established where MSV is lower than the AVE for all the constructs. In testing the scale, and as indicated in the table above, all the 5 factors' MSV were lower than the AVE and thus achieving the required thresholds for discriminant validity.

### Determinants Correlation Matrix

From the analysis (see Table 6 and Figure 1), the correlation between Design and Aesthetics and Service Options, Convenience and Safety, Service Employees and Utilitarian Value was estimated at 0.71, 0.61, 0.56 and 0.43 respectively; while that of Service Options and Convenience and Safety, Service Employees and Utilitarian Value was 0.71, 0.61 and 0.44 respectively; and, that of Convenience and Safety and Service Employees and Utilitarian Value was 0.70 and 0.56 respectively. Finally, that of Service Employees and Utilitarian Value was 0.56. All the 5 factors were significantly correlated at  $p < 0.001$  level.

**Table 6: Correlation Matrix**

	Design and Aesthetics	Service Options	Convenience and Safety	Service Employees	Utilitarian Value
<b>Design and Aesthetics</b>	<b>0.783</b>				
<b>Service Options</b>	0.707***	<b>0.736</b>			
<b>Convenience and Safety</b>	0.609***	0.713***	<b>0.725</b>		
<b>Service Employees</b>	0.562***	0.612***	0.700***	<b>0.788</b>	
<b>Utilitarian Value</b>	0.430***	0.440***	0.555***	0.564***	<b>0.758</b>

\*\*\*  $p < 0.001$

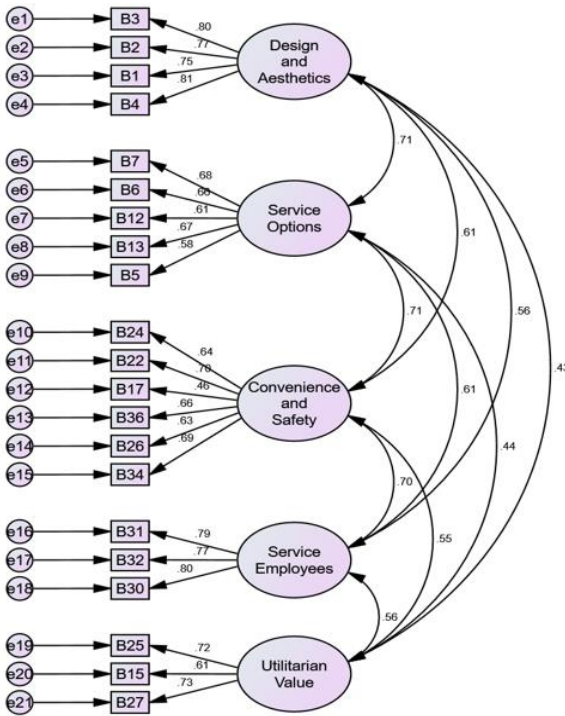


Figure 1: Shopping Mall Attractiveness CFA Path Analysis

### Assessing Model Fit with Structural Equation Modelling (SEM)

The scale was also subjected to Structural Equation Modelling (SEM). The various fit indices used to test the model fit were found to satisfy requirements as follows: Chi-square/df ( $<5$ ) = 2.314; SRMR ( $<0.08$ ) = 0.061; CFI ( $>.90$ ) = 0.908; and, RMSEA ( $<0.1$ ) = 0.066. The estimated results of the structural model are presented in the table below.

Table 7: Goodness of Fit Indices

Measurement	Index	Threshold	Interpretation
Chi- square ( $\chi^2$ )	381.788	--	--
Degree of freedom	165	--	--
$\chi^2/df$	2.314	Between 1 and 3	Excellent
RMSEA	0.066	$<0.06$	Acceptable
SRMR	0.061	$<0.08$	Excellent
CFI	0.908	$>0.95$	Acceptable

The p value was used to assess the significance of the relationship between shopping mall attractiveness and its dimensions. From the model estimates, all item loadings were significant at  $p < 0.05$ . The p-value was less than 0.05 denoting that the hypothesized path between shopping mall and all the determinants was statistically significant at .05 level of significance. The critical ratio (CR) for the regression path exceeded the threshold values required. When the critical ratio (CR) is  $> 1.96$  for a regression weight, that path is significant at the .05 level. The results show that service options,

convenience and safety, service employees, utilitarian value and design and aesthetics have a significant and positive impact on shopping mall attractiveness. Based on the regression coefficients, a change in any of the determinants will have a corresponding change in shopping mall attractiveness. The results of SEM analysis are presented in the table below and Figure 2.

**Table 8: The regression path coefficient and its significance**

Path	B	Beta	S.E.	C.R.	P
Service Options <--- Shopping Mall Attractiveness	0.94	0.834	0.115	8.135	0.000
Convenience and Safety <--- Shopping Mall Attractiveness	1.072	0.861	0.132	8.134	0.000
Service Employees <--- Shopping Mall Attractiveness	1.203	0.786	0.138	8.71	0.000
Utilitarian Value <--- Shopping Mall Attractiveness	1.033	0.614	0.15	6.908	0.000
Design and Aesthetics <--- Shopping Mall Attractiveness	1.064	0.753	0.131	8.135	0.000

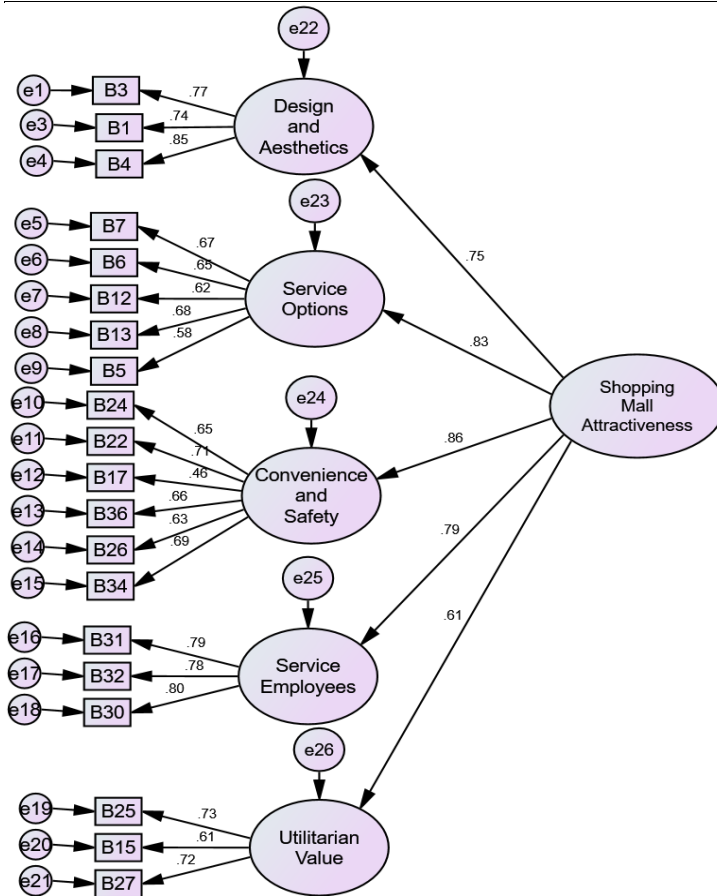


Figure 2: Shopping Mall Attractiveness SEM Path Analysis

## Results

This study endeavored to validate a scale for use in assessing shopping mall attractiveness. Out of the 38 items previously used in other scales, only 17 were found to have satisfied all measures for suitability in the scale. The reason for rejection of many items was based on the fact that the adopted items had been developed in countries with different environmental factors from this study. The identification of a valid and reliable scale was a critical objective for this study focusing on a city in a developing country.

The other aspect of this study was to identify the determinants of shopping mall attractiveness. Through factor analyses it was revealed that from the point of view of shoppers in Nairobi, there were five main determinants that affected the attractiveness of shopping malls. The determinants were given various descriptive labels and these included: Design and Aesthetics; Service Options; Convenience and Safety; Service Employees; and, Utilitarian Value.

The **design and aesthetics dimension** is about appreciation of beauty through color, art and music. This is the judgments of sentiment and taste in regards to a particular phenomenon, in this case a shopping mall. It addresses issues to do with the physical evidence of the mall and how external and internal interiors are appealing to the taste of the shoppers. Some shoppers were attracted to the mall based on the interiors of the mall such as floors, walls and colour scheme while others was the interior design, attractive architecture and an innovative and inspiring shopping mall design.

In terms of **service options dimension**, shoppers were attracted and driven to a shopping mall by convenience. The shoppers related convenience in term of being able to undertake their shopping in one place as opposed to multiple locations. The options, other than shopping includes entertainment and dining. Convenience was also perceived in line with opening and closing hours as well as the ease of locating desired stores | the shopping malls.

The third dimension was service **convenience and safety dimension**. This aspect was concerned with being able to access the mall from the highway and in particular entry and exit. The closeness of the mall to the respondent's workplaces and homes was also identified as important. Safety within the mall and in the vicinity of the mall was also found to be important. Shoppers are concerned with their safety and that of their possessions while at the shopping malls.

In terms of **service employee's dimension**, the shoppers were driven by knowledgeable, friendly and helpful staff in the shopping mall. People develop relationships with other people based on trust. Trust towards service employees is largely influenced on whether they know and understand their work, can assist when required and possess a friendly mien. Shoppers are therefore attracted to a shopping mall as a result of the nature of the service employees through the provision of excellent customer service.

The final dimension is the **utilitarian value dimension**. This is based on the value perceptions of shoppers. The aspects of interest identified under utilitarian value dimension include low and discounted process in the outlets in the shopping mall as well as availability of free parking. A rational shopper would desire value for money and as a result would visit shopping malls that deliver the value. Such value may be delivered through various promotional activities sin the mall by the different stores, availability of free parking and other freebies.

From the analysis of the five dimensions, the most important dimension that influences shopping mall attractiveness was found to be **convenience and safety dimension**. Service options dimensions came second on importance while service employees was third. The dimension that affected shopping mall attractiveness least were the design and aesthetics as well as the utilitarian value dimension.

## Conclusion

This study has endeavored to validate a tool to measure the attractiveness of shopping malls with a focus on Kenya. A 17 item scale was tested to ensure that it is ideal to measure this construct. It can therefore be concluded that the developing country specific tool identified suffices for usage as opposed to the adoption on a tool developed in countries operating in a different environment. The study also identified the dimensions of shopping mall attractiveness as five of them. These include Design and Aesthetics; Service Options; Convenience and Safety; Service Employees; and, Utilitarian Value. Amongst the five dimensions, convenience and safety was identified as the most important in influencing shopping mall attractiveness.

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## Social Businesses with An Export Profile as a Mechanism to Promote Entrepreneurship and Improve Welfare

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### Abstract

The increase in unemployment rates at the international level, as a consequence of the deep financial crisis of the beginning of the 21st century, has caused the labor market to become increasingly restricted, complicating the insertion of a population of productive age. In addition, the lack of employment has exacerbated a series of social problems, including poverty, insecurity, undernourishment, among others, in a large part of Latin America. Therefore, the impulse of social enterprises can contribute to the creation of jobs and combat this problem, generating wellbeing not only within a region but also in others with similar situations, generating an area of opportunity for those social enterprises with an export profile. Based on the above, this paper begins with a documentary research process of specialized literature on social business and later analyzes a group of students' perception on the impact that this model can produce, as well as the limitations for its implementation, through an exploratory and descriptive study, guided by the qualitative approach since a questionnaire of open questions about these topics was used as a research instrument. The answers were analyzed in such a way that similarities and differences could be detected among students' perception. Results shown that the main benefits are the creation of direct jobs in the country of origin and indirect in other markets as well as the emergence of productive chains while among the constraints include ignorance of the export logistics process and tariff rates. Finally, a series of recommendations are proposed in order to strengthen the dissemination of this business model.

**Keywords:** social business, entrepreneurial culture, entrepreneurial teams.

### Introduction

Small and medium-sized enterprises (SMEs), as well as entrepreneurs, play a fundamental role in the economic activity of industrialized countries and emerging markets since they are key actors in creating jobs and generating income; In addition, the Organization for Economic Cooperation and Development (OECD, 2017) affirms that both SMEs and entrepreneurs are agents that promote innovation and economic growth, raising employments in the private sector and then fostering social welfare.

However, the still present effects of the financial crisis originated at the end of the first decade of the 21st century together with the rigidity of the labor market and the restrictions of the credit sector are obstacles for the emergence of new companies and for the promotion of entrepreneurship; in this sense, the OECD (2009) states that during the periods of economic recession the problems for small and new entrepreneurs increase, since they see their options of access to financing and access to new markets reduced given their scarce resources.

Despite this, the OECD, the Development Bank of Latin America (CAF) and the Commission for Latin America and the Caribbean (ECLAC) affirm that Latin America, in comparison with other regions, has a favorable outlook when considering youth of its population, which represents an enormous potential for the generation of entrepreneurial projects (OECD, CAF and ECLAC, 2016). Thus, it is considered that the demographic bonus experienced among Latin American countries could contribute to a rebound in economic growth and lay the foundations for development and innovation.

This is particularly important because, as mentioned by Konrad-Adenauer-Stiftung and the Regional Program on Social Policies in Latin America (KAS and SOPLA, 2016), the region has faced adverse external conditions in recent years, together with the difficulties within the region. Each country they have limited their options to implement public policies that allow them to resume the path of growth; for this reason, the training of human capital increasingly trained and with an orientation towards innovation is fundamental to generate added value to the productive processes and the goods and services produced in Latin America; In this way, it is observed that the greater specialization of the entrepreneurs, as well as the innovation generated by their projects, will allow industrial progress and the creation of well-paid formal jobs, contributing to social welfare and to higher levels of competitiveness and productivity.

In this context, higher education institutions (HEIs) play a fundamental role, since through them they can influence the training of professionals immersed in the culture of entrepreneurship and innovation; However, in order to achieve this goal, they must assimilate and conduct themselves under the model of a business university that, according to Clark (1998), concentrates its efforts on stimulating the entrepreneurial potential of its students, in such a way who are capable of becoming agents of change through the implementation of their projects; In addition to the above, Guerrero and Urbano (2017) point out that business universities are those that have a direct impact on the national innovation system, which plays an essential role in promoting economic growth and social welfare. Similarly, KAS and SOPLA (2016) highlight the importance of entrepreneurship and innovation in the process of economic recovery in Latin America, in which higher education represents one of its main promotion mechanisms. Only in this way will it be possible to move from a scenario dominated by economies driven by efficiency to one in which the distinctive character is innovation, as pointed out by Global Entrepreneurship Monitor (2010).

Nevertheless, there's still a debate about the real advance of entrepreneurship in Latin America; according to Levy (2013), cited in Lora & Castellani (2014), Latin American entrepreneurship support policies' have produced more questions than answers, in terms of the benefits and the focalization of the groups helped by these private and public programs and strategies. Also, Segal (n.d.) states that despite recent entrepreneurial peak in the region, there are still many obstacles faced by entrepreneurs and access to financial resources stands out among others; also, there is a gender gap that limits female's entrepreneurial business ideas. However, the World Bank (2015) pointed out that Latin America and the Caribbean region have become a breeding land for young entrepreneurs and, according to Lorente & Cuenca (2017), social entrepreneurship has expanded quickly among other entrepreneurial types, aiming to establish a business model committed to pursue sustainability and to achieving and social benefits through the use of technology and access to capital.

Despite social entrepreneurship development has been immeasurable, due to different factors such as public policies, labour market conditions and social constraints such as ideology (Chell, Nicolopoulou & Karataş-Özkan, 2010), Shaker, Lance & Yong (2014) point out that social entrepreneurship could be a mechanism to spread welfare globally, considering that it is a multivariable concept which implies financial, social and environmental matters that produce better social conditions. Likewise, Ladika (2015) states that efficient social entrepreneurship programs are expanding worldwide, contributing to disseminate this model, training students and improving welfare in communities.

In this context, social entrepreneurship represents a valuable tool to face the challenges that the region must solve in the short and medium term, mainly associated with the care of the environment (global warming), the dependence on global supply chains, poverty and inequality, violence and security, among others. But, this aim could be expanded if the idea of exporting social enterprises (British Council, 2014) began to grow in Latin American soil, considering the idea "Think Global, Trade Social" (The British Council, 2015). Therefore, the objective of this research is to suggest a series of guidelines for exporting social enterprises, considering the project developed by a group of university social entrepreneurs.

## Methodology

In order to analyze the way in which social entrepreneurship is conceived by university entrepreneurs, we started by reviewing the state of art in social entrepreneurship with the purpose of identifying its main benefits and constraints; then a field research was conducted by selecting a group of students which started a social business project on February 2019;



an exploratory and descriptive study was conducted by a structured interview composed by seven items in which undergraduates could express their thoughts on social entrepreneurship and the chances to export social business projects.

As a result of the documentary research process, it was found that social entrepreneurship refers to an innovative activity that produces social value no matter its founding from private, public or nonprofit organizations (Austin, Stevenson & Wei-Skillern, 2012); similarly, Sekliuckiene & Kisielius (2015) state that social entrepreneurs and social enterprises are sources of innovative solutions for social problems which are far from being solved efficiently, aiming primarily to create social welfare for different stakeholders. Also, Gandhi & Raina (2018) highlight the difference between social entrepreneurship and other activities such as social service provision and social activism; this, given that social service focuses on solving a social disequilibrium but remains stucked to their frame or does not aim to scale up its goals or scope. Otherwise, social activism aims to restore social imbalance by influencing or involve other agents to tackle down specific social problems. Then, it is possible to establish that social entrepreneurship seeks to reach higher equilibrium scenarios by directly participating in solving social problems, through innovative ideas captured in a project or operated through an enterprise.

Also, social entrepreneurship has been considered as a source of self-confidence or as a tool to empower individuals; according to Chandra (2017), social entrepreneurship can be conceived as a mechanism to emancipate from family or ideological barriers in order to construct a new and better future. Nonetheless, there are still many obstacles that limit the widespread of social entrepreneurship, as mentioned Zimmer & Pearson (2018), for example: scarce innovation, uneven access to capital sources, different goals or priorities among investors and entrepreneurs, non-strong reporting in terms of transparency or methodological grounds, mingy diffusion among media, and, leaders experiencing burnout due to multiple tasks.

Despite these obstacles, the idea of exporting social business ideas has grown worldwide during last years and it has produced successful joint ventures like Grameen Veolia Water (Yunus, Sibieude, & Lesueur, 2012) aiming to reduce poverty and providing clean accessible water in less developed countries; also, social business can stimulate collaboration between different industries such as EY & The OD School which links finance and entrepreneurial education sectors, promoting graduates to create social enterprises outside from their countries (EY, n.d.), including projects to produce low-cost & clean energy, improving rural farming, sustainable housing, among others. In the ground of public administration, the Scottish Government (2016) released a strategy for internationalizing the Scottish social enterprises in order to contribute to international development. Also, Pahlson-Moller (n.d.) highlights the potential of Norwegian social enterprises to reach other European markets, scaling-up their business model.

Considering all these premises, it is possible to state that social enterprises and social entrepreneurs are spreading around the world but in different pace among regions and that this business model can contribute to alleviate problems which are faced globally, thus it is necessary to promote it in order to increase community welfare and enhance local the economy. Based on the above, the field research for this study explores the motivations of a group of social entrepreneurs which are developing a project in order to qualify to an international social business competition. The team is composed by five public university students and five coaches (two local and three international). The students gathered up as a result of previous joint work and after registering for the competition call; coaches were grouped by a leader professor with experience in mentoring students in previous international social business competitions.

The project's social business idea came up after reviewing data from nation wide and local newspapers, websites and reports from verified sources and data bases; also, surveys were applied among university community in order to identify their most imperative concerns and social needs. As the project evolved, students were asked to collaborate with this research by participating in a structured interview integrated by next seven items: Until now, in how many entrepreneurial projects have you participated? In what way did you come to join this entrepreneurial project? From the beginning, were you a supporter of social entrepreneurship? Do you consider that social entrepreneurship projects have a strong presence among the culture of the university entrepreneur? From your point of view, is it feasible to get a social entrepreneurship project to expand to the international market? What do you consider to be the greatest benefit that a social entrepreneurship project can generate in the short term? Finally, what do you consider to be the main barrier faced by social entrepreneurs in Mexico?

After reviewing the students' answers, results were grouped in order to identify common ideas or perceptions on each item, standing out next findings: all students had participated at least in one entrepreneurial project before the one considered in this research; it is noticed that the team was gathered by direct invitation which reflects that previous collaboration among students is key to integrate or develop future projects and these practices are related to the concept of networking; in relation to the relevance of social entrepreneurship among team members, only one student identified himself as a social

entrepreneurship supporter and it was a result of previously reviewing Muhammad Yunnus' work in this area; also, team members perceive that social entrepreneurship is not as popular as traditional entrepreneurship so it has not strong presence among university community (it is necessary to increase the dissemination of this model); according to students, it could be possible to expand a social enterprise or project internationally but it requires a serious study of specific foreign markets' context and that the project gains recognition locally in order to promote its benefits or the way it has contributed to fight an specific social problem; among main short sight benefits that could be acquired by social entrepreneurship, employments creation and empowerment (both individual and community) stood out among others thus it is remarkable that this type of entrepreneurship is associated to positive economic and social outcomes; finally, team members stated that it is possible to spread and impulse nation wide the social entrepreneurship model but it is required to overcome several barriers like credit access, lack of institutional support and low levels of confidence among youth Mexican citizens; also, corruption was identified as a severe problem that blocks the allocation of financial resources destined to support entrepreneurship.

## Conclusion

As a result of this research, it is possible to suggest the next series of guidelines for exporting social enterprises: first, a group or team of social entrepreneurs must be gathered in order to develop a project, considering members from multidisciplinary areas, standing out business management, finance, marketing, programming and use of information technology systems, among others. Then, a social problem must be identified from primary and secondary sources research, highlighting those which are affecting a group from our surroundings or a situation that some team members can reach by contacting representatives or intermediaries and selecting the main one considering its feasibility from technical and financial criteria. As soon as the main problem has been selected it is necessary to develop a business plan, identifying stakeholders and delimiting all possible funding sources. Once the project has started, a strict supervision process must be conducted to guarantee the project's sustainability, leading to its consolidation and future expansion. When the project has been positioned in the local market, it is necessary to identify foreign markets which could be facing similar situations to those who were considered for raising the business idea. As the external market has been selected, legal, fiscal and intellectual property rights issues have to be addressed so the social business can be replicated internationally or the idea can be sold through a franchising scheme or any similar. Finally, it is desirable to promote all social and economic benefits gained by social entrepreneurship projects, both local and abroad, so as to disseminate this business model and contribute to empirical research in this area.

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