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Editor’s position may not coincide with that of authors. Authors are responsible for the facts and data in the article

Table of Contents

სარჩევი

Tengiz Taktakishvili

Online teaching during Covid-19 pandemic and its effectiveness: case of Georgian National University SEU

Paata Shurghaia

Tackling Coronavirus (Covid-19) – Business Responses and Policy Measures

Iza Gigauri, Ekaterine Gulua, Zurab Mushkudiani

Current Advances In Digital Recruitment Of Human Resources And Its Potential For Companies

Tea Mchedlishvili

Tax Policy as a Competitive Tool of a Country to Attract Foreign Direct Investment

Understanding the relation between tax policy and FDI: testing causal mechanisms between 2002 and 2016 in OECD countries

Gia Zoidze

Conceptual model of agro-sphere development of Georgia

Asmat Shamugia

The criteria for an effectiveness of the company's anti-crisis strategic management on the modern stage

Tamar Matcharashvili

Business development features according to Global Competitiveness and Doing Business Indexes in South Caucasus Countries

Ana Mazmishvili

A new challenge for tourism: the global pandemic and its impact on tourism industry

Guram Sherozia, Natalia Nogaideli, Davit Chkotua

Pandemic marketing challenges and changes: case of Georgia

Online teaching during Covid-19 pandemic and its effectiveness: case of Georgian National University SEU

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Abstract

Paper deals with one of the biggest challenges the societies all over the world facing today in light of the novel coronavirus pandemic, that is reshaping education system and moving towards online teaching. The following study was conducted to evaluate the process of transforming teaching process at Georgian National University SEU, reveal the best practices and students' and lecturers' attitudes towards the new reality. Based on their answers the paper also draws some recommendations for improving the process of online teaching.

Georgian National University SEU was quite prompt in adapting to the changed conditions in the country. Processes, actors and the format of teaching are presented in the study. Also, for the evaluation of online teaching at SEU Kirkpatrick's Four Levels Evaluation Model was used and several observations were made regarding its components: reaction, learning, behavior, results.

Key words: Online teaching, Georgian National University, Covid 19 pandemic, Kirkpatrick model, motivation for learning.

1. Introduction

In the face of the greatest challenge for the modern world, the Covid-19 pandemic, the education system is facing the biggest problem allover the world. Universities and schools have been closed due to quarantine announced worldwide. Some countries have announced academic semesters and discontinued their studies, while others have begun to reorganize their online learning format.

In this article, we will talk about the process, format, successful experience and identified problems of the introduction of online teaching by the Georgian National University SEU. SEU is the largest private university in Georgia with 7300 students and the most modern with its infrastructure.

There was almost no online teaching experience in Georgia. Consequently, the country had to start the process from scratch. It should be noted that Georgian universities have successfully coped with this process. However, when we say success, we mean that the semester did not fail and most students (who have access to the Internet and computers / smartphones) receive lectures according to the schedule set before the start of the semester. As for the quality of teaching, according to the preliminary estimates, there is no significant deterioration in this regard. Most universities provide video recordings of lectures for their students, and they can listen to lectures on the same subject several times. Student engagement and interaction at the seminar is, for the most part, ensured.

There are key questions about the evaluation process. Part of the universities relied on the good faith of the students in the process of assessing the written component, while the others made turning on a video camera compulsory in the process of writing a quiz by students, thus partially solving the problem of student identification.

When it comes to evaluating the performance of the lecturers, the situation is relatively simple. University officials attend online lectures, check video recordings to assess the quality of the lecturer's online teaching process. This activity is carried out by the head of the relevant program and specialists of the quality assurance department at the Georgian National University SEU.

The study process at the Georgian National University SEU began on March 16, when it was not yet known how long the universities would have to continue the online teaching format. The learning process at SEU started directly online then, while some of the universities had already started studying in February and they had to change the format. At the beginning of this process, several key issues needed to be addressed:

1. Selecting and implementing a platform for online lectures;

2. Training lecturers to deliver online lectures

3. Prepare students to listen to online lectures

4. Construct an evaluation system tailored to online lectures

5. Provide electronic versions of materials required for students

The main actors involved in the management of this process were: university administration, quality assurance department, heads of the program and IT service (which played a crucial role in the initial stages of the process).

Zoom program has been selected as the platform needed for online teaching. The university administration has purchased licensed versions of the program for lecturers. At the same time, the university was in constant communication with the students using this platform, which was designed for 1000 participants, and no less than 1000 students attended every meeting held at the initial stage. The IT service has created a video tutorial for lecturers and students and posted on the university's portal. However, in order to identify students, the IT service created an university e-mails for more than 7,000 students in just one week and SEU students can only attend lectures by signing in Zoom with this email.

In addition, the IT service has remotely installed a licensed Zoom program on lecturers' personal computers. After all, the platform was fully prepared for online learning. Several students who did not have a computer were given computers by the university administration.

The following approach to lecture notes was chosen by SEU from the outset: lecturers record lectures and upload them to the database. In this way, students who have internet problems have the opportunity to watch the video of the lecture at the desired time. At the same time, video recordings of seminars are also uploaded on the portal, but it is not available to students and is only intended for monitoring by the quality assurance and program manager.

It should be noted that students cannot download video recordings of lectures. Video recordings are only available on the university portal.

At the time, heads of the programs were conducting online meetings with professors twice a week to discuss ongoing processes. One of the main factors that led to the painless introduction of the online teaching format at SEU was the existence of frequent and uninterrupted communication between administration, lecturers and students.

The authors of the teaching courses, in coordination with the heads of the program, prepared evaluation formats appropriate to the online teaching. It should be noted that the midterm exam has not been canceled and will be held online as the final exam. The electronic test format was introduced in SEU couple of years ago. Students took the exam at the examination center, during the week allotted for the exams, on the day and time they preferred individually. An examination system of a similar format has not been introduced at any university in the world. The writings are sent electronically to the lecturers, they check the papers at home, and the scores appointed by them are automatically reflected in the student's assessment base. To take the online exam, lecturers create a questions' bank at the exam base online.

At the same time, the university library was preparing digital versions of the existing literature and uploading them to the database for students.

Overall, these processes were carried out very quickly and online teaching began smoothly.

The author of the article, who is the head of the Bachelor's program in Management at the Georgian National University, is actively involved in these processes and monitors the ongoing processes within the program. This study was also conducted as part of the monitoring process. Formal feedback was planned from both students and lecturers, for which special questionnaires were developed. Only undergraduate students and professors of the bachelor's program in management participated in the study.

2. Objectives of the Study

The objectives of the study were to evaluate E-learning process at Georgian National University to find out challenges and the best practices.

The nature of the study was non-experimental research trying to explore some thoughts, consideration, ideas and proposals of students participated in the study.

3. Methodology

Kirkpatrick model is used to evaluate online teaching. In 1959, Don Kirkpatrick introduced Four Levels Evaluation Model[1] that include following components: Reaction, Learning, Behavior, and Results. It was intended to evaluate training results in the organizations. Nowadays, many researchers apply it ether with an original form or adapted for various evaluations, including evaluation for E-learning.[2]

Description of Kirkpatrick model is given below:[3]

Level		Description
1.	Reaction	To what degree participants react favorably to the learning event.
2.	Learning	To what degree participants acquire the intended knowledge, skills, and attitudes based on their participation in the learning event.
3.	Behaviour	To what degree participants apply what they learned during training when they are back on the job.
4.	Results	To what degree targeted outcomes occur, as a result of the learning event(s) and subsequent reinforcement.

In order to receive necessary information corresponding to these four levels online questionnaires were constructed and sent to students and lecturers.

The questionnaire developed for students was aimed at revealing students' attitudes and motivations towards online learning and revealing their views on such components of online learning as: interactivity of the learning process, time required for learning, best assessment method, communication skills, etc.

[1] Kirkpatrick, Kirkpatrick, 2009.
[2] Paull,. et al. 2016, Hamtini. 2008.
[3] Kirkpatrick., Kirkpatrick,., 2009.

The lecturers have also expressed views on the same components of online learning. At the same time, we asked them to express their opinions on such issues as: flexibility of the learning process and the performance of the students.

It is particularly important that both students and lecturers answered some of the questions. It showed how people from two different sides perceive the same process. Information regarding the Level 1 was mainly received from the students, while information for Level 4 was mainly retrieved from the lecturers answers.

All active students were invited to participate in a survey. 183 students participated that is about 30 percent of active students on the management's program. These number includes freshmen, sophomore, junior and senior students. Out of the 40 lecturers delivering lectures on the program 30 took part in the survey.

Also, we asked both students and lecturers to write recommendations for improving the online teaching process.

The structure of the questionnaire considered several variables that literature review found to be important for such type of research.

Plat, C. A. et al, (2014) studied students' perceptions of online classes in terms of general equivalence, comparative flexibility, comparative knowledge gained, and comparative level of interaction in online versus face-to-face classes. Students were surveyed using questionnaires to get necessary information. These questionnaires were constructed in a way to measure students' perceptions of interested variables. Three variables (a) comparative level of interaction; b) comparative knowledge gained; c) comparative ease, of online versus face-to-face courses) involved in the mentioned study were considered relevant for this paper, considering necessary information needed of applying Kirkpatrick model.

Ullah, O. et al. (2017) find motivation for learning, interaction during the lecture and time allocated to study during online courses important variables.

Based on these works questions regarding following variables were included in the questionnaire: interaction, knowledge gained, communication, motivation. In addition, questionnaires included questions to reveal students attitudes regarding an ease of online learning and the best methods that can be used to evaluate Students' work in an online environment.

One important model also often applied to such type of research is Technology Acceptance Model.[4] It is widely accepted model that considers two main factors influencing an individual's intention to use new technology: perceived ease of use and perceived usefulness.[5]

Qualitative method of research was chosen mainly because of its flexibility and scope to reveal perception, attitudes, ideas, opinions and intentions of the students. In such research respondents

[4] TAM, Davis, 1989.
[5] Farahat, 2012.

describe their experiences that helps to see the big picture. It also allows to reveal hidden challenges and problems that have to be addressed.

4. Results

According to the Kirkpatrick levels of evaluation, author has made several observations:

1. Reaction.

Students provided their opinions regarding the new format of learning. The general attitude is that more than half of the students surveyed would favor mixed or entirely online learning after pandemic is over. 42.1% of them prefers mixed and 11.5% - online learning.

As for the complexity students reaction seems to be balanced as 43.7 percent of the students state that for them online learning is easier, while 40.4 percent disagrees.

Still, it appears that as this format is new, even student's motivation for engaging entirely online learning (mixed one is more accepted) is not so high. Only about one third of the surveyed students feel more motivated towards online learning, while 44.8 percent has lower motivation. This is also mostly approved by the lecturers responses: 36.7 percent of the lecturers say that students' motivation is lower and only 6.7 percent contradicts this, while others are not sure.

Part of the students stated in their comments that they would change nothing in online learning and everything is acceptable for them. There was also part of the respondents who stated that no matter how convenient online learning can be they would still prefer traditional way of learning.

5. Learning.

67.8 percent of the students surveyed think that the same level of knowledge can be gained through the online learning as in traditional class, while 24 percent of them disagree. 56.7 percent state that the level of knowledge delivered to the students are the same is in traditional classes and only 10 percent of surveyed lecturers disagree.

Students were asked to reveal the best method of assessment during the online teaching and the results favored case study method: Case study – 44.8%, Verbal discussions – 24%, Written quiz – 16.4%, Presentation – 9.8%, Project – 5%. The best way to assess student in online class is also case study method according to 46.7 of the surveyed lecturers, while 33.3 percent considers verbal discussion as the best one.

3. Behavior.

It appears that students are eager to be involved in assignments that need to be done in online groups. 69.9 percent of the students highly accepts assignment that requires working in a virtual team.

New format of learning affected the time that students allocate for their studies. 44.3 percent of surveyed students devote now more time to online learning compared to traditional classes, while 37.2 percent on the contrary.

It also appears that students appreciate to have possibility of watching video-recordings of the lectures. Majority of the surveyed students watch video-recordings: 67.2 percent who watches always and 25.7 percent who watches time to time.

4. Results.

One of the main concerns in the literature regarding the effectiveness of online teaching is in most of the cases about interaction. 65.6 percent of the students state that the interaction in online classes is ensured, only 9.3 percent states that they have complications with it. 80 percent of the lecturers state that teaching process is interactive, while only 3.3 percent contradicts.

There are some concerns regarding the assessment of students' performance. This will be more clear after the end of the semester, but meanwhile 56.7 percent of lecturers think that they can assess students' performance without complications. 20 percent think that it is not that way.

As for the performance itself, only 13.3 percent of lecturers think that students are performing better in online classes, while 56.7 is unsure. This will also much more clearly be available to assess at the end of the semester.

As for the convenience of the process and attitude of the lecturers regarding it 86.7 percent of them perceive online teaching as convenient and only 6.7 percent contradicts. 53.3 percent of the lecturers state that they would choose mixed format of teaching if possible.

Based on the students' comments following groups of recommendations for improving online teaching process can be defined:

- Lack of motivation that can be improved be applying simulations, role-play teaching methods to make the process more entertaining;
- Reducing group size – group size shouldn't exceed 15 persons;
- More case studies – some forms of assessment can be replaced by case studies;
- More group work – working in a virtual team improves communication skills of the students;
- Introducing special program for technical subjects like Calculus, IT Management, Excel for Business, Applied statistics, etc.;
- Possibility to choose online learning – legislation about higher education should allow to choose online form of learning.

Student	Lecturer	Question
Yes (65.6%)	Yes (80%)	Process of online teaching is interactive
Yes (67.8%)	Yes (56.7 %)	Students gain the same level of knowledge online as in auditorium
No (35%)	Not sure (56.7%)	Motivation for online learning is higher than for learning in traditional class
Case study (44.8%)	Case study (46.7%)	The best form of an assessment in online teaching is
Mixed (42.1%)	Mixed (53.3%)	After pandemic is over, which form of teaching would you choose?

Student	Lecturer	Question
	Yes (86.7%)	Is online teaching convenient?
	Yes (56.7%)	I can assess student during online teaching objectively and without problems
	Not sure (56.7%)	Students are performing better in online classes
Yes (67.2%)		Do you watch video recordings of the lectures?
Yes (44.3%)		I devote more time to study within online teaching than in traditional class
Yes (43.7%)		Studying online is easier
Yes (69.9%)		Do assignments that have to be done in virtual teams improve your communication skills?

Lecturers' recommendations:

- Syllabus and the schedule should be modified because of the heavy workload associated with distance learning;
- Lecturers should work for increasing awareness of students about distance learning;

- Creation of online community of students where peers will teach each other;
- Copyright issues regarding the authors of the teaching course and the authors of the digital literature are to be discussed;
- Camera must be turned on when students are attending online class;
- Strict regulatory framework is necessary;
- Maximum number of students in group must not exceed 15 persons
- Students are developing self-management skills, but low emotional connection with students must be addressed

7. Conclusions

In general, e-learning process at Georgian National University SEU is being implemented successfully. More precise results will be available after the semester is ended. Meanwhile, several findings should be pointed out:

1. In a technical point of view university is performing on the highest level. Students who have access to the internet with the sufficient quality can be involved in the teaching process without any obstacles.
2. Both, lecturers and students agree that the same level of knowledge can be acquired in the process of distance learning.
3. Most of the teaching methods applied in the traditional classroom can also be applied in the distance learning. From these methods, case studies are most desirable and perceived as highly efficient.
4. Still, the motivation of the students is low, compared to traditional way of learning. Nevertheless, most of them think that e-learning must be implemented at some extent. In this context hybrid form of the learning is the most interesting. And some changes are required to be done in the legislation regarding this issue.

E-learning is a new challenge for the education system of Georgia and its successful implementation can only be achieved in case of coordination and cooperation between, students, lecturers, university administrations and education authorities.

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Appendix 1

Questionnaire for students

1. It is possible to understand the explained lecture material online so well as in the class

a. Yes

b. No

c. Not sure

2. The online learning process is interactive

a. Yes

b. No

c. Not sure

3. Do you watch video lectures?

a. Yes

b. No

c. Not sure

4. I spend more time studying online than I do in auditorium training.

a. Yes

b. No

c. Not sure

5. Learning online is easier

a. Yes

b. No

c. Not sure

6. My motivation for learning in the online learning process is higher

a. Yes

b. No

c. Not sure

7. Which assessment method best assesses a student's knowledge in online teaching?

a. Quiz

b. Presentation

c. Project

d. Verbal questions

e. Case study

8. Does working on assignments in virtual teams help you develop communication skills?

a. Yes

b. No

c. Not sure

9. After the end of the epidemic, if you had a choice, which form of learning would you choose:

a. traditional, in class

b. online

c. some courses – online, some courses in class

10. How would you improve online teaching process?

Appendix 2

Questionnaire for lecturers

1. The online teaching process is convenient

a. Yes

b. No

c. Not sure

2. Interaction with students is ensured during the online teaching process

a. Yes

b. No

c. Not sure

3. The student's knowledge will be tested smoothly during the online teaching process

a. Yes

b. No

c. Not sure

4. As part of my online teaching process, students gain the same knowledge as in the classroom

a. Yes

b. No

c. Not sure

5. Students' motivation in online learning is higher than during auditory lessons

a. Yes

b. No

c. Not sure

6. Students show better results in the online learning process

a. Yes

b. No

c. Not sure

7. The best form of assessment in the online teaching process is

a. Quiz

b. Presentation

c. Project

d. Verbal questions

e. Case study

8. After the epidemic, if you had a choice, which form of teaching would you choose?

a. Yes

b. No

c. Not sure

9. What would you improve in the online learning process?

Tackling Coronavirus (Covid-19) – Business Responses and Policy Measures

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Abstract

The Covid-19 crisis will influence the lives of many individuals around the universe and governments globally are considering and taking multifaceted actions to contribute their citizens as well as maintenance business continuity and the provision of the vital public services. Regarding the actions are being taken by the governments measures to support businesses to ease their burdens in terms of meeting tax payment obligations and reporting, encourage to maintain an employment status and decrease difficulties with liquidity. What are the obstacles people and society facing during the Coronavirus pandemic period? What are the impacts and consequences for business and what are some of the solutions policy makers can find to boost individual's activities and change the behavior, protect business, secure jobs and maintain educational systems, and stabilize an economy as a whole? In this regard, it is vital to evaluate and study varies scenarios linked to short- and long-term perspectives. The research focuses on current rational of business activates and analyses tax and fiscal policy measures taken by countries. The author makes an assessment of how market shall react and what are the forms and methods of doing business tomorrow along with Covid-19.

Key words: Covid-19 and doing business, tax and fiscal policy, business responses, policy measures.

1. Preface

Covid-19 has not only changed the way society behaves, views and daily rhythm, but has also fundamentally changed the role of business and its methods of making it. The environment we had before the virus and with the virus is drastically different. The scale of the Covid-19 crisis is unprecedented, but the impact of the pandemic on business is still beyond detailed estimates and there is no doubt that statements, analysis and explanations about the losses will continue over the next two to three years. The question may be: Had the COVID-economy broken down something within the global economy structure, that with the "domino effect", after the passage of the COVID-economy, may damage such vital functions of global economy, or cause such mutations within its genome, that the crisis will persist, already without COVID-19, but with its influence.

2. Covid-19 and Economic Crisis

Though, all the economic crises that have been compared to the Covid-19 crisis have had two distinct natures. First - either was caused by the necessity of "easing the tension" accumulated in the economy as a result of (incorrect) governance ("Great Depression", "Global Financial Crisis of 2007-8"). Second - Or caused by global wars (WW1 and WW2) and the great geopolitical tectonic Rearrangement ("Iron Curtain Disintegration"; "The Oil Crisis of the 1970s"). In the first case it is the endogenous (internal) crises of the economy, and in the second case it is the impact of exogenous (external) crises on the economy. In the first case, a "big reset" is required, and in the second case, a "major Rearrangement". In both instances the chain of commitment, contract network and the supply are being torn, that by itself requires them to be reassembled from the scratch and in a new way, as well as it requires the needed resources: funds (capital), labor, knowledge and time.

Pursuant to Vakhtang Lejava's interview, Covid-economy differs from both cases. The economy is "paused." Capacities, networks, supply chains are in place. It is impossible for a 2-3 month, or even a bit prolonged, suspension, to bring about some sort of systemic, tectonic disruption, in what has been formed through out decades (including in crises), as it has the appropriate stability. And because it is in the interests of billions of "players", it relies upon and It feeds on this. The time will come and all this (maybe with a little "creak") will be activated again. Thus, it is unlikely that the Covid economy will have any tectonic impact on the world economic order, or will somehow lead to a "domino effect". There is another factor that is often appealed to now: under the influence of the Covid crisis, human perceptions of the world will change. Consequently, this will affect politicians and politics, which in turn will affect the structure of the world economy.[1]

There are so many theories in relation to subsequent structure of the world. In other words, the question is - how Covid-19 will alter an agenda of the world? but the following are dominant hypothetical scenarios:

[1] Lejava, 2020.

1) The march of militant anti-globalism (not only in rhetoric, but in action) and moving towards "national economies", and

2) Transition to mostly a remote economy ("there will be only virtual offices" and the like).

According to Vakhtang Lejava's assessment any version of such development is not realistic (except for small tactical twists) and could have any fundamental impact on the nature of the world economy. In addition, it should be noted that these two tendencies will contradict each other: if closure and economic nationalism will be the trend, then the need for a "national virtual economy" will be less and vice versa.[2]

Contrary to many people's beliefs, globalization and economic integration are not one person's decision (so that it will change by one accord). On the contrary, it is the reaction of the "upper classes" (policy) to what the "lower classes" want, therefore that is, the reaction to the interests of man and the fundamental logic of economics: the profitability of specialization - for everyone.

An incident explained by David Ricardo about 200 years ago with genius simplicity - why do Portuguese people prefer to produce wine (which they can do better) instead of producing fabric; Exchange wine with the British for the fabric (which they produce better); And as a result of the exchange, both sides have won more - has not been abolished in any way,[3] and Covid-19 will not be able to damage this logic, just as Covid-19 will not be able to influence, for example, the force of gravity. Even 800 years ago, according to Georgian Poet - Rustaveli, the law of the world (specialization) was in force: "Let the laborer work, let the warrior be courageous" - everyone should look after their own business and we will all be better, he says. Thus, it will be in the best interest of people and companies to do and produce what works best for them and to exchange it for what others do better and they need it. This will not be possible within the framework of the "national economy" and it will require the exchange of goods, services and ideas - international trade and, consequently, globalization is required.

Globalization has been accelerated by the Industrial Revolution, and the post-industrial era made it evolve intensively and its effects have become more visible, and instead of making a visible difference between the generations, it is already making changes within their lifetime. However, this does not mean that globalization is a "new fruit" and that any Corona, or other similar effects on mankind will change it. In the process of globalization, humanity has experienced much more devastating epidemics (for example, about 100 years ago, the so-called "Spanish flu"), which has not affected the general course of globalization and world integration. It is enough not to look at the development of humanity in the last 30-year frame alone and not to think of globalization and the Internet as contemporaries, to answer all the questions about the future of globalization.[4]

[2] ibid.
[3] Formaini, 2013.
[4] Guerrieri, Lorenzoni, & Straub, 2020.

Despite all this, today we can say with confidence that the crisis has engulfed all industries, work areas and fields, and unfortunately, the uncertainty in business today is more prevalent, than certain expectations, that carry greater danger than existing losses.

3. Doing Business along with Covid-19

Today's business process can be conditionally divided into internal and external factors. In terms of internal factors, on an individual level by the business the tasks are being set, the environment is being realized, possible changes are being analyzed and identified. We can summarize the internal environment into 5 main issues. The issues done by deductive reasoning look like this:

1) What teachings and findings did Covid-19 give to businesses?

2) What specific teaching and finding implementation is business capable of, both in the short and long term?

3) How has the business environment changed and what kind of skills need have emerged?

4) What vision does the business have and what is it's future, In creating and establishing services or goods for the so-called new future?

5) What measures / activities does business have in the pre-crisis, crisis and post-crisis stages?

What is the business life like with Covid-19 and what will the business be like tomorrow?

Today, as never before, we see the power of technology and its impact on the agenda of society or business, which gives us a solid premise that some important aspects of doing business will change forever and are unlikely to return to pre-crisis status quo. On the other hand, it is dominant hypothetical option – expectation of a complete (or largely) transition to virtual relationships and the replacement of face-to-face relationships. It should be mentioned that past decades showed that convincing society that replacing human relationships is very ineffective and traumatic. It is also important to note that in relation to communication technology, without any flaws acts (150 years old), the "Jevons Paradox": Technological advances instead of expected resource savings, increases demand - which in practical terms means that if our car burns less fuel, we consume less fuel, but we drive more kilometers (the same amount of fuel is burnt anyway). There is no doubt – if it is easier to exchange an information for instance, by email or video conferencing, etc. do not even save communication time, instead we increase its quantity. Consequently, there is no precondition to significantly change the demand for face-to-face communication and the resulting relocation, meetings and personal experiences. Thus, nothing should be fundamentally changed in this regard either.

In terms of external factors, the business depends entirely on the measures already taken and / or will be taken by the government, which includes actions done to support the business, the so-called State stimulus.

In order to reduce the impact of the crisis, various governments around the world have taken significant measures to support both businesses and separate families or individuals. The scale of the measures taken is increasing day by day and includes measures such as easing business taxation, reducing tax rates, deferring taxes or temporarily canceling (so-called tax holidays) including access to business grants or government loans and grants, temporary unemployment benefits, and so on. Support for the self-employed, and so on.[5]

Overall, the Covid-19 Stimulus package includes two important branches: the fiscal side and the financial side.

In recent years, the stated goal of the Georgian government has been to develop a tax policy that will serve to increase local and foreign investment in the country, promote business start-up and development, and provide an attractive and favorable tax environment.

It should be noted that in the of the Covid-19 pandemic conditions, the Georgian government has made a tax injection to protect business and has announced significant measures in the post-crisis period. However, government sensitivity and pragmatism towards business may sometimes be delayed and / or insufficient. For example, this applies to the scale and period of tax breaks. Before we discuss in detail the severity and speed of the measures to be taken, it is important to understand the essence, objectives and effects of the taxes.

It is not new for tax policy to be the main key to both economic policy and the conduct of public policy in general. However, the author is sure that most of researchers will argue and demand that the facts be asserted - which is very difficult for the author, because in many cases, the emotional part, within Georgian policy, prevails which is mostly far from pragmatic and consistent politics.

4. The Four Rs of Taxation

Taxes that have been an integral part of public policy for decades are evidenced by political campaigns in the United States and the United Kingdom, where two main themes guide the country's political life: taxes and health care (the social part). It seems we have a long way to go. Time will tell how difficult and long this path is, including the Covid-19 pandemic.

As for the historical retrospective of tax effects and purposes – taxation is established by following 4 R principle,[6] where:

The so called first R - Revenue means collection and generation of funds by state authorities in order to execute the role of state with regard to spend and serve the society. In some occasions, these functions and principles are vague by countries, while under other equal conditions, defined functions shall be providing services for national security e.g. police, schools, army, justice, partially

[5] OECD, Tax and Fiscal Policy in Response to the Coronavirus Crisis: Strengthening Confidence and Resilience, 2020.
[6] OECD, Fundamental principles of taxation", in Addressing the Tax Challenges of the Digital Economy , 2014.

healthcare and other services. No matter how big is a state participation role in lives of individuals, rather higher is an indefinite functionality.

The so called second R – Redistribution means transferring income and wealth from rich population and middle class to vulnerable classes. For instance: these activities could be pension funds, social funds and policies, etc.

The so called third R – Repricing means either encourage or discourages consumption of specific goods and services. Recent popular examples could be taxing alcohol, tobacco, carbon-based fuels, etc. with purpose of change behavior. It has been adopted by Georgian government numerous times.

The so called fourth R – Representation, nowadays has historical sense and is often disremembered and yet last R is as important as first R. In other words, this R rules tax citizens, who then demand accountability in revert back earned money. Furthermore, it's associated to an anti-British slogan and was part of American Revolution "No taxation without representation" which is generally attributed to James Otis and describes an American people resentment in terms of being taxed by a British Parliament to which their nominated no representatives.

In the context of the Covid-19 pandemic, the main task of the government is to alleviate the already received and on coming blows, both in the short and long term.[7] First of all, the government should ask the right questions, make the right accents and make in their footsteps with, both operational and strategic decisions. It's noteworthy that chaotic (unintelligible or inert) decisions, whether individual, organizational, or public (by government), can do more harm than good, despite what we already have from Covid-19. Today, there are two topical / critical questions for the state (government):

1) To what extent is the Covid-19 pandemic the basis / reason for a fundamental change in the role of the state? Here we have the alternative of two states: first, the state whose role in the life of the society will increase even more, and second, - the role will be significantly reduced.

2) How sufficient are the measures taken by the state so far and what will be the country's anti-crisis plan? Here, too, we have two alternatives: the first is an inertial strategic plan and the second is an innovative strategic plan.

One of the key issues in boosting business liquidity is easing fiscal policy, so the Georgian government must first assess:[8]

- The So-called the First R, where the functions of the state should be concerned, should significantly reconsider and gradually reduce the role, size and participation of the state in the "care" of the society and,

[7] Marron, 2020.
[8] Gilauri, 2017.

- The So-called Third, where the mechanisms of artificially created "reassessing" of goods and services should be fundamentally changed as a tool for price policy making.

Today is a historic moment to - "take more care of each other and tax each other less"!

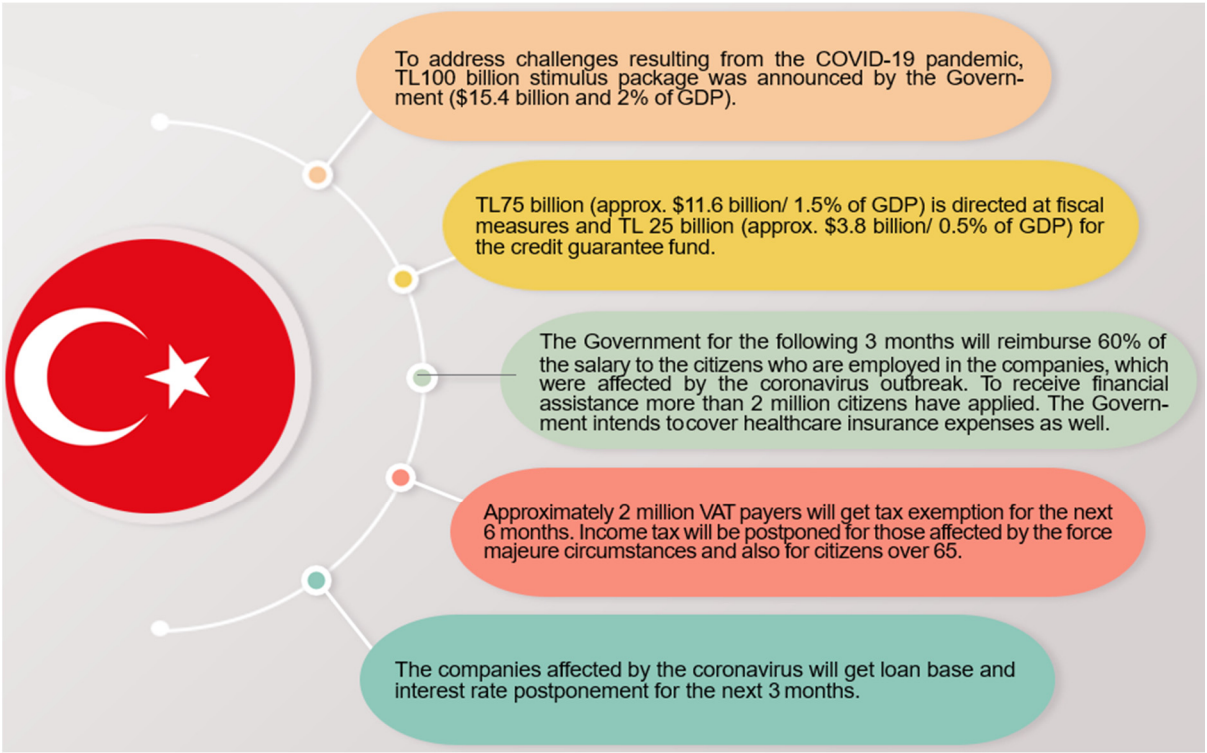
5. Fiscal and Financial Measures taken by Countries

Before discussing the Fiscal Policy Action Plan Algorithm, it is crucial to share international experiences, the findings of developed or underdeveloped societies, and then create a "bicycle with our own national ingredients."

An Economic Policy Research Center prepared the study regarding “Relief Packages” of Georgia’s Neighboring States and Baltic countries. The study provides an overview of measures taken by Turkey, Armenia, Azerbaijan and Estonia in order to overcome social and economic obstacles.[9]

Generally, the relief packages contain measures from financial & fiscal point of view to support businesses as follows:

Figure 1 - Relief Package announced in Turkey



[9] EPRC, 2020.

Figure 2 - Relief Package announced in Armenia

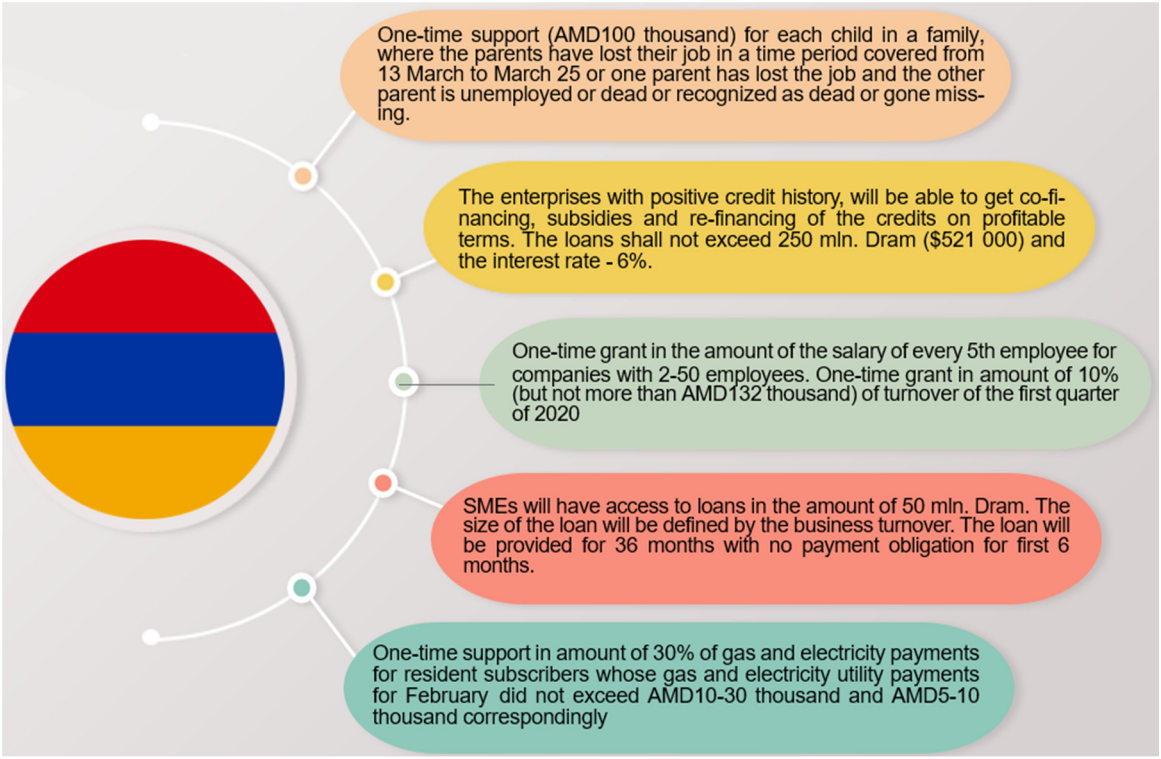


Figure 3 - Relief Package announced in Azerbaijan

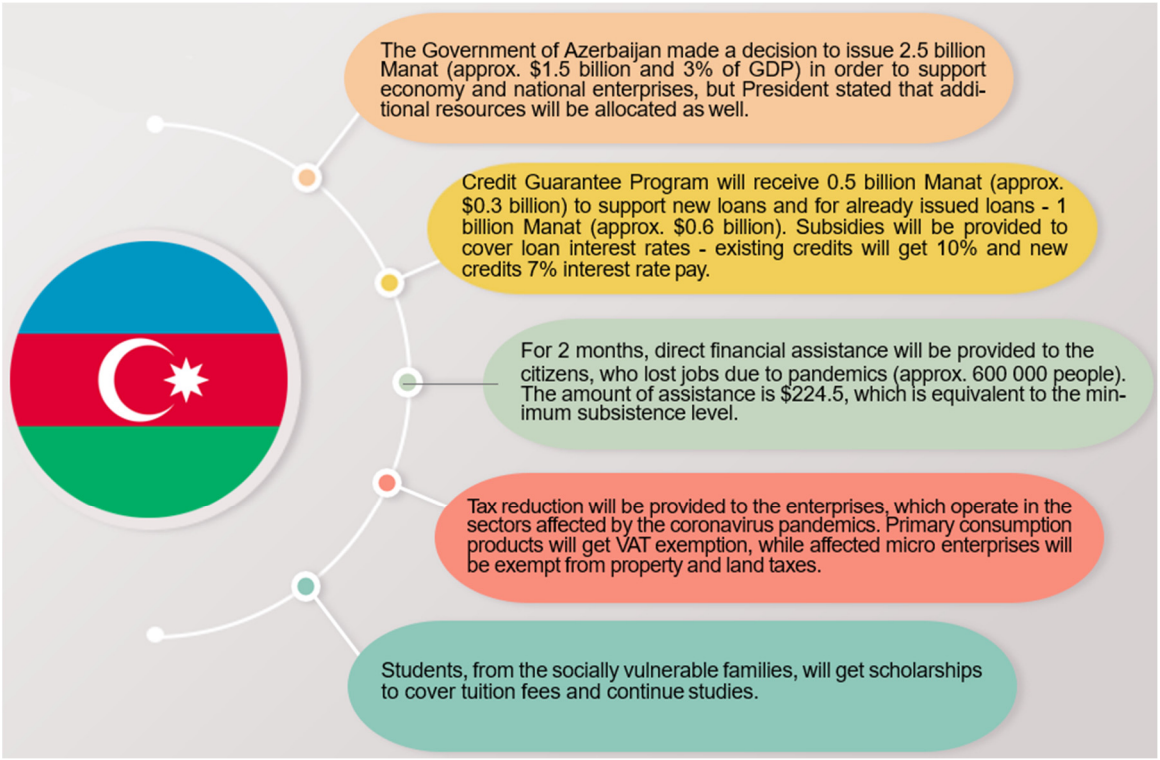
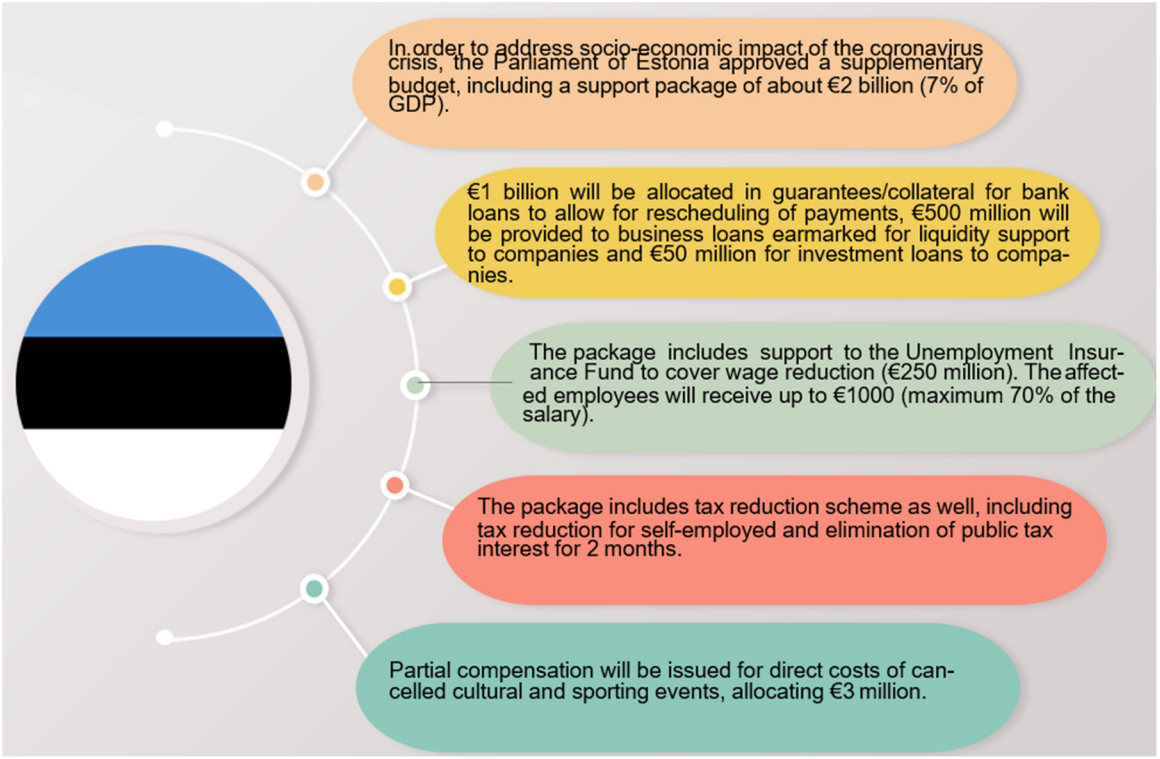


Figure 4 - Relief Package announced in Estonia



An Organization of Economic Co-operation and Development (OECD) has conducted an overview of country tax policy measures in response to Covid-19 Crisis.[10] The study contains an overview of the most common types of measures that countries have implemented. The information covers financial and fiscal campaigns taken in more than 100 jurisdictions as of 2nd May, 2020

The author has elaborated an illustration and discretionary compared only in relation to tax stimulus packages presented by the government of Georgia to others.

[10] OECD, Analysis of Tax Treaties and the Impact of the COVID-19 Crisis, 2020.

Figure 5 - Stimulus Packages

Tax / Country	Personal Income Tax	Corporate Income Tax	Social Security Tax	Property Tax	Value Added Tax
United Kingdom	Tax filing extension	More flexible tax debt repayments	No Arrangements	Tax waivers	Tax payment deferral
Germany	Reduced tax rates for bonuses, extra hours worked & applied Tax payment deferral	Tax payment deferral	Enhanced tax refunds	No Arrangements	Tax payment deferral
Netherland	Tax payment deferral	Tax payment deferral & other considerations applied	Tax payment deferral	No Arrangements	Tax payment deferral
Norway	Tax payment deferral	Enhanced loss offset provisions & Tax payment deferral	Tax payment deferral & other considerations applied	No Arrangements	Change in VAT rates
Latvia	Tax waivers	No Arrangements	No Arrangements	No Arrangements	Enhanced tax refunds
Georgia	Tax payment deferral	No Arrangements	No Arrangements	Tax payment deferral	No Arrangements

To what extent are the measures taken against the Covid-19 crisis sufficient to save business?

How legitimate is the pathos and demand of business - to take important and radical measures by the government?

6. Conclusion and Recommendation

The map created / to be created by the Georgian government to ensure business security should include a short-term and long-term algorithm of actions, where specific activities should be based on several move scenarios. Georgian business (including business unions) has a feeling that the measures taken by the government are a drop in the ocean, as evidenced by the multiple algorithmic steps taken by developed countries. In the short term, it is important for the government to ensure the liquidity of the business and the opportunity to keep jobs as much as possible. To be more precise, in terms of social responsibility, in the short run, business will retain its workforce, and in the long run, it will inevitably change the work environment and skills, which by itself will unavoidably lead to significant changes in employment. Because, as we have already mentioned, tomorrow's form of business will never be the same as yesterdays. Therefore, at this stage, the government should re-evaluate the fiscal policy to give businesses the opportunity to alleviate injuries, and for how long the period for the recovery process will continue, time will tell.

In my opinion, the details of the activities in the short- and long-term algorithm should look like this:

Short term (current year) activities	Long term activities from one to three years
Established tax deferrals should apply all business entities either, Businesses must themselves demonstrate that they have run into problems due to the corona crisis and apply to the benefits.	Gradually decrease Personal Income Tax (PIT contribution to the budget formation is only 30 percent)
Government should introduce tax holidays and periods of tax deferrals for PIT and Property tax should be extended	Elimination of taxes on interest and dividend distribution
Business entities should have discretely apply to receive individual periods for tax holidays (likewise Germany; Netherlands, etc)	Increase threshold on VAT able transactions
The period of VAT able operations should change from accrual method to cash method so called Sales Tax	Transform pension reform from mandatory to voluntarily participation
Pension fund accumulation should be suspended for a while	Elimination of property taxes for juridical persons (other than physical person)
Import –custom operations should be simplified and government should return so called Golden List procedures	Gradually decrease Corporate Income Tax and apply relief onward (CIT contribution to the budget formation is only 7-8 percent)
All tax administration procedures (tax audit) should be suspended for a while	Facilitate the process of tax administration in relation to VAT return

Temporarily suspend general principles of tax offence and tax responsibility (fine, penalty, tax lien, mortgage, etc)	Facilitate the process of tax administration in General, including tax audit procedures
All current dispute with business should be resolved in favor to business (shall apply special conditions)	Apply artificial intelligence in the tax administration procedures
All current administrative hearings with business should be resolved in favor to business (shall apply special conditions)	Introduce new tax regime / tax code (current version of Georgian tax legislation is outdated and requires fundamental changes; an ambiguity should be excluded
Announce tax amnesty	Open doors to International and multinational companies to offer special tax regime with specific conditions

To look broader way, virus mutations have been, are, and will continue to occur. We will not have universal immunity. Therefore, the Covid-19 crisis is not unique and unrepeatable. The only change is that in an economically developed world, human life has become more valuable (literally and figuratively), information spreads faster than the virus (becomes "viral") And its consequences are relatively more severe, traumatic and visible.

Nowadays, the key issue is the conflict between the global economy, public life, and the global arrangement of public health. When the global economy slowly and methodically removes national borders and neutralizes national sovereignty (which also creates better conditions for the spread of epidemics), the Westphalian sovereign system remains as a tool of public health mechanisms within national borders.

Finally, the future will show whether Georgia will be a caravan-following state or a leading country with opportunities that have been fundamentally transformed by Covid-19.

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Current Advances In Digital Recruitment Of Human Resources And Its Potential For Companies

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Abstract

Unprecedented changing and inconsistent global environment offers both new opportunities and many challenges to modern business. In order to adapt and survive, companies need to make decisions quickly. Team working is still important even with physical distancing caused by COVID-19 around the world. Competitive advantage of companies correlates with its human resources, and hence, HR management faces novel difficulties to provide the company with needed human resources under this vague, unfamiliar environment of crisis. The obvious solution to these challenges can be new tools for process digitalization of HR management as well as using of AI-enabled technologies. Therefore, this exploratory research aims to describe the advancements in digitalization of recruitment as a main role of human resource management, and its implication on potential job candidates. Companies should consider digital transformation of their HR recruiting processes to survive and grow.

Keywords: online recruitment, artificial intelligence, AI, digitalization, digital HR

1. Introduction

Globalization and technological advancements have caused alterations on the job market characterized by emergent technologies. In the age of fourth industrial revolution, new foundations of competitive advantages have been created: digital inequality, information and communication technologies, Artificial Intelligence tools.

Bounded rationality is a main characteristic of decision making, since managers do not have all information[1] on current local or global developments. Human Resource managers can make more mistakes when using traditional HR tools and methods as they act under limited conditions of time and space. But digitalization of management processes and using Artificial Intelligence for performing HR tasks enable managers to process a large amount of information error-free, and expand their abilities and boundaries.

Today's complex environment has led to many changes including the process of recruiting, and online recruitment (OR) has become an important source of recruitment for human resource managers. Human Resource Managers need to adapt to new challenges caused the recent pandemic crisis, and get used to working online with employees, managing digital processes, dealing with employee dismissal, as well as carry out retention and selection procedures online.[2]

Although focus of attention of existing studies on website content has been mainly on product information or customer reactions, companies often provide information regarding their human resource management through websites, and employees also communicate about HRM on a company's website.[3] The novel technological environment has induced a change of recruitment policy as well. Currently, social networking websites and OR platforms are experiencing considerable growth. Progressively job applicants around the world spend time in the digital context to a great extent. According to Kemp,[4] active social media users equal 3.8 billion, while 4.5 billion people use the Internet. Thus, companies would want to stretch their recruitment efforts across online space using more digital tools and methods in order to attract talents who spend their time in that digital space.

[1] Robbins & Coulter, 2014.
[2] Gulua, 2020.
[3] Chang & Chin, 2018.
[4] Kemp, 2020.

Digitalization has more and more influence on the Georgian companies as well, taking into consideration the recent pandemic implications. Hand in hand with other countries, some lockdown restrictions have been imposed also on Georgia. As a result, many companies are re-evaluating their business models. However, few researchers are focused on OR concept in their studies, particularly little is known about applicants' profiles.[5] This is especially true regarding the research of this phenomenon in Georgia.

In this article, we focus on online recruiting concept and process. We propose that the e-recruitment strategy has important implications for companies as they seek the position in the current digitalized market. To develop our argument, we first discuss the nature and role of contemporary e-Recruiting systems. We explore the concept of OR, and the advantages and disadvantages of digitalized recruiting process. Next, we highlight the conceptual framework of AI-enabled Recruiting, and present current research findings. We examine the theoretical framework of digital, Al-enabled recruiting technology and tools. We then make recommendation to Georgian HR managers regarding design of effective online procedures. Finally, we consider future empirical research.

2. Online Recruitment

Recruitment process includes sending a strong, distinctive message to targeted audience in order to attract their attention, and get them involved in the application procedure. E-recruitment or Online Recruitment costs significantly less than traditional methods since it uses websites in order to recruit human resources for a company.[6]

The Internet has become a mainstream recruitment medium in past decades. As jobseekers scan employment websites for opportunities, both large and small organizations make extensive use of corporate websites in their recruitment programs.[7] There is significant increase in use of technology to recruit applicants. Online recruitment enables organizations to reduce the time and cost of recruitment and reach more potential applicants.[8]

[5] Brandão, Silva, & Dos Santos, 2019.
[6] Voicu, 2014.
[7] Price, 2007.
[8] Beardwell & Thomson, 2017.

In general, career information is presented in an engaging manner to promote the employer brand and gain interest from prospective applicants.[9] For this reason, application forms are made accessible online for the early stages of the selection process as well as pre-selection tests are often conducted via the Internet. According to Brandão, Silva and Dos Santos (2019), OR is a growing trend. It takes place online, using tools that enable the receipt of applications, the search for professionals, a quick triage and provision of feedback to applicants. Although it is considered as a pragmatic approach for giving widespread coverage, OR is still impersonal causing distrust of governing the procedure, and especially whether the job announcement is true and authentic.[10]

As stated by Heric (2018), the full potential of digital technologies is appearing, which have affected all features of HRM from online applications through Chatbots sending automatic replies to machine learning tools that can forecast employees' future behavior.

The 2018 survey of 500 human resource managers in the USA, UK, and Germany aimed at gaining insight into digital opportunities to embrace, and consider presumed dangers.[11] Most respondents (87%) agree that online tools will totally alter HR domain, however 75% of them admit that their IT systems do not yet have optimal performance or their business results do not correspond to their ambitions.[12] Besides, most respondents plan to increase their IT budgets in order not to fall behind and catch up with the digital transformation.[13]

The main goal of OR is to capture attention of the highly skilled and competent workers with suitable profiles for the job announced.[14] The process involves the following stages: to announce job in the digital space, to prepare a form to be filled up online and make it accessible for potential applicants, to develop digital database where the applications will be stored.[15] OR may also imply using specialized selection tests such as knowledge or personality tests; responding immediately online; arranging tools that enable the elimination of applications unsuitable for the job.[16] Consequently, OR tends to go beyond placing job openings available on the Internet.[17]

[9] Price, 2007.
[10] Brandão et al., 2019.
[11] Heric, 2018.
[12] ibid.
[13] ibid.
[14] Brandão et al., 2019.
[15] ibid.
[16] ibid.
[17] ibid.

Chang & Chin (2018) suggested that the realm of HRM should be expanded by highlighting the importance of website signaling. Findings of their study encourage the constant HRM signaling to the market in order to increase recruitment effectiveness. The research[18] affirms the vital role of the websites in developing an effective pool of applicants. Recruitment processes begins instantly when a company reveals its HRM information externally.[19]

According to Voicu, [20] questionnaires are used for online recruitment to make an online pre-selection, before a first interview. An online questionnaire can include questions concerning professional qualification; an online test can confirm the knowledge level of the candidate; surveys can explore candidate personality. After each online test or questionnaire, evaluations are made through various software to consider only the candidates that satisfy job requirements.[21]

Moreover, social media depends on mobile and web-based technologies to create highly interactive platforms through which individuals and communities share, co-create, discuss and modify user-generated content,[22] The research conducted by Nagendra[23] found that all the basic HR functions including recruitment can be effectively managed by social media. Consequently, organizations add social media to their general online recruitment strategy to meet the goals of being cost-effective, competitive, targeted, and strategic when sourcing for top talents.[24]

Since Social Networking Sites play an important role in the recruitment process, companies need to use its full potential to accomplish their purposes.[25] The advancing technology and social networking serve as a platform to connect with people who accept to share opinions, and be represented as the person or professional there[26] The marketing strategies of many companies promote social networks for communication and attraction of talents within online recruitment system; They have even initiated online recruitment procedures with Snapchat that is social media enabling video interview with a job candidate.[27] According to the study of St. Gallen University[28],

[18] Chang & Chin, 2018.
[19] ibid.
[20] Voicu, 2014.
[21] ibid.
[22] Din, Anuar, Omar, Omar, & Dahlan 2015.
[23] Nagendra, 2014
[24] Din et al., 2015.
[25] Golovko & Schumann, 2019
[26] Van Esch & Mente, 2018
[27] ibid.
[28] Rossmann, 2012; Golovko & Schumann, 2019

42% of companies in Germany utilize social media with the aim to increase their employer brand and to recruit new employees.

Golovko & Schumann (2019) found the positive correlation between Facebook posts and recruitment success. Research results show that if a company announces job, recruiting information or other work-related news on Facebook, the overall recruitment process will be successful.[29] The researchers suggest that HR managers should engage proactively and permanently on Facebook while simultaneously using traditional channels. Although social networking sites are essential to human resource management, the impact of those sites on effectiveness of recruitment is still to be confirmed.[30]

Even though not all Facebook content influences recruitment success, the positive influence of information about recruitment is still confirmed[31]. HR professionals can use Facebook to post information about job or remind the followers to send applications due date.[32] This can increase the quantity of received applications, as potential candidates can be more interested in companies about which they already have some knowledge.[33]

Technology prone companies are investigating how to use social networks with video within their online recruitment process, and how to influence candidate attitudes so that they apply for job openings through those novel technologies.[34] However, they need to take into consideration the potential doubts of applicants about social media or video-enabled applications during the recruitment procedures. To screen applicants through online systems can be considered by the applicant as invasion of their privacy and consequently causing negative feelings towards the company and workplace.[35]

The survey[36] indicated that there are real concerns regarding privacy, and companies need to use social networking with video not because it is trendy or modern but as an integral part of their e-recruitment strategy to ensure candidates apply for the job opportunity. Therefore, companies should spread information that applicants' personal privacy will not be violated in the course of the

[29] Golovko & Schumann, 2019
[30] ibid.
[31] ibid.
[32] ibid.
[33] ibid.
[34] (Van Esch & Mente, 2018).
[35] Stoughton, Thompson, & Meade, 2015.
[36] Van Esch & Mente, 2018.

e-recruitment through social media, and that they have appropriate online recruiting systems, processes and procedures in place.[37] Van Esch and Mente (2018) suggest that the company strategy on using video-enabled social media should be a component of the e-recruitment strategy.

Furthermore, hiring time can be reduced by 75% when using AI-based candidate screening tool in order to attract talents while ameliorating accuracy.[38] Natural Language Processing (NLP) can further upgrade job listings of big companies for more diversity, and other digital technologies enable recruiters to increase talent database, find applicants with suitable skills, and even predict the future shortage of employees or needs for talents.[39]

In order to assess or motivate people, human judgment still plays an essential role.[40] But up-to-date digital technologies enable recruiters and managers to develop digital systems that transform jobs, and reach improved decisions regarding employees via digital, automatic operations, and consequently, reduce costs, and improve business outcomes.[41]

Finally, companies should take into consideration perceptions of different stakeholders in order to optimize the OR process.[42] The application of the digital technology have advantages not only for organizations in terms of saving time, reduce costs, improve screening accuracy, but it is also beneficial to candidates because of its convenience, quick responses, and simplicity.[43]

There should be mentioned some advantages and disadvantages of Online Recruiting highlighted by researchers. The research conducted by Brandão and colleagues (2019) has demonstrated that OR process is easy, cost effective, and reduces paper work, as applications can be stored in digital databases. Additionally, OR enables the quick feedback to candidates as companies provide automatic feedback. This leads to improved recruitment process, as well as communication image of the company.[44] Another advantage which is often mentioned regarding OR, unlike the traditional recruiting approaches, is its capacity to cover a wide range of geographical areas enabling organizations to include diverse populations, and make it possible for various communities to access to job openings around the world.[45] Some disadvantages associated with OR are as follows: First,

[37] ibid.
[38] Heric, 2018.
[39] ibid.
[40] ibid.
[41] ibid.
[42] Brandão et al., 2019.
[43] Van Esch & Mente, 2018.
[44] Brandão et al., 2019.
[45] ibid.

organizations can receive high number of applications. Second, organizations need to be ready with technological systems to arrange systematically information into the database.[46] OR processes may be financially costly to implement because developing a computer system that enables the placement of job opportunities online, a database that is capable to handle applications, and screen those that are of interest to the organization can be costly. In addition, having a system available to give feedback to applicants may render a process expensive.[47]

3. Digital Recruiting 1.0 To 3.0

The analog recruiting is limited by cognitive biases of humans, such as anchoring bias, confirmation bias, or similarity bias. Besides, the traditional selection method - unstructured interview that has been used mostly, is capable to predict candidates' performance at the firm only with 14% accuracy.[48] Additionally, structured interviews' validity is estimated as about 30%.[49]

Digital Recruiting 1.0 including digitalization of information concerning job positions and candidate information allowed organizations to reach out a large number of potential employees through their corporate websites, and simultaneously, prospective employees could look for and screen thousands of jobs easily through the Internet to find the most suitable.[50]

Digital Recruiting 2.0 emerged as a result of the digital companies (e.g. Indeed) that combined all the jobs throughout numerous websites so that candidates could find all open positions at one place; and organizations also were able to offer their jobs at one platform through which applicants could reach them freely.[51] In addition, to post their job openings digitally and better target job ads, as well as provided information to prospective job candidates.[52]

The fundamental new component of Digital Recruiting 3.0 is Artificial Intelligence (AI) [53] Currently, companies are commencing to transform their recruiting activities through AI as computers can already execute tasks, solve problems, and reach decisions that were only a privilege

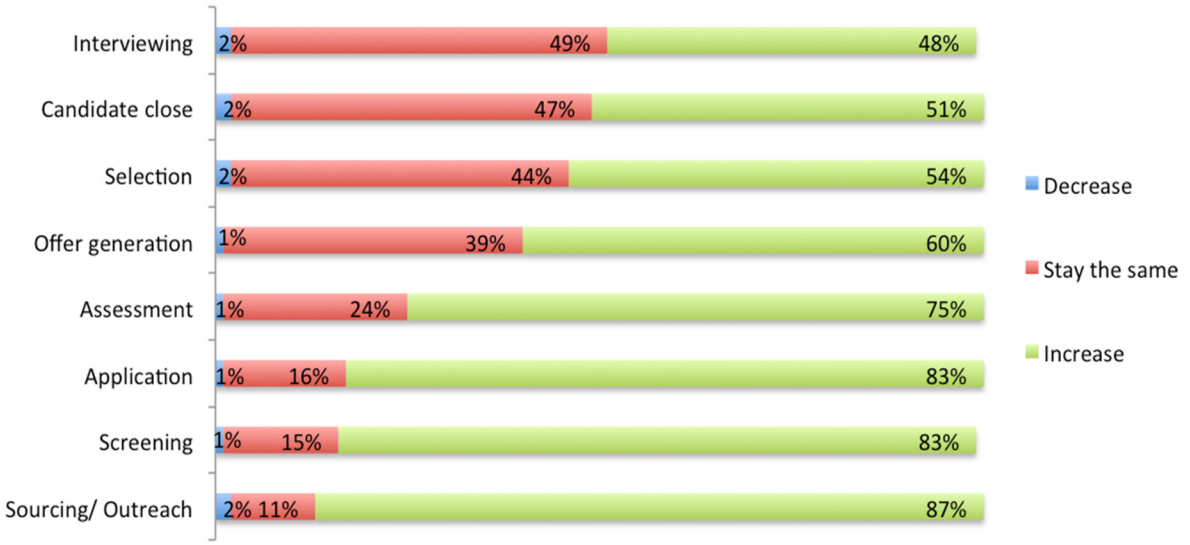
[46] ibid.
[47] ibid.
[48] Hunter & Schmidt, 1998 as cited in Black & Van Esch, 2020
[49] Huffcutt, Culbertson, & Weyhrauch, 2013; Black & Van Esch, 2020.
[50] Black & Van Esch, 2020.
[51] ibid.
[52] ibid.
[53] Kaplan & Haenlein, 2018; Black & Van Esch, 2020.

of human intelligence.[54] Both employers and applicants will be influenced by AI-enabled recruiting process, which includes job postings, search of candidates, conducting job interviews, and finally evaluate the applicants.[55]

Research shows that significant possible advantages of AI is considered to be its capacity to first identify and attract job candidates, then filter and assess them, and finally conduct interviews with applicants.[56] determined two main reasons for these advantages of AI-enabled recruiting systems: First, it can process huge amount of data and make decisions at a velocity that surpass human abilities; and second, it can surmount cognitive biases of human judgment that cast doubts on reliability in recruiting process.

Moreover, a large proportion of the respondents of Global Human Capital Trends survey see the role of technology increasing across a range of recruiting processes over the next years.[57] The most change across recruiting activities is expected in sourcing/ outreach of candidates, and 83% of respondents expect the technology increase in screening process (see Figure 1).

Figure 1. Expecting technology increase in recruiting activities



Source: Deloitte Global Human Capital Trends Survey, 2019.

[54] Black & Van Esch, 2020.
[55] Wright & Atkinson, 2019.
[56] Black & Van Esch, 2020).
[57] Volini, et al., 2019.

Thus, available technologies revolutionize recruiting, and new tools powered by AI can make that process more scientific, scalable, and effective.[58] AI-driven chatbots are considered as a streamlined approach to the application process, as video interviews can filter and evaluate applicants for their suitability to a specific job or organization, and other new tools can also help to target job promotion and to search candidate extensively.[59]

4. AI-Enabled Recruiting

AI-enabled recruitment has become necessary to utilize for several reasons as claimed by Black and Van Esch (2020): (1) Competitive advantage is a result not only tangible assets but also intangibles causing transformation of human resources from supporting to a key role; (2) digitalization has reshaped the business and social scenes resulting in using digital recruiting process; (3) the recently AI-enabled recruitment has been greatly improved in terms of efficiency, and hence, attracting more attention by HR managers (Black & Van Esch, 2020). Consequently, HR professionals should take strategic steps to profit from recruiting systems that AI is offering.[60]

AI technologies enable companies to create simulations digitally and evaluate not only the results but also the applicants' activities during the simulation in case companies require more from candidates than an interview or simple selecting procedures.[61] For example, available tools can combine data existing publicly with machine learning capabilities to generate a comprehensive profile of the candidate, which then emphasizes factors that distinguish each candidate based on their suitability for the position.[62]

According to Van Esch and Black (2019), technological progresses have turned AI recruitment from inquisitiveness into a crucial potential. AI recruiting technologies enable filtering applications as well as conducting digital job interviews asking number of questions to candidates. [63] Moreover, candidates have an opportunity to record their responses as many times as they want before sending

[58] Volini, et al., 2019.
[59] ibid.
[60] Black & Van Esch, 2020.
[61] Van Esch & Black, 2019.
[62] Volini, et al., 2019).
[63] Van Esch & Black, 2019.

their ultimate answer.[64]. Then, AI tools assess responses, vocabulary, and honesty; evaluate facial expressions, and personality of candidates.[65]

Although AI technology has reached a stage when it is more effective and efficient than humans are, its actual practical use by executives is delayed.[66] According to a survey, mobile phones are seen as the main tool to search for a position (89%), and 45% of respondents use mobile devices every day for job searching activities,[67] however, in fact they do not submit applications through their mobiles.[68]

Most recruiters do not actually know about the available digital technologies.[69] While AI is able to manage applicants throughout the recruiting procedures, recent survey has demonstrated that only 38% of companies are using AI in recruitment process.[70] This delay prevents companies to receive large number of applications, and to target suitable applicants.[71]

According to Black and Van Esch (2020), the development of AI-enabled recruiting systems is costly and complex with various tools. For this reason, researchers suggest buying tools from external providers, except companies need to hire numerous employees every year, and hence can justify developing AI tools by themselves.[72]

Moreover, prospective applicants may have a negative attitude towards AI-enabled recruiting technologies because humans are absent, and processes are automated.[73] not to mention privacy challenges as effectiveness of AI depends on social networking and professional profiles.[74] These problems can be solved with transparency and fairness of recruitment procedures.[75]

Furthermore, the introduction of AI recruitment technology can interrupt the functionality of HR professionals.[76] Interestingly, some recruitment firms may replace employees in order to save costs, but applicants require communication with humans during the recruitment and selection process.[77]

[64] ibid.
[65] ibid.
[66] Ibid.
[67] ibid.
[68] PageUp, 2017; Van Esch & Black, 2019.
[69] Wright & Atkinson, 2019.
[70] Deloitte, 2018; Black & Van Esch, 2020.
[71] Wright & Atkinson, 2019.
[72] ibid.
[73] Wright & Atkinson, 2019; Van Esch, Black, & Ferolie, 2019.
[74] Wright & Atkinson, 2019.
[75] ibid.
[76] Van Esch, Black, & Ferolie, 2019.
.[77] Wright & Atkinson, 2019/

Consequently, Wright and Atkinson (2019) argue that AI poses no danger for recruiters to downplay their importance but instead improves the process efficiency.

Van Esch and Black (2019) found that people participate in AI recruitment process via their mobile devices, as they increasingly use social media and meet AI ads or posts on news feeds. Additionally, the research has indicated that applicants anticipate fairness from AI and see AI-enabled recruiting as modern tools, new and fun, so they engages in AI-enabled recruiting process.[78] The recent research by Van Esch, Black, and Folie (2019) addressed potential applicants' viewpoints in respect of AI-enabled recruiting process, and its impact on candidate decision to apply for a position. They found that the completion of application process through AI tools is largely affected by the attitudes of prospective candidates towards a company.[79] This is because of the novelty of adopting AI recruitment, which positively affects the probability of a job application.[80] The research results suggest that organizations do not need to hide their use of AI in fear of alienating potential candidates, rather organizations should promote their use of AI in the recruitment process and focus on potential candidates that already have positive views of both the organization and AI.[81]

5. Digital Recruiting For Companies In Georgia

AI-enabled recruiting can bridge the gap between company requirements for human resources and skills of workforce available on the job market, given that AI has a capability to match those skills and requirements as well as interests and expectations of both candidates and a company. A recently launched startup company in Georgia is offering cloud-based HR program for recruiting and selecting employees with automated processes.[82] Besides, many Georgian companies have been already using social media to post job announcements and attract potential candidates.

Using digital technologies and artificial intelligence is possible at all phases of recruiting and selection of human resources in Georgian organizations (see Figure 2).

Figure 2. Stages in HR Recruitment and Selection Process

[78] Van Esch et al., 2019.
[79] ibid.
[80] ibid.
[81] ibid.
[82] Linton Group, 2020.

Source: Authors' own elaboration

Some processes can become fully automated, i.e. they can be implemented without interference of humans. Even the most interactive HR processes, such as: consulting candidates at the data collection stage and interviewing applicants, can be conducted through Chatbots. Artificial intelligence can be actively used in the analysis of interview results. This completely changes the quality of the operation of each process. Selecting talents with minimal human intervention provides great opportunities for timesaving, accuracy, unbiased analysis, impartial, and fair decision-making.

The abovementioned benefits allow human resource managers to create systems for virtual organizations, attract global talents, process a large amount of information and compare data, create jobs anywhere in the world, and coordinate the work and activities of their employees remotely.

Furthermore, the introduction of modern technologies in the recruitment process involves the creation of big data, digitization, digital transformation, and the use of AI (see Figure 3).

Figure 3. Introduction Process of Modern Technologies in Recruiting

Source: Authors' own elaboration

Create Big Data, Digitization refers to the digitization of information related to recruitment, ensuring their availability, creating digital databases. This stage is a prerequisite for all other stages. Digitization is the internal optimization of processes such as work automation, paper minimization, and results in cost reductions.

Digitalization refers to the use of digital information to improve processes. It means digital transformation of processes, using electronic channels, digital communication, cloud, hardware, and exchanging digital information in digital format, digital modeling of stages of the recruitment process. Digitalization is carried out with the active participation of human beings. Digitalization implies change to the business model, and lays the groundwork for Digital transformation.

Digital transformation is the process of using digital technologies to analyze digital information related to recruitment. It refers to the use of Codebots to manage repetitive processes, to the automation of recruitment processes, and to software use in recruitment processes. Digital transformation creates a complete cycle of automatic digital systems for all operations of the process and ensures digital automatic connections between these systems without human intervention.

HR Recruiting using Artificial Intelligence is the highest level of Digital transformation. It refers to automation of implementation of the whole cycle of digital systems in all stages of the recruitment process through artificial intelligence (without human intercession). All phases of the process from examining applicant's CV to the job interviews takes place without human involvement. AI enables consultation, interviewing, and negotiation to be performed through Chatbot.

This process obviously requires the implementation of accompanying, and supporting operations as well as employee trainings.

The introduction of these processes is particularly effective in global companies, where the number of job seekers in each vacancy equals tens of thousands. For example, Google receives more than 3,000 applicants a day, and it may receive 75,000 applications in one week from the announcement of the vacancy.[83] The use of modern tools of hiring people for such organizations is a critical necessity. Ignoring the advantages of using modern technologies in the process of human resource management, such as digitalization of processes, creation of databases, use of AI, may be the main reason for the failure of organizations in a competitive market. Therefore, companies with less advanced technology need to introduce at least an online recruitment process.

Today, when the world is facing great uncertainties, organizations on the one hand face the challenge to decide for operating online, to retain qualified personnel, and also recruit the best talents in the world who have lost their jobs because of the economic difficulties, but to have the right skills to work online. On the other hand, a large amount of workforce has lost their jobs, as companies are unable to maintain their wages due to the financial crisis, leading to increased employee turnover when workers leave companies voluntarily, but also involuntarily as some organizations dismiss employees or require different skills that they are lacking of.

Under such conditions, there are still economic entities whose income has increased significantly, and they have to hire new employees. Amazon.com, for example, has hired 100,000 new employees,[84] and its founder, Jeff Bezos, has upped his fortune by $23.6 billion.[85] The recruiting process for this number of employees by traditional methods may take years and still be ineffective.

[83] Robbins & Coulter, 2014.
[84] Palmer, 2020.
[85] Lerma, 2020.

The adaptation process to new reality has been easier for organizations with highly skilled staff and operations through modern technologies. Evidently, the sectoral affiliation of the organization plays also an important role, as the demand for certain products has dropped significantly due to new reality regarding the state of global pandemic. However, this does not imply that all companies are definitely successful, those sectoral ownership allowed them to make high profits due to the increased demand for their products. Many of them have encountered problems with safety standards, staff training, additional staffing, or finding other resources. Consequently, there is an urgent need for organizations also in Georgia to adapt to this reality, to make investments for developing flexible systems, recruiting talented staff, and creating a solid image and strong foundation to meet the challenges of the future.

5. Conclusion

The research has highlighted the importance of digitalized recruitment process especially today's inconsistent environment which creates many challenges to modern organizations but also offers new opportunities.

Although the trend of using online systems and artificial intelligence in the recruitment process has been researching since the twentieth century, it has recently become more essential as companies need to meet the requirements for physical (social) distancing due to the global pandemic of the new coronavirus.

Organizations are introducing AI in recruitment. Consequently, human resources and business managers should devote more attention to adopt AI-enabled recruiting.[86] It should be stressed that Artificial Intelligence recruiting systems are still new, uncommon, and quite unfamiliar to the most companies around the world. Thus, HR managers should take into account the risks associated with this novelty. However, if executives embrace AI-enabled recruiting, it has great potential for reaching wider, distinct, and more qualified candidates to create comprehensive talent pools.[87]

In general, digital recruiting process has made progress from 1.0 to 3.0 to AI-enabled recruiting. But AI applications available today can be just tip of the iceberg; its full range of potential will take place

[86] Black & Van Esch, 2020.
[87] ibid.

in the near future. To be successful, companies need to take into consideration privacy concerns among candidates, and plan recruiting activities accordingly.

Also, Georgian HR executives should investigate the AI-enabled recruiting technologies proactively to determine suitability by screening number of candidates accurately and quickly. OR process is easy, and cost effective as applications can be stored in digital databases. Moreover, OR enables the quick automatic feedback and improves overall recruitment process. Additionally, digital recruiting encourages organizations to reach distinct populations, for example in the regions of Georgia, and enables those populations to gain access to job opportunities.

The main implication for HR managers is that they can use social media strategically, not merely to inform people about job opportunities or remind them upcoming deadlines. Potential candidates with knowledge of the working environment in the company through social media express interest in applying for company job positions. Additionally, HR professionals should understand candidate perceptions of the AI tools in order to use it strategically. It should be emphasized that OR processes can be financially costly to implement because of complex computer systems, databases, and AI tools. But the main advantage of digital recruiting lies in its effectiveness to "identify, attract, screen, assess, interview, and coordinate with job candidates".[88] So it may make economic sense to adopt the contemporary changes in HR recruiting in favor of digital technologies. Thus, human resource managers should take strategic steps for capturing benefits that AI-enabled recruiting offers.

5. Future Research Avenues

The further primary research aims to contribute to the use of Online Recruitment by Georgian companies. It will also study empirically the job candidates who respond to job ads using OR. The future research will shed light to the profile of potential candidates who use online job search processes, and to describe these individuals. Moreover, it will identify companies using this HR method. With that end in view, data will be gathered from job seekers, applicants, HR professionals, and company managers or executives.

[88] (Black & Van Esch, 2020).

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Tax Policy as a Competitive Tool of a Country to Attract Foreign Direct Investment

Understanding the relation between tax policy and FDI: testing causal mechanisms between 2002 and 2016 in OECD countries

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Abstract

Investments play a core role in achieving county's sustainable economic development and growth. For many countries increasing investments flow is the one of the main priorities of the economic policy, while the forecast for the economic growth is largely based on the growing volume of investment. The attractiveness of foreign direct investment from a particular country is shaped by the coactions of many complex interconnected variables, such as economic, political, technological, legal and socio-cultural factors. In the abundance of factors, the thesis focuses on national tax policy and shows it as a competitive tool of a nation to promote inbound investments. The core of this research is corporate income tax rate and FDI. The study discusses the Ownership, Location, and Internalization (OLI) paradigm and the Paradigm of Locational Competition that explains the ways how corporate income tax may affect FDI.

The goal is to investigate taxation effects on inward foreign direct investments in host countries. The research quantitative research method. Regression analysis as a statistical process is one of the quantitative research methods to explain and explore the relationships amongst different variables.

The main research question is whether national tax policy explains the behavior of inward FDI and if so, to what extent. In order to answer the question, the several factors econometric model was constructed in Stata using 35 OECD countries and 2002-2016-time range. The model employs number of short run and number of long run variables in a moderate time period regression and illustrates if those determinants have significant impact on inbound FDI. The results show that host country's corporate income tax relation with FDI inflows is not significant. In addition, the relation is positive, meaning if the tax is increasing FDI inflows are also boosting

Finally, based on the regression analysis policy recommendations has been outlined.

Keywords: tax, corporate income tax, FDI, tax policy, OLI paradigm, regression analysis

1. Introduction

Investments play a core role in achieving county's sustainable economic development and growth. For many countries increasing investments flow is the one of the main priorities of the economic policy, while the forecast for the economic growth is largely based on the growing volume of investment. Achieving the high level of investments to ensure long-term economic growth is a widely recognized and agreed issue that is already reflected in existing theoretical works. "One way to raise future productivity is to invest more current resources in the production of capital".[89] Sound investment environment represents the substantial factor for the growth of investments. The big contributor to this environment is institutional factors, where the issue of tax policy is crucial.

We live in a globalized world with open and interdependent economies, where countries have a convenience to boost their market with external sources. A belief that is widely shared among scholars is that inward foreign direct investments (FDI) from abroad can increase the welfare of an economy in several ways. While the perks of FDI is scattered in different disciplines we can aggregate them in several groups such as expanse the stock of capital in a specific region or country, transferring appropriate technology, employing local labor force and stimulating domestic firms.

The attractiveness of foreign direct investment from a particular country is shaped by the coactions of many complex interconnected variables, such as economic, political, technological, legal and socio-cultural factors. In the abundance of factors, I intend to focus on national tax policy and show it as a competitive tool of a nation to promote inbound investments. Tax policy chosen as a spur of FDI inflows is stimulated and strengthened by its several advantageous characteristics:

- Tax policy is a tool for government and is operating under the direct control of the state. Therefore, in the time of necessity, it can be adjusted and redesigned at minimal costs.
- When those adjustments are taking place, the effect is happening in concert, thus there are no long-term time gaps.
- The data needed for research is easily accessible from government revenue service departments and agencies, as well as from international organizations' databanks that is usually free. Hence, there are no additional expenses associated with specially designed primary researches and observing causal relations of macroeconomic variables is painless with given reports.

[89] Mankiw, 2012, p. 245.

Tax revenues are the cornerstone of the sustainable development since the revenue provided are aimed for investing, that, in response reduces poverty and increases the country's state capacity. I consider the role of tax policy particularly important for developing and transition economies. There are contractual opinions on the significance of tax in the growth of investment in economic researches, especially for attracting direct foreign investments and international capital. British economist John Dunning (1973) explains that since the 1960s of the 20th century, the role of states in market economies increased in terms of social security that demanded the expansion of social expenditures from the governments. Insofar the main source of budget is tax revenue governments have imposed higher taxes on the corporations and enterprises, that, in turn encouraged companies to bring production to countries with low tax burden. On the other hand, Baniak, Cukrowski and Herczynski (2005) give the insight how post-soviet countries tried to attract investments. They mention that since 1990s countries with transitional economies have been trying to transfer their less-competitive economies to market driven economies. Transitions required substantial investment resources that were limited for those countries. The countries with lack of decent infrastructure, modern technologies and high-qualified labor force are disadvantaged in this competition compared to newly industrialized and developed nations. In order to gain a competitive advantage, they can design tax policy to counterbalance the disadvantages and enable them to promote sustainable development. Thus, firstly, countries with large key markets or natural resources had obtained a competitive advantage, but the transitional countries offered extensive tax benefits to foreign investors. Therefore, discussion was created among scholars how effective the tax benefits are to attract foreign direct investments and how much weigh they have in comparison with other factors. The fact that corporate income tax rates in developing countries are lower than the ones in OECD member states (OECD, 2017a) implies that the developing world has been realizing the competitive power of taxation to attract investments. Tax policy, however, is shaped in many different ways and can provide much more than just favorable income tax rates. It can play a critical role for FDI inflows.

The research is divided into two main parts and seven chapters. In the following chapter I will overview the relevant literature and elaborate the main concepts that will be the base of my research. After that the main research questions and hypothesis will be formed. Next, I will explain the qualitative and quantitative research methods with which the study is conducted. The second part is devoted to the analysis and its findings. After the regression model, the chapter of discussions

will examine the main findings. At the end, I will summarize the important results with conclusion and recommendations for policy makers.

2. Theoretical Framework

There are plenty of literatures on the theories of FDI and taxation. This abundance of theories and models shows that each of them has different degrees of informative capability and no single model is perfect. The core of this research, however, is corporate income tax rate and FDI. The study discusses the Ownership, Location, and Internalization (OLI) paradigm by John Dunning (1997) and the Paradigm of Locational Competition by Horst Siebert (2010) that explains the ways how corporate income tax may affect FDI.

OLI Framework - The Eclectic Paradigm

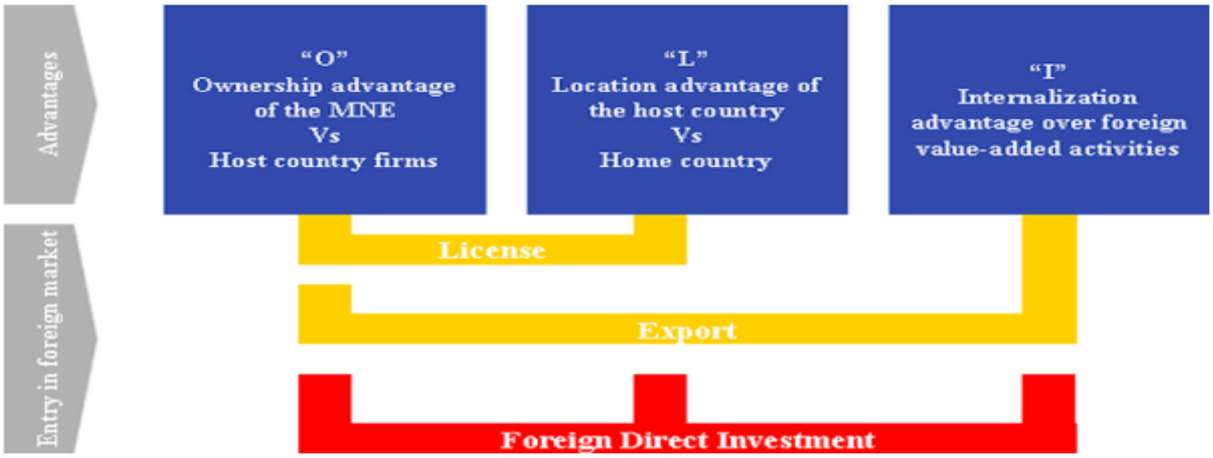
The "OLI" known as "eclectic" approach to the study of foreign direct investment was designed by John Dunning (1977). It has proved an intensely useful and powerful approach to international issues and has contributed number of scholars and practical work in the working fields of international economics and business. It still is one of the leading theories of foreign direct investment determinants.

According to Eiteman, Stonehill & Moffett (2013, p. 485) the OLI framework "was created to explain why Multinational Enterprises choose FDI rather than serve foreign markets through alternative modes such as licensing, joint ventures, strategic alliances, management contracts and exporting".

The three discrete theories of FDI are clustered to make the OLI Paradigm:

$$FDI=O+L+I \quad (1)$$

Where, "O" stands for Ownership Advantages (or Firm Specific Advantages); "L" means Location Advantages (or Country Specific Advantages - CSA); and "I" is the abbreviation of Internalization Advantages (IA). The paradigm says that it fosters optimal market entry modes for companies or countries that own one or more abovementioned advantages.



Relationship between the OLI advantages and the international activity.[90]

Ownership Advantages - The paradigm discusses that ownership advantage is the main reason why we have Multinational Enterprises. In order to move across the national boundaries a firm should first have competitive advantage in the local market in terms of having higher than average levels of assets. Those can include marketing, innovation, experience, know-how, exclusive access to specific resources, etc. The main rationale is that those assets are not easily duplicated and are in a form that can be transferred abroad.

Location Advantages - While planning to set up the business in another country firms are studying specific locational characteristics of the region that will simplify to exploit their competitive advantage. Companies usually are characterized by three different motives to cross the borders; they are grouped as market-seekers, resource/labor-seekers and efficiency-seekers[91]. Hence, FDI motives could be identified as horizontal or vertical. The former one occurs when the enterprise intends to improve the market access to foreign customers while the latter one seeks to take advantage of the lower production cost in foreign market.

For the purpose of the research, tax policy characteristics are designated as locational advantage under the judiciary. In a simple sense, it portrays advantage if the host country's tax climate is attractive or disadvantage in the case of the converse situation. However, it does not mean that tax policy only affects L factor for it influences other ingredients of OLI paradigm.

[90] Source: Tavares-Lehmann, Coelho & Lehmann 2012. p. 92
[91] Dunning, 1981.

Internationalization Advantages - As Wilfred Ethier (1986, p.805) expressively and wittily summarized: “Internalization appears to be emerging as the Caesar of the OLI triumvirate". The company will endeavor to keep the whole value-chain process and sustain its competitive advantage that will be utilized by market control and avoiding government barriers.

3. Conceptual Framework and Literature Review

Taxation and Tax Policy

Adam Smith (1776) gave an eloquent framework for an ideal tax in his famous book “The Wealth of Nations”. He states that Good taxes should meet the following four major criteria, known for Adam Smith canons:

- Equality - Proportionate to incomes or abilities to pay;
- Certainty - Certain rather than arbitrary;
- Convenience - Payable at times and in ways convenient to the taxpayers;
- Economy - Cheap to administer and collect.

When state makes decision to levy taxes, it considers number of factors, including the type of taxes, the rate of the taxes, the way they will be collected, the possible outcomes the initiated tax will have and the effects on private economic behavior.

Think of about taxes the question arises if it's efficient, fair and simple. Thus, many scholars and International organizations, including OECD in Tax Policy Conclusion (2018b) as well as Warburton and Hendy (2006) propose the following principles for modern tax systems: Efficiency, Equity and Simplicity. There are cases when these three principles collide, consequently the proposed tax policy should be carefully studied by policy makers in order to disclose potential consequences before its introduction to the public.

The primary objective of taxation is to raise government revenue for the expansive spending. This is, however, inherent for developing and transition economies, whereas financing state revenue is not the solitary purpose of tax in developed countries. Tax system can be used as a tool for number of different targets. According to Eiteman et al. (2013) there are following taxation objectives where revenue financing is the last one in the list:

- Neutralizing tax incentives that might favor/disfavor the country's private investment in developed countries;
- Providing an incentive for the country's private investment in developing countries;
- Improving the balance of payments by removing the advantages of artificial tax havens and encouraging repatriation of funds;
- Raising revenue for government expenditure.

It is believed that the ideal tax policy should be ambidextrous, meaning it should raise the revenue and simultaneously have as few negative effects on economic behavior as possible. One part of scholars assert that the levied tax should be completely impartial – have no or very little effect on private decisions, while others reckon that national policy objectives such as attracting foreign direct investment or balance of payments should be encouraged through a favorable tax system.

According to Eiteman et al. (2013) policy makers construct tax systems along the two basic approaches:

- Worldwide Approach - imposes taxes on income in the host country despite of where it was initially earned. Also known as national and residential approach it levies taxes worldwide income notwithstanding the country where it is derived. For instance, domestic and international income for an international enterprise operating in several countries will be taxed by the host county.
- Territorial Approach - center of attention is the host country's legal jurisdiction since it levies taxes on the income earned within its borders. In different literature it is also termed as the source approach.

Compliance problems and coverage limitations emerge for both of the approaches. The issue of the worldwide approach is that it does not tax the income earned by foreign firms running business within the country. For example, the United States has the worldwide tax system approach. Many theorists and practitioners criticize the system and appealing to government for adopting territorial approach, because within international tax gap the country losses, with different estimations, roughly billions of dollars. Territorial approach, however, is also not perfect as it imposes taxes equally to foreign and local enterprises on income earned within the country, but not taking into consideration the income earned by resident firms outside the country. This is why a combination of the two approaches is usually applied in order to have a control to the full coverage of income. Countries using worldwide approach employ territorial taxation system to foreign companies

operating within their authority. On the other hand, countries using territorial principle spread their tax coverage to the income earned abroad from by domestic firms.

Treating different companies with different approaches, however, leads to a double taxation problem - a phenomenon when two states levy a tax on a same income in the same period of time.[92] The most common way to avoid this problem is legalizing bilateral tax treaties.

There are number of models, but the vast majority is based on the United Nations Model Double Taxation Convention (2011) and OECD Model Tax Convention (2017b), which first was published in 1994 and last updated in 2017. Since we leave in a globalized world in order to keep up with the modern economy OECD usually revisits and reviews the model to address current issues. The last full version is available from the year 2015, while in 2017 there was condensed version.

Tax treaties are managed by international tax laws and based on each model they determine whether taxes should be imposed on the income earned in one country by the foreigner or not, and if so, how it should be administered.

Another way to circumvent double taxation is a foreign tax credit for income taxes paid to the host country. The foreign tax credit is accessible to everyone who has earned income in foreign country, either from work or investments. It is a direct cutback of income taxes that would otherwise be payable at both places, home as well as foreign countries. If this policy did not exist, taxes levied by the two states, home and foreign, would result in a very high cumulative tax rate. The purpose of the foreign tax credit is to put a ceiling to a total taxation of a company's or an individual's income that should reach no more than the highest single rate between the two jurisdictions.

Governments impose diverse types of taxes on domestic and foreign companies. However, I highlight to certain categories which has been singled out according the following criteria:

- These taxes are nearly similar in different countries;
- Multinational Enterprises are most sensitive to these taxes when deciding about investing;
- These taxes are the major part of the companies' whole tax burden.

Therefore, conferred to the above criteria the most common and comparable tax types are following:

[92] Vogel, 1986.

Corporate Income Tax - This is imposed on the earnings from business activities. Normally tax authorities levy tax on net gains, net profits and other forms of income. The rate of this tax varies greatly across the jurisdictions. The motives can be diverse, for example, some countries impose lower rate on distributed income and higher rate on undistributed income in order to motivate firms to distribute greater portions of their income to their owners. Governments apply to personal and corporate income taxes as their primary source revenue financing.

Labor Tax and Contributions - According to the World Bank (2017b) labor tax and contributions can be defined as the amount of taxes and mandatory contributions on labor paid by the businesses. This is the cumulative amount of all labor-related taxes including payroll taxes, mandatory social security contributions, mandatory health insurance, mandatory unemployment insurance and any local contributions depending on the payroll or number of employees.

Withholding Tax - Withholding tax is deducted from a passive income earned by non-residents of the country. Passive income is derived from the sources requiring no or minimal involvement by the beneficiary. According to PricewaterhouseCoopers (2017) withholding tax can be generated from the following sources: dividends, interest, royalties, management or professional fees, commissions, rent, pension or retirement annuity. Also, in some countries withholding tax includes taxes on appearing in entertainment and sport programs. Such taxes are withheld from the payment made by the corporation to its investor and turned over to the government. This type of tax is often addressed to be the subject of bilateral tax treaties.

Value-added Tax - Eiteman et al. (2013, p. 441) define value-added tax as "a type of national sales tax collected at each stage of production or sale of consumption goods in proportion to the value added during that stage". Some types of activities are not charged with value-added taxes. For instance, production goods such as plant, factory or equipment needed for the production is not a subject to this tax type. Furthermore, basic necessities related to health-related expenses, educational or religious activities are also free from value-added taxes or are taxed at a low rate.

Stamp Duty - Termed as a stamp tax, stamp duty is a tax charged on legal documents in the transfer of assets or property. It is generally placed on the transfer of premises, homes, plants, buildings, copyrights, land, patents, securities, intangible business assets etc. The excise duty is taxed at different rates and has distinct thresholds for each type of belongings. In locations where this law

exists, the transfer of documents is considered legally enforceable only when they are stamped, which shows that tax has been already paid.

4. Foreign direct investment

The literature about foreign direct investment (FDI) is abundant varying from the reasons why FDI is happening, its impacts, models for investment motives, analyzing those models and its effects and suggesting the determinants of FDI. For my study, however, I will focus on the literature which will link two variables FDI and tax policy together and will be the foundation for the research question.

FDI is one of the cornerstone factors of economic development and growth in the modern world. Today FDI is a basic mechanism of capital flows across the boundaries and the key factor of economic development in many countries.

According to the World Bank (the World Bank, 2017a, para. 1) "FDI is the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings and other long-term capital and short-term capital". FDI flows have notably high significance for both the host county as well as for foreign investors.

According to the European Commission discussion paper by Canton and Solera[93] there are three main kinds of FDI: Greenfield Investments cross border Mergers and Acquisitions (M&A) and Brownfield Investments:

- Greenfield investments happen when multinational enterprises enter into countries or regions in order to build new factories, plants or stores. It means the creation a company from the very beginning or a direct investment in new facilities in an area or location where no previous facilities exist.

- Mergers and Acquisitions. Mergers occur when assets, production and operation of companies from diverse regions are integrated to establish a new legal entity. On the other hand, acquisition occurs when the control of assets and operations is transferred from a local to a foreign enterprise. It involves transfer of ownership of an already existing asset with

[93] Canton and Solera 2016, p. 3

and acquires new entrepreneurs by procuring an acquisition target.[94] For this type of FDI the local company is becoming an affiliate of the foreign enterprise.

- Brownfield Investments. Termed also as the extension of existing capacity takes place when a company buys or sublets existing production facilities in order to launch a new production activity. The foreign entity is already established and for the purpose of capacity extension the direct capital put is increased.

The key determinants of FDI flows have been intensively investigated by many scholars. One of the most comprehensive categorizations was suggested by Raudonen (2008) who pointed out 44 different economic, social, political and policy determinants. The breakdown of these categories is presented in the following table:

Category	Determinants of FDI
Economic	GDP (GNP), GDP per capita, GDP growth rate, Per capita growth rate, manufactured imports/GDP, ratio of exports to imports, international liquidity, purchasing power of currency, local credit, ratio of commerce, transport and communication to GDP, energy production, degree of economic integration, ratio of manufacturing to GDP, ratio of raw materials exports to GDP
Social	Ratio of literacy and school enrolment, availability of technical and professional workers, modernization of outlook, strength of labour movement, extent of urbanization
Political	Frequency of government change by type and period, number of internal armed attacks per period, degree of administrative efficiency, degree of nationalism, per capita foreigners by sources, colonial affiliation, role of government in economy
Policy	Corporate taxation, tax incentive laws: complexity vs. simplicity, tax incentives: liberality, attitude towards joint ventures, local content requirements, limitations on foreign personnel

Categories of Determinants of FDI.[95]

If we look closely it can be depicted that the content is similar to PESTEL analysis and FDI determinants are moving around Political, Economic, Social, Technological, Ecological and Legal

[94] Davies, Desborders & Ray, 2015, p. 4.
[95] Raudonen 2008

factors. To sum up, the economic category mainly consists of market characteristics, such as market size and its growth rate, stability and development of infrastructure portrayed as main economic indicators. Social determinants are rallied to human capital skills, labor attributes and modernization of host country. Political stability is of high importance, especially in least developed countries. Finally, policy factors groups together legislative restrictiveness towards foreign companies and issues related to taxation. In the research I am concentrating on taxation as a determinant of FDI inflows. Therefore, I will investigate the relative importance of the host country's tax policy in foreign direct investment decisions. However, one cannot bypass auxiliary factors in analysis, thus I will include other determinants to foster viable conclusions.

5. Previous researches: empirical findings about the role of tax policy in foreign direct investments

The interesting relation of FDI and taxes has already taken considerable amount of attention. The research studies the relation between host country tax and inward FDI and is testing the main hypothesis that a national corporate income tax is a key explanatory factor for FDI inflow. Here I am reviewing the existing literature where scholars used the same hypothesis and exploited various results. A logical hypothesis states that the host country's lower taxes encourage FDI inflows to the country. However, there are number of empirical literatures with different methodological approaches that are giving a controversy. Devereux (2006) groups the empirical studies about FDI and tax policy into four classifications: Time Series, Cross Section, Discrete choice and panel data from which I am employing the latter one. One of the first empirical studies using panel data was carried out by Swenson (1994) who used US FDI inflows data for 13 years and 18 various industries. She found out the positive relationship between the two variables evidencing that higher income tax rates are increasing FDI inflows. It is said that she developed the model based on Scholes and Wolfson (1990) who have same positive effect. Jun (1994) also built panel data regression using 10 OECD countries FDI into US and described insignificant results. Moreover, he incorporated country dummy variables in the GLS regression to find out the influence of the location. Billington (1999) used 7 OECD countries and demonstrated negative effect of aggregate FDI and statutory corporate income tax.

Devereux and Freeman (1995) researched the influence of effective tax burden on FDI using 7 OECD counties and 5 years data. They constructed the regressions using country pair dummy

variables and conclude that tax environment is affecting location choice. Number of scholars investigated the abovementioned relations and suggested different results. One of the reasons causing discrepancies in results can be the choice of different measures for variables. Swenson (1994) for example used bilateral inbound FDI while Jun (1994) and Billington (1999) used aggregate inbound FDI.

The choice to invest is not only shaped by tax environment since numerous other factors prevalent in host country are affecting to the decision. Location is most common dummy variable used to explore the FDI movements affirming in creating OLI paradigm (Dunning, 1977). Besides the country dummy variables Wei (1997) used corruption as one of the determinants of FDI and found out that increase of corruption has significantly negative effect of inbound FDI. Lawless (2009) incorporated the number of payments and time to comply payments in order to measure the tax complexity and found the significant negative effects of them on FDI flows. Billington (1999) uses labor cost and unemployment rate as a determinant. Mostly the determinants used by different scholars includes openness to trade, infrastructure, skilled labor force, exchange rate and as already mentioned location.

6. Research objectives

Purpose and scope

In order to design tax policy adequately and competently the essential component for policy makers to consider is the international implications of tax reforms. The rapid growth of foreign direct investments is a vivid demonstration of the increasing internationalization of savings and investments. Thus, the purpose of the research is to define to what extent are FDI flows affected by host country tax climate. The intention is to investigate tax policy as a tool of a nation to promote and foster inbound investments. Additional topics I am interested in are: how tax policy affects FDI, how sensitive FDI is to taxation, how it can be improved in order to promote FDI, and what the main policy considerations guiding the taxation of inbound investment are.

In real world, however, there are certainly many other factors influencing FDI. FDI is attracted to regions offering open markets and profit opportunities, with political and macroeconomic stability, skilled labor force and developed infrastructure with favorable legal framework. Even though I am

mainly considering and focusing on tax policy as an influential factor of FDI, other determinants will also be involved in the research.

Research questions

As conferred prior, the main purpose of the research is to outline the connection between FDI inflows and tax policy, where tax policy signed to the independent variable, whereas FDI inflows - dependent variable. Thus, the main research question is

- To what extent the national tax policy factor explains the FDI inflow in a country?

The hypothesis is that national corporate income tax has considerable influence on inward FDI to the host country and their relation is negative.

7. Methodology

The goal is to investigate taxation effects on inward foreign direct investments in host countries. The research employs quantitative research method to provide clearer understanding of the problem and foster feasible conclusions. Regression analysis as a statistical process is one of the quantitative research methods to explain and explore the relationships amongst different variables. For the computational techniques statistical software Stata is used. This type of research quantifies the problem and is conclusive by its main purpose. The following chapter briefly describes the mentioned method, theoretical approaches of regression analysis, highlights its main objectives and investigates the ways of implementation in the research.

Regression analysis is a statistical process for investigation the relationship among variables. Generally, the focus is on the relationship between a dependent variable and one or more independent variables. It provides the analysis about the change in the outcome variable in case of alteration of any of the independent variable on the condition that the other independent variables are remained fixed. Regression techniques have long been central to the field of economic statistics, so called Econometrics (Sykes, 1992). They have become an increasingly important tool for economists and researchers usually because it is widely used for predicting and forecasting economic trends. Various regression techniques are provided by Econometrics that leans on the probability

theory and the economic theory. It is an application of statistical and mathematical methods used to analyze data and make forecasts for the future.

For the research I need to explore the influence of the host country tax policy on the inbound investments analyzing 35 OECD countries from 2002-2016 years. Insofar as there are number of important factors mentioned above that affects FDI along with tax I am also including other social-economic indices which will be discussed in details in empirical research chapter.

In general, the regression analysis gives two most important indicators, regression coefficient by itself and determination coefficients. The former shows the influence of independent variables on dependant variable; more precisely, it shows the direction and the value of the change in the outcome variable when the change in the explanatory variable is one unit. On the other hand, the coefficient of determination gives a gauge how well observed outcomes are replicated by the model, as the proportion of total variation of outcomes.

When several independent variables are incorporated in the model, some reliability issues could arise that garble the final results. Specifically, the widespread multicollinearity, or collinearity, problem comes up when there is a strong correlation among the independent variables. This problem can be easily discovered by creating the correlation matrix which provides correlation coefficients for the explanatory variables. If one or more non-diagonal coefficients are equal or more than 0.9 [96] there is collinearity issue. If so, the model needs to be corrected or different variables should be incorporated in it. The next problem is connected to the determination coefficient. When additional variables are incorporated in model R-squared is prone to increase not reflecting the changes in the precision of the model. It could be avoided by using adjusted determination coefficients that gives more robust results.

While constructing the model the crucial part is to conduct validity test by computing the Fisher and the T tests so far as Fisher distribution and Student Distributions are most common methods to evaluate reliability. The F and T numerical criteria calculated by Stata should be respectively compared to values values found in Fisher and Student distribution tables (2012). If a criterion is greater than the given absolute value, the hypothesis which proposes that the determination coefficient and the regression coefficient of a specific variable are non-zero can be manifested,

[96] Ananiashvili, 2011, p. 106.

respectively. Furthermore, if it holds true, one can conclude that the model is statistically significant and the results about the relationship among dependant and independent variables are feasible.

The statistical significance is the base for every model. The significance level measures the probability that the hypothesis indicating that the tested variable is zero will be wrongly rejected. Usually, significance level is at 1%, 5%, or 10%.

8. Empirical research

The main goal of the regression is to find out to what extend the host country's corporate income tax affects the inbound FDI and is it significant or not. Historical overview of the researches fairly carves the variable patterns used for long and short run. One of the objectives of the regression is to employ number of short run and number of long run variables in a moderate time period regression and see if those determinants have significant impact on inbound FDI.

Operationalization

The aim of the regression analysis is to figure out the influence of tax on the FDI inflow for the host country.

FDI, however, is strongly affected by other determinants such as gross domestic product (GDP), education level, country's cultural diversity and so on. One of the first researches that tried to find the determinants of FDI was designed by Reuber, Crookell, Emerson and Gellens-Hammons (1973). The research used the base data of US FDI into different countries and examined the main determinants of it. The leading factors identified in this study were high-income market, liberal host government policies, technological infrastructure, cultural proximity and skilled labour force. Raudonen (208) grouped the 44 specific determinants into four main categories explained in literature review part. In my research I employed both thoughts and used following determinants: corporate income tax, GDP per capita, infrastructure, education level, business freedom as a factor of tax being the primary focus. The variables are explained below.

The dependent variable

Foreign Direct Investment inflows - FDI net inflow (in US dollars) in the host country is chosen as the outcome variable of the regression model. This indicator considers not only the total inflows of equity capital, but also the volume of foreign divestments from the host economy during the year. For calculating foreign direct investment flows United Nations Conference on Trade and Development states states: " Net decreases in assets (FDI outward) or net increases in liabilities (FDI inward) are recorded as credits (recorded with a positive sign in the balance of payments), while net increases in assets or net decreases in liabilities are recorded as debits (recorded with a negative sign in the balance of payments)" (UNCTAD. n.d. para. 1). This feature makes it more informative and relevant for the study.

This indicator, however, has several pitfalls when it comes to comparability and stability. I tried to eliminate these problems by adjusting the indicator in the following ways:

- The comparability problem of FDI net inflows comes because it is measured in the absolute volume in a particular currency, in our case in US dollars. Held the tax policy unchanged the size of a particular economy will certainly influence the FDI net inflows, thus provide misleading results. In order to fix this drawback there were two main choices, to adjust the variable by calculating the percentage ratio of FDI net inflows relative to GDP (in current US dollars) or to use GDP as a determinant of FDI. The latter one seems more relevant while GDP per capita is a also one of the determinants and good explanation of FDI inflows for a host country. This way the scale effect could be excluded as well as the variable will be comparable for distinct size economies.

- The stability problem appears because of the inherent volatility of the FDI inflows. The observation of the annual data revealed that FDI inflows vary substantially year by year. The fluctuation can be explained by the changes in the host country's investment environment, political stability as well as in the investors' position. While national tax environment usually does not change significantly in the short run, the innate fluctuation makes the tax policy impact less detectable. Therefore, to eliminate the effect of instability, instead of using annual value of FDI inflows I used the aggregate average of the value. The practice of using average FDI rather than annual values is also common and widely accepted by researches. Djankov, Ganser, Mcliesh, Ramalho and Shleifer (2010) used several year

averages due to the abovementioned reasons. Furthermore Billington (1999) as well as Carkovic and Levine (2002) used the aggregate FDI inflows to prevent fluctuations.

9. Explanatory variables

The research hypothesis is that the national corporate income tax is a key explanatory determinant of FDI. As mentioned in literature review number of scholars observed and investigated the relation between them. However, as the literature review shows, besides the corporate income tax number of other explanatory variables are affecting the FDI inflows to a country. Selection of the explanatory variables has been directed by the extensive empirical findings.

Corporate Income Tax rate

Corporate income tax was chosen as the first independent variable as a cornerstone explanatory factor of FDI and testing the hypothesis. It measures the cost of the taxes that a company bears and consists of the amount of taxes and mandatory contributions incurred by businesses expressed as a share of revenue. The analysis is focused on this variable aiming to acquire information if it affects FDI inflows and to what extent.

GDP Per Capita

GDP is a good proxy for market size while GDP per capita fittingly measures the living standards in a given country. Callen (2008) states that the change of GDP per capita measures whether the average citizen in the country is worse of or better off. Besides the living standards GDP per capita can be considered as a purchase power by investors since it shows how much economic output is designated to a person in a given country. Billington (1999) also used GDP per capita as a market size measurement and evidenced positive relationship between GPD per capita and FDI.

Infrastructure

Bellak and Leibrecht (2009) found the infrastructure one of the relevant factors of FDI. Reasonably, good roads, power supply, computer literacy, telecommunication and many others should effectively affect on money inflows, because it not only creates useful environment but contributes to the labour force skills also. If there is no electricity in a specific location to build up a high-tech

factory is meaningless. For the analysis the percent of electricity accessibility from the whole population is collected.

Education level

Companies will have more incentive to invest in countries with larger human capital. Especially, high-tech enterprises are interested in skilled labour force and if the country's education level is below company's standards it may bypass to make investment. Therefore, taking education level as a determinant is relevant. The percent of people from the whole population with at least tertiary education level is taken as a variable.

Economic Freedom

Today we live in a world with full of possibilities where it's important to have the right and freedom to make your own decision about labour distribution and property. The cornerstone of economic freedom is individual autonomy, given the assumption that they know their desires; Economic freedom measures "the freedom of choice enjoyed by individuals in acquiring and using economic goods and resources".[97] (According to Dunning (2002) economic freedom is becoming an intesively influential factor for the decision of enterprises to invest. As Loree and Guisinger (1995) as well as Noorbakhsh, Paloni and Youssef (2001) argue economic freedom indicators are becoming more popular in attracting investors than traditional factors such as natural resources or low labour costs.

For the analysis three main factors' score were taken into consideration. The Property Rights that is the freedom to accrue wealth and private property, Business Freedom defined as an ability to embark on and operate business without state interference and the third one Investment Freedom, suggesting the evaluation to what extent are investments restricted in a specific country.

Dummy Variables

While the OLI paradigm[98] is focused on locational competition, the postulate that location plays an influential role in FDI flows for my analysis can be relevant. For the purpose of implementing locational competition in the model geographical dummy variables are introduced. It will track the effect of location in the data. If the variables prove to be significant then part of the FDI could be

[97] Heritage Foundation, 2018b, p. 10
[98] Dunning, 1977

explained by the country's location in the world map. 4 geographical dummies are used: Europe, Oceania, America and Asia.

10. Data collection

The sample is a panel data which consists of 35 OECD countries from different geographic regions so as to provide the whole picture of how national tax system is affecting on FDI inflows throughout the world. In order to see interesting trends, the data set spans one and a half decade, starting in 2002 and ending in 2016. The justification why year 2017 data is not included is that the data is not available for more than 2016 for all explanatory and response variables. In terms of geographical regions, the analysis covers 2 Oceania, 2 Asian, 2 North American, 2 South American and 27 European countries.

The foreign direct investment data was collected from existing database of the United Nations Conference on Trade for Development.[99] The database provides FDI flows in current US dollars by region and economy. The FDI flows compose two components: inflows and outflows. As the study is focusing on the nature of inward investment in the host country, I concentrate on FDI inflows. It is already mentioned that while FDI is fluctuating greatly aggregate average of five years for each year was used in order to avoid volatility issues.

The data about corporate tax rates was retrieved from the OECD statistical database (2017a). For the regression model the statutory tax rate is implemented. Devereux and Griffith (1998) illustrates that statutory tax rate has an evidenced influence on the decision and range of investment. It is the simple measure of tax of the country and can consist of number of layers of government taxes, including local and state taxes. The data about GDP per capital was collected from the World Bank database.

Infrastructure is represented as the percentage of the whole population who has the access of electricity. The data of this variable was collected from the World Bank Group databank. The determinant education level is represented as the percent of population with at least tertiary

[99] (UNCTAD, 2018).

education and the numbers were taken from OECD library database (2018a). The data from Economic Freedom variables was retrieved from the Heritage Foundation database (2018a).

11. Regression Model

Since all the necessary variables are defined and data collected from reliable sources, I have constructed several regression models in order to find the best match for the main research aim: to assess the influence of host country's tax on foreign direct investment inflows.

Even though the tax environment is a cornerstone there are other crucial factors influencing the FDI inflows. I incorporated the 5 more explanatory variable explained above, besides to 4 locational dummy variables:

- Response variable (Y) - FDI -Foreign direct investment inflow
- Explanatory variable (X_1) - CIT - Statutory corporate tax rate
- Explanatory variable (X_2) - GDPPC - GDP per capita
- Explanatory variable (X_3) - ATC - Electricity accessibility (% of population)
- Explanatory variable (X_4) - EDU -People at least tertiary education (% of population)
- Explanatory variable (X_5) - BFREE - Business Freedom Score
- Explanatory variable (X_6) - PROP -Property rights score
- Explanatory variable (X_7) - INVFREE - Investment freedom
- 4 geographical dummy variables - Europe, Oceania, America and Asia.

With the help of plotting scatter plots, the linear regression happened to be the most relevant one to describe the relationship for the mentioned variables.

The formula of the model is following:

$$FDI_j = \beta 0 + \beta 1 \text{ Corporate tax} + \beta 2 \text{ GDP per capita} + \beta 3 \text{ Infrastructure} +$$

β4 Education + β5 Business Freedom +β6 Property Rights+ (1)

β7 Investment Freedom + β8 D*j*

Generally, the most common used regression is Ordinary Least squares (OLS).

OLS: →Y=Xβ+ε (2)

Where ε˜N(0,σ²I) and I means Identity Matrix (Imai, 2016, pp. 54-59). OLS assumes that all the parameters have equal variance and are not correlated that will ensure viable results.

Firstly, however, the correlation matrix was constructed for the purpose to check a multicollinearity problem, the issue which arises if an explanatory variable is highly related in one or more that of variable.

The correlation matrix provided by Stata for the abovementioned explanatory variables is summarized in the following table

	CIT	GDPPC	ATC	EDU	PROP	BFREE	INVFREE
CIT	1						
GDPPC	0.0141	1					
ATC	-0.0340	0.1490	1				
EDU	0.1256	0.5505	0.2679	1			
PROP	-0.0913	0.2441	-0.1636	0.2091	1		
BFREE	-0.0417	0.4001	0.0672	0.3649	0.5456	1	
INVFREE	0.0592	0.2551	0.0286	0.0740	0.0290	-0.0395	1

The correlation matrix for independent variables. *Source: own calculations provided by Stata*

For the GDP per capita the most correlated variable is education with correlation coefficient 0.5505. Also, for corporate income tax the highest correlation coefficient has education. Property rights and corporate income tax are the least correlated variables in dataset with the negative correlation

coefficient equals to 0.0913. Inasmuch as each coefficient is less than 0.9, respectively, the multicollinearity problem is not found in the model.

Insofar, the sample is a panel data the serial correlation should be tested. The most common and used test very constructed. At first, the test xtreg was run, after that xtserial was commanded. Both tests show that the panel data have auto correlation problem. The Stata output of xtseria and xtreg can be found in Appendix.

Critical F-value with degrees of freedom 1 and 33 at a significant level 1% equals to 7.4191 (statistical tables, 2012, p. 21) in xtserial. Since 71.927>7.4191 this model is statistically significant, meaning that serial correlation in panel data is proven. Thus, for the analysis the regression which takes care serial correlation and gives robust results should be implemented. Drukker[100] however, suggest that xtreg and xtserial "is found to have good size and power properties with samples of moderate size". Usually Drukker's samples contain at least 500 numbers. Moreover, generally, serial correlation is not a serious issue in linear regression models if there is small T and large N in dataset, likewise the dataset I am using. To get the robust results the autocorrelation should be taken into consideration and proper regression should be conducted meaning that OLS is not the one which will give robust outcome. When there is serial correlation the most used regression is Newey-West standard errors that takes care autocorrelation and heteroskedasticity issues in the model. However, for the sake of preciseness the lag value should be calculated, that makes problem in panel data. Drukker [101] suggests using Clustering standard errors in the case of serial correlation. Thus, I used generalized least squares (GLS) regression with Xtreg command with clustering standard errors. Clustering standard error takes care of autocorrelation and gives robust results.

The formula is following:

$$GLS: \rightarrow Y=X\beta+\eta \qquad (3)$$

Where $\eta \tilde{} N(0,\sigma^2 Cov)$ and Cov stands for Covariance Matrix (Imai, 2016. pp 54-59).

GLS method is prevalent for different studies and researches and is considered to be a good match for panel data. There might have also been a heteroskedasticity problem, but GLS not only deals with serial correlation problem but also gives heteroskedasticity robust standard errors. ID-s

[100] Drukker 2003, p. 168,
[101] Drukker 2003, p. 168,

designated to countries was used for clusters, 35 countries meaning 35 clusters. Furthermore, when using clustering standard errors, one should ientify if there is fixed effect or random effect in the data. As Schmidheiny (2016, pp. 3-4) says "In the random effects model, the individual-specific effect is a random variable that is uncorrelated with the explanatory variables", while "In the fixed effects model, the individual-specific effect is a random variable that is allowed to be correlated with the explanatory variables". Usually, Hausman test would help to identify which one is better, Fixed Effect or Random Effect, however as it happens Hausman test does not support the regressions with robust or cluster standard errors, from which the latter one was used in my model. Thus, after installing Ivreg2, the command Xtoverid was chosen to conduct developed by Schaffer and Stillman.[102] The Model follows the following steps: Firstly, GLS regression with Xtreg command and clustering standard errors with fixed effects was conducted (see Apendix 1). F criterion equals to 4.79, since critical F value in Fisher distribution table (2012, p. 23) with degrees of freedom 7 and 35 at 1% significant level equals to 3.2 we can say that the model is statistically significant. After saving the given estimates, the Xtreg command and clustering standard errors with random effect was conducted (see Apendix 1).

Before moving to explain the variables, the test should be run to identify which model is better for the given data. As already mentioned Xtoverid test was conducted to choose between Fixed Effect and Random Effect.

Schaffer and Stillman (2006) developed a test of choosing between fixed effects and random effects that can also be interpreted as a test of overidentifying restriction, because orthogonality conditions that the regressors are uncorrelated are overidentifying restrictions. In fixed effects the relation of uncorrelation is idiosyncratic error while in random effect it is uncorrelated with the group-specific error. This test is working with the same logic as Hausman test. Unlikely, Chi-squared test is given as an output without degree of freedom corrections. As Schaffer and Stillman (2006) found out, with the balanced panel data the test provides numerically same results as Hausman test. However, besides heteroskedasticity, Xtoverid deals with cluster and robust forms of regression. Since I have balanced panel (see Apendix 1), and used regression with clustering standard errors, it can be concluded that the Xtoverid test is relevant. The results also can be interpreted with the same way as Hausman, meaning if P-value is more than 0.05 we cannot reject null hypothesis; thus, no fixed effect is needed. On the other, hand If P-value<0.05 we can reject the null hypothesis and assume

[102] Schaffer and Stillman 2006.

that fixed effect is proven to be. The output of the test (see Apendix 1) shows that P-value equals 0.0963 that is more than 0.05, meaning we need to choose random effect.

The following table represents the results GLS test with random effect:

	Prob>chi2=0.0002		
FDI	Coefficient	Z	p>|z|
CIT	6.92e+10	1.80	0.072
GDPPC	353181.3	3.41	0.001
ATC	-7.28e+10	-90.23	0.819
EDU	7.25e+08	2.27	0.023
PROP	-2.40e+08	-1.28	0.200
BFREE	-1.59e+08	-1.24	0.217
INVFREE	254476	0.03	0.976

GLS regression with random effect clustering standard errors.[103]

The results show that prob>chi2 and is less than 0.05, it can be concluded that the model is significant. As long as I have panel data with random effects the coefficient here shows the average effect of independent variable on dependant variable when the former one changes between countries and across time by one unit. From the model we can see that by one unit of dependant variable change across time and countries the independent variable is changing positively with GDP per capital, education, investment freedom and corporate income tax. When all the other explanatory variables are changing, FDI is decreasing (see the negative sign). The results of property rights and business freedom are surprising, because with the increasing score FDI is actually decreasing. However, z coefficient for the respective variables show that $|z|<z^*$ where $z^*=1.96$, thus

[103] Source: own calculations provided by Stata

it is not statistical significant. Moving forward, P>|z| two tail P value tests the hypothesis that each coefficient is different than zero. For 1% significance we have only GDP per capita and education, while their two tail P value is less than 0.05. P value of corporate income tax equals to 0.072, if we will choose another alpha for 0.1 we can say that corporate income tax is significant with 95% confidence level. For all other independent variables, including infrastructure, property rights, business freedom and investment freedom we cannot reject null hypothesis, meaning that they are not statistically significant.

One presumably doubts the high numerical coefficients, but the reason behind is that inbound FDI flows are represented in current US dollars, while other variables are in different measurements, GDP per capita, corporate income tax, infrastructure and education are in percents while economic freedom variables are in scores. Remembering that regression coefficient is measuring the effect size the results are consistent.

Intraclass correlation coefficient rho shows that approximately 87.7% of the variance is due to the differences across the panels. R-squared in the model seems to be small. Stata manual (n.d.), however, explains that when we are dealing with xtreg with random effects R squared responds only to the explanatory variable effect, not taking consideration fixed effects, therefore the effects of group are not quantified and are simply deducted from the model. On the other hand, areg regression command estimates group effects of the variables. Thus, while xtreg R squared is not the best measurement and relevant for the model I conducted the areg with same characteristics, clustering standard errors with countries, and robust command to avoid autocorrelation. The results are given in the following table (see Appendix).

F(7,34)	4.47
R-squared	0.9078
Adj R-squared	0.9000

areg command results. *Source: own calculations provided by Stata*

At first, F value in the Fisher distribution table (2012, p. 23) with the degree of freedom 7 and 34 is 3.2 with 99% confidence level. While the F value from the table 4.3 equals to 4.47 and 4.47>3.2 it can be concluded that the model is statistically significant. Next, as mentioned above R squared in areg takes into consideration group effects and is more relevant than that of in xtreg. The differences of those two numbers also can be explained by the differences in models' considerations. From the table 4.3 we can see that R squared know as determination coefficient is 0.9078 and the adjusted determination coefficient equals to 0.9, meaning that the given model explains 90% of the variation of the dependant variable. Thus, to conclude, the 90% of the FDI movement can be explained by the model and given explanatory variables that are statistically significant. Moreover, the robust xtreg with only FDI and corporate tax was run (see Appendix) and the results show that overall R squared is 0.0589 which interprets as only 5.89% of FDI movement can be explained by the corporate income tax.

After that, I incorporated 4 dummy and run the abovementioned GLS regression with xtreg command for each dummy variable (see Appendix). The results are summarized in the following table:

Dummy	Coef.	Z	Prop>chi	R-squared (between)
D_Eu	-7.90e+10	-1.41		
D_Oceania	-9.19e+10	-1.44		
D_Ameria	-6.95e+10	-1.24		
Asia	-1.04e+11	-1.78		
Model			0.0011	0.3869

results of regression with geographical dummy variables.[104]

Outcomes show that the model is statistically significant and we can rely on it. The only statistical significant dummy is Asia with the confidence level of 95%. However, we can see that between R

[104] Source: own calculations provided by Stata

squared increased, means that model can explain 38.69% of changes of FDI by differences between countries. The within R squared did not vary greatly. Therefore, even though, most of the dummies are not statistically significant we can still say that location is affecting outcome variable movements.

To sum up, host country GDP per capita and education are the significant factors of FDI inflows at 1%. It hints that countries with better living standards and skilled labour forces have more chance to attract investors. Furthermore, corporate income tax is significant at 5%, meaning that the variable influences the FDI inflows and if the regression were repeated 100 times, the true value will be obtained 95 times. Insofar scholars are mostly using and interpreting results at 1% significant level and to be in line with previous researches I am also following this conservative and widely accepted criteria. The results imply that corporate income tax is not a great contributor.

The regression answers the question that national corporate income is not a great contributor in attracting inbound FDI and countries striving for the investments should focus more on general investment environment created by living standards and skilled labour. The regression states that besides corporate income tax countries should be more concerned of general economic development, including human resources, public services, innovation and economic boost to improve investment environment

11. Discussion of the findings

The outcome table 4.3 shows the model is valid and viable in regard with statistical significance. There are two statistically significant determinants of inbound FDI at the 99% confidence level, education and GDP per capita. The main observed independent variable corporate income tax is statistically significant only at 95% confidence level and to be consistent with previous researches and employed alpha of 0.05 I consider it as an insignificant. This chapter emphasizes the factors that are causing the insignificance of each variable.

In many studies insignificances of the infrastructure is caused by the sample itself. Likewise, my regression is based on OECD countries, from which the great deal of them are developed high income countries, thus the electricity accessibility in these countries is not a trigger for favorable investment climate creation. Furthermore, decades ago, when the researchers where using

electricity accessibility as a variable the countries were still struggling with infrastructure imperfectness. In modern times, however, especially for developed countries the electricity accessibility is not an issue that is an influential factor of investment environment.

Property rights, business freedom and investment freedom scores designated to economic freedom variables appeared also to be not statistically significant. Loree and Guisinger[105] reported also insignificant results while Kapuria-Foreman[106] illustrated insignificance of the aggregate economic freedom indicators on FDI. The reason of the insignificance in my research lies in developed countries. Even though the economic freedom of a country logically should be the determined factor of inbound FDI, for the countries which are already developed and have good other high economic indices economic freedom is does not play a decisive role. Time period also explains the results. Usually, economic freedom score plays an important role in decision whether invest or not, but after investing it moves to the second layer and does not affect on the continuousness of the investment.

In addition, that corporate income tax is insignificant determinant, it has positive coefficient which implies that if the taxes are increasing the FDI flows are also increasing. Jun (1994) used aggregate FDI and found insignificant results also. Thus, we cannot say that it is something extraordinary and not in line with other scholars' findings. There are number of reasons that explain the logic. The time period of the regression covers 15 years, as it is observed results with relatively small time period shows negative relations; while on the other hand, in long term FDI and taxes are prone to have positive or sometimes insignificant relations. Insofar it is moderate time in macroeconomic relations there is still enough space to adjust the needs. The credible scenario is that when the decision is made to invest the taxes were low creating incentives to invest. However, while the investments and multinational enterprises are boosting the economy, high economic growth over time makes the state to increase the taxes naturally, but the country has already established foreign companies and increased indices. Therefore, despite the fact that corporate income tax rate is high the FDI inflows are still growing. Considering this scenario infers that the corporate income taxes still play a vital role to attract FDI, but in a period of time, especially for developed countries, governments are adjusting tax rates to the economic growth pace and that is why it does appear in a positive relation with FDI inflows.

[105] Loree and Guisinger 1995.
[106] Kapuria-Foreman 2007

From the regression it can be inferred that host county GDP per capita as well as education are decisive factors for inbound FDI. It is not a surprising outcome since GDP per capita is a proxy not only for market size but also for a country's living standards. The coefficient is positive, reasonably, when there is big and strong market with high living standards there is more incentive to invest especially for the horizontal motives in order to expand the market access. Education is also positively and statistically significantly related with inbound FDI. If there are more people with higher education, it means foreign enterprises are more willing to invest.

Locational dummies prove to be statistically insignificant implying the FDI is not affected by location except of Asia region. All things considered, the possible rationale of this consequence is sample composition. As OECD is mostly compiled with European countries it is hard to infer that location is critical factor, since those countries are also varying by geographical location. It is worth to mention that the regression coefficients of all the dummies are negative. Nevertheless, Duanmu and Guney[107] found also the negative relation of OECD dummy to FDI, suggesting that FDI is decreasing when the host county to invest is an OECD member state.

The regression is constructed with number of variables that are also exploited in other researches. Even though the insignificant relation of tax and FDI is not popular result in researches, there are evidences from the scholars that tax and FDI relations happen to be insignificant.[108] Through the literature review we can highlight two main general cause of the insignificance. Firstly, reducing tax is not always a strategy to attract FDI. When the host countries are offering multiply advantages, including large market size, skilled and educated labour force, developed public services, openness to trade and many more, the relatively low tax burden does not have a considerable influence on the decision to set up a business in a particular country. Usually, the policy to proffer such benefits is mastered by developed countries in response to the low tax incentives from developing countries. As statistics shows this is justified plan, for instance, Japan has high taxes compared to other countries but is still lucrative in attracting FDI. The same can be applied to Germany, offering developed infrastructure and skilled labour besides to effective public service when the tax rate is high helps Germany to be successful in enhancing FDI inflows. Secondly, low taxes cannot cover up general unattractive investment environment. If the country has poor infrastructure, small or restricted markets, unqualified labour force and other feeble characteristics for investments law

[107] Duanmu and Guney. 2008.
[108] Jun, 199; Wolf, 2006.

taxes is not able to compensate all the drawbacks. If the enterprise, focused on innovative and technological development, wants to invest across the border and finds a region with low taxes but unqualified human resources, low living standards and inferior public services the decision obviously will be denied. Therefore, host country is encouraged to make enchanting investment environment rather than taxes in order to attract FDI. This is also a reason why FDI inflow in a country normally starts to increase if the economic is developing and growing, that happened in the case of Estonia.

12. Limitations

As mentioned above, there are a number of factors affecting the net inflows of FDI into a country. While some of them is included and explained in the research because of the existence of evident influence, the others are out of control of the given analysis. Certain conditions of exogenous factors are limiting the analysis:

- Political and economic stability - security and safety is one of the decisive aspects that investors consider when embarking on a business in a foreign region. No one would like to invest in a country with volatile political environment, where there is war, inchoative revolution, economic crisis, political destabilization, frequent alteration of government, etc., as it poses threat not only to the freedom of businesses but also to the safety. Hence, for the analysis I presume that countries do not experience severe political or economic shocks which, other factors unchanged, would critically affect FDI inflows.

- No barriers to restrict the inflows of FDI - In many countries FDI is a liable to different barriers from government to limit the money flows artificially for various reasons. Such barriers include hindering foreign investors from embarking on specific economic activities, quantitative limitations, such as quotas, foreign ownership caps, limitations on the type of establishment's legal framework, requirement of compulsory joint ventures and many more involving discriminatory actions. Governments apply those barriers for multiply reasons, for example to protect domestic firms from foreign competition. For the purpose of analysis, it is assumed that authorities do not set any barriers which would reduce FDI inflows into the country.

- Sample size – As there are more than 200 countries in the world, it is impossible to collect information from all of them. The sample size of the research is limited to 35 OECD member countries. Because of this the conclusions I cannot be extrapolated to all countries. In order to make the results more relevant and conclusions viable, the data should be collected from reliable sources, that is why OECD countries was chosen since the data of theirs is available online and consolidated by respected international organizations.

13. Conclusions and Policy Recommendations

The main aim of the research is to investigate the relation between host country tax and inward FDI. After reviewing the literature and main concepts, the quantitative research analysis has been employed by constructing the econometric model. The final step is to draw feasible and careful conclusions based on the analysis about the main findings.

The main research question is whether national tax policy explains the behavior of inward FDI and if so, to what extent. In order to answer the question, the several factors econometric model was constructed using 35 OECD countries and 2002-2016 time range. The results show that host country's corporate income tax relation with FDI inflows is not significant. In addition, the relation is positive, meaning if the tax is increasing FDI inflows are also boosting. Furthermore, the influence of the host tax on FDI inflows is fairly small, specifically the overall R squared of regression depicting the relationship between corporate tax rate and FDI without other determinants is 0.0589 (see Appendix). In other words, only 5.89% of FDI inflows can be explained by corporate income tax. The rest 94.11% should be interpreted by the joint effect of other socio-economic factors. The most important determinants of the FDI happened to be GDP per capita and education level. Therefore, the hypothesis that national corporate income tax has considerable influence on inward FDI to the host country and their relation is negative is not proved by econometric model. Moreover, locational dummy variables that is supported by theory appeared to be insignificant expect of Asia that is explained by the fact that OECD members mostly are European countries that are diversified by geography themselves.

The results are consistent with and supported by number of scholars. Jun (1994) also described insignificant outcomes while Scholes and Wolfson (1990) and Swenson (1994) found the positive

relations between two variables. Also, Duanmu and Guney[109]) demonstrated negative relation of OECD member country dummy variable to FDI inflows. However, it will be interesting for future researches to find the empirical reasons why the host country corporate income tax showed insignificant positive relations to FDI inflows.

Based on the model outcome, the following recommendations for the policy makers trying to attract FDI are signed out: the model results demonstrate that reducing tax is not always a good strategy to attract FDI since low taxes cannot compensate generally unattractive investment environment. Therefore, policy makers are encouraged to take into consideration more non-tax determinants including socio economic and legal factors. Joint effect of the factors will enhance investment environment resulting in attract more investments into the country.

Bringing up rear, the research gives interesting hints how the tax policy in a country should be designed in order to attract inward FDI and concludes that tax climate does influence the level of inward FDI. Thus, creating favorable tax environment should be on the top of the agenda for the policy makers not only to increase FDI inflows but also to boost the financial stability of the domestic companies. While the research finds several interesting tips on the relation of the studied variables that requires more observation, it may be a good foundation for the future studies.

[109] , Duanmu and Guney 2008

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Appendix

Stata Commands:

xtset ID T

corr CIT GDPPC ATC EDU Rrop Bfree Invfree

xtreg FDI GDPPC ATC EDU Rrop Bfree Invfree CIT, fe vce (cluster ID)

estimates store fixed

xtreg FDI GDPPC ATC EDU Rrop Bfree Invfree CIT, re vce (cluster ID)

xtoverid

areg FDI GDPPC ATC EDU Rrop Bfree Invfree CIT, absorb(ID) vce(cluster ID)

xtreg FDI GDPPC ATC EDU Rrop Bfree Invfree CIT EU OCN Asia Am , re vce (cluster ID)

Stata outcome tables:

```
. xtset ID T
       panel variable:  ID (strongly balanced)
        time variable:  T, 1 to 15
                delta:  1 unit
```

```
. corr CIT GDPPC ATC EDU Rrop Bfree Invfree
(obs=525)
```

	CIT	GDPPC	ATC	EDU	Rrop	Bfree	Invfree
CIT	1.0000						
GDPPC	0.0142	1.0000					
ATC	-0.0340	0.2490	1.0000				
EDU	0.1256	0.5505	0.2679	1.0000			
Rrop	-0.0913	0.2441	-0.1636	0.2091	1.0000		
Bfree	-0.0417	0.4001	0.0672	0.3649	0.5456	1.0000	
Invfree	0.0592	0.2551	0.0286	0.0740	0.0290	-0.0395	1.0000

```
. xtserial FDI GDPPC ATC EDU Rrop Bfree Invfree CIT

Wooldridge test for autocorrelation in panel data
H0: no first-order autocorrelation
    F(  1,      34) =     71.927
           Prob > F =      0.0000
```

```
. . xtreg FDI GDPPC ATC EDU Rrop Bfree Invfree CIT, fe vce (cluster  ID )

Fixed-effects (within) regression               Number of obs      =       525
Group variable: ID                              Number of groups   =        35

R-sq:  within  = 0.1388                         Obs per group: min =        15
       between = 0.0235                                        avg =      15.0
       overall = 0.0306                                        max =        15

                                                F(7,34)            =      4.79
corr(u_i, Xb)  = -0.2376                        Prob > F           =    0.0008

                                    (Std. Err. adjusted for 35 clusters in ID)
------------------------------------------------------------------------------
             |               Robust
         FDI |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       GDPPC |   371087.8   103321.5     3.59   0.001     161113.4    581062.3
         ATC |   3.51e+10   2.75e+11     0.13   0.899    -5.23e+11    5.93e+11
         EDU |   7.20e+08   3.05e+08     2.36   0.024     1.00e+08    1.34e+09
       Rrop  |  -3.75e+08   2.46e+08    -1.52   0.137    -8.76e+08    1.25e+08
       Bfree |  -2.04e+08   1.35e+08    -1.52   0.138    -4.78e+08    6.91e+07
     Invfree |   1.14e+07   8.96e+07     0.13   0.900    -1.71e+08    1.94e+08
         CIT |   6.54e+10   3.74e+10     1.75   0.089    -1.05e+10    1.41e+11
       _cons |  -2.06e+10   2.78e+11    -0.07   0.941    -5.86e+11    5.45e+11
-------------+----------------------------------------------------------------
     sigma_u |  3.461e+10
     sigma_e |  1.120e+10
         rho |   .90518274   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

```
. . xtreg FDI GDPPC ATC EDU Rrop Bfree Invfree CIT, re vce (cluster  ID )

Random-effects GLS regression                   Number of obs      =       525
Group variable: ID                              Number of groups   =        35

R-sq:  within  = 0.1368                         Obs per group: min =        15
       between = 0.0495                                        avg =      15.0
       overall = 0.0561                                        max =        15

                                                Wald chi2(7)       =     28.82
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0002

                                    (Std. Err. adjusted for 35 clusters in ID)
------------------------------------------------------------------------------
             |               Robust
         FDI |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       GDPPC |   353181.3   103568.4     3.41   0.001     150191.1    556171.6
         ATC |  -7.28e+10   3.18e+11    -0.23   0.819    -6.97e+11    5.51e+11
         EDU |   7.25e+08   3.19e+08     2.27   0.023     9.90e+07    1.35e+09
       Rrop  |  -2.40e+08   1.87e+08    -1.28   0.200    -6.07e+08    1.27e+08
       Bfree |  -1.59e+08   1.29e+08    -1.24   0.217    -4.12e+08    9.35e+07
     Invfree |    2544476   8.51e+07     0.03   0.976    -1.64e+08    1.69e+08
         CIT |   6.92e+10   3.85e+10     1.80   0.072    -6.21e+09    1.45e+11
       _cons |   7.35e+10   3.21e+11     0.23   0.819    -5.56e+11    7.03e+11
-------------+----------------------------------------------------------------
     sigma_u |  2.989e+10
     sigma_e |  1.120e+10
         rho |   .87686095   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

```
. xtoverid

Test of overidentifying restrictions: fixed vs random effects
Cross-section time-series model: xtreg re  robust cluster(ID)
Sargan-Hansen statistic  12.132  Chi-sq(7)     P-value = 0.0963
```

```
. areg FDI GDPPC ATC EDU Rrop Bfree Invfree CIT, absorb(ID) vce(cluster ID)

Linear regression, absorbing indicators          Number of obs     =        525
                                                 F(   7,     34)   =       4.47
                                                 Prob > F          =     0.0013
                                                 R-squared         =     0.9078
                                                 Adj R-squared     =     0.9000
                                                 Root MSE          =  1.120e+10

                                    (Std. Err. adjusted for 35 clusters in ID)
------------------------------------------------------------------------------
             |               Robust
         FDI |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       GDPPC |   371087.8   106896.2     3.47   0.001     153848.7    588327
         ATC |    3.51e+10   2.84e+11     0.12   0.903    -5.43e+11   6.13e+11
         EDU |    7.20e+08   3.16e+08     2.28   0.029     7.88e+07   1.36e+09
        Rrop |   -3.75e+08   2.55e+08    -1.47   0.150    -8.93e+08   1.42e+08
       Bfree |   -2.04e+08   1.39e+08    -1.47   0.151    -4.87e+08   7.86e+07
     Invfree |    1.14e+07   9.27e+07     0.12   0.903    -1.77e+08   2.00e+08
         CIT |    6.54e+10   3.87e+10     1.69   0.100    -1.32e+10   1.44e+11
       _cons |   -2.06e+10   2.88e+11    -0.07   0.943    -6.06e+11   5.64e+11
-------------+----------------------------------------------------------------
          ID |   absorbed                                     (35 categories)
------------------------------------------------------------------------------
```

```
Random-effects GLS regression                   Number of obs      =       525
Group variable: ID                              Number of groups   =        35

R-sq:  within  = 0.1356                         Obs per group: min =        15
       between = 0.3869                                        avg =      15.0
       overall = 0.3595                                        max =        15

                                                Wald chi2(11)      =     31.03
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0011

                                    (Std. Err. adjusted for 35 clusters in ID)
------------------------------------------------------------------------------
             |               Robust
         FDI |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       GDPPC |   312339.3   99976.44     3.12   0.002     116389.1    508289.5
         ATC |   -1.16e+11   3.79e+11    -0.31   0.759    -8.58e+11   6.26e+11
         EDU |    7.55e+08   3.10e+08     2.44   0.015     1.48e+08   1.36e+09
        Rrop |   -2.40e+08   2.07e+08    -1.16   0.246    -6.46e+08   1.65e+08
       Bfree |   -1.19e+08   1.32e+08    -0.90   0.367    -3.78e+08   1.40e+08
     Invfree |     2509402   8.76e+07     0.03   0.977    -1.69e+08   1.74e+08
         CIT |    7.42e+10   3.80e+10     1.95   0.051    -2.74e+08   1.49e+11
          EU |   -7.90e+10   5.60e+10    -1.41   0.159    -1.89e+11   3.08e+10
         OCN |   -8.19e+10   5.67e+10    -1.44   0.149    -1.93e+11   2.93e+10
        Asia |   -1.04e+11   5.86e+10    -1.78   0.075    -2.19e+11   1.06e+10
          Am |   -6.95e+10   5.41e+10    -1.29   0.198    -1.76e+11   3.64e+10
       _cons |    1.88e+11   3.89e+11     0.48   0.628    -5.74e+11   9.51e+11
-------------+----------------------------------------------------------------
     sigma_u |   2.350e+10
     sigma_e |   1.120e+10
         rho |   .81486333   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

```
. xtreg FDI CIT, re vce (cluster ID)

Random-effects GLS regression
Group variable: ID

R-sq:  within  = 0.0003
       between = 0.0822
       overall = 0.0589


corr(u_i, X)   = 0 (assumed)
```

Conceptual model of agro-sphere development of Georgia

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Abstract

The paper presents the main problems in the agricultural sector of Georgia and the conceptual model for eliminating these problems, which is based on certain qualitative assumptions and combines the ideas contained in the broad concept.

Today, Georgia's agricultural sector faces many problems and challenges. Reducing the number of places needed for agriculture in the world not only makes agricultural products more expensive, but also threatens the global food crisis.

Given the current reality, the development of national agricultural production is vital for the security of the country. However, it is necessary to emphasize the fact that the policy of eliminating only one shortcoming in the agro-sector will not bring results to the country.

However, it is impossible to solve the problems of the agro-sector separately, apart from the development of the country's economy. Assistance to the agro-industry will only work if the right policies are implemented to develop long-term and stable economic processes.

Key words: Agrosphere, Agrobank, Agrocenter, Specialized Foundations.

* * *

In modern times, when the whole world is thinking about the development of economic processes, one of the most important directions in Georgia, I think, should be the agricultural sector with its share of about 10% of GDP. However, it should also be noted that the development of the agricultural sector, in turn, will have positive effects on other sectors.

Due to the serious problems in the field of agriculture, its complex evaluation-analysis and systemic approach methodology should be used to take important effective steps. There is no doubt that the agro-industry is one of the most important sectors and we must have a proper agro-policy, but it will not be the main engine of the country's economic development. The simultaneous development of different sectors of the state economy enriches them, including the agricultural sector, but not only the agricultural sector and any other sector. The main focus should be on the farmer expanding production, using more and more new technologies to quickly become as modern farm as possible.

It is not worth presenting the problem separately in terms of knowledge in the agricultural sector, as we have a similar problem in all directions in the country, and if, in general, the field of education is improved and improved, the agro-sphere will also benefit.

The agricultural sector will definitely need modernization and intensive development (which should help tackle rural poverty and develop the regional economy), financial, legislative, organizational and institutional support, on which the state should focus and implement.

In Georgia, the agro-sphere was one of the priority sectors for all governments, and all governments included the Ministry of Agriculture, which spent quite a lot of money on the development of the sector. In total, the state spent more than a billion GEL to develop the agricultural sector in 2013-2019. In addition to the mentioned billion GEL, more than 300 million GEL was spent separately for the rehabilitation and creation of the amelioration system.

Besides, in economic practice it is known that if the government subsidizes any sector / field, there is a high probability that this sector will get used to the subsidy and will not develop. Basically, this is probably the case with agriculture in our country. So, in my opinion, instead of subsidies for the agricultural sector, it would be better to accumulate the given financial resources in any state institution that will be directly focused on the modernization and development of the agro-sphere using the latest methodologies.

Therefore, In order to solve the existing problems of agricultural sector, a state agricultural bank (agro-bank) should be established - With the guarantees of the state government for the development and expansion of the agricultural-industrial forces, which will combine a variety of specialized fund:

- Export-Import Bank Foundation;
- Credit Fund;
- Research Foundation;
- Employment Fund;
- insurance (compensation) fund;
- Consulting groups;
- National Agrarian Research Center - Agrocenter.

These special funds should be distinguished by their legal status and purposeful use. The right to use such funds should be given to legal entities that will carry out state orders or work in accordance with the country's development programs.

Agrobank should be an institution that is not subject to the law on commercial banks, and the work of the agro-credit system should be regulated by the parliament.

Agrobank is non-alternative, but requires the above-mentioned specialized funds to help establish agricultural unions and accumulate cash resources in cooperatives. This method has a long history at the international level. Since the agricultural sector is the fastest to achieve results, it will automatically have an impact on other areas of the economy as well. Promoting small and medium-sized businesses will be a prerequisite for generating a lot of income. Agricultural cooperatives have helped increase farmers' incomes in the United States and Western Europe. In these states, agricultural associations were set up to balance market power between entrepreneurs and their trading partners, as well as to reduce the risks facing farmers. For the given period, they were actively supported by the state.

Today, such agricultural associations have significant advantages in terms of entering the market, access to credit resources and access to various information by firms. Agricultural entities have the opportunity to achieve economies of scale, acquire the latest technological resources together (which individual could not buy alone because of the high cost), get out and establish themselves in markets where they could not individually penetrate, which will help to increase the profitability of agricultural production, increase the income of rural residents, strengthen the rural

economy and raise living standards. At the same time, the formation and development of such unions in the agro-sphere will prevent the existence of monopolies at the local level, and will make Georgian farmers more competitive at the international level.

The successful operation of agricultural unions contributes to the sustainable and stable development of the regional economy, while creating a favorable investment environment. Stable operation of such cooperatives implies: a strong private sector in the regional context, which will significantly increase employment, reduce social inequality and urbanization; A middle layer will be formed, with more or less stable working conditions.

Another factor in favor of cooperatives is that agricultural unions mainly focus on long-term strategy, which results in long-term results, while small entrepreneurs / farmers focus on short-term strategies, trying to achieve high profits in the short term.

At the same time, it would be desirable (I think even necessary!) To diversify agricultural associations, which would mean specializing the production of one particular type of product in a particular region of the country. For example,

- in the Autonomous Republic of Adjara it is possible to establish citrus production / processing cooperatives,
- wine production cooperatives in Kakheti region,
- fruit processing cooperatives in Kartli, etc.

Given the current situation, it is important to create a unified information portal, where all entrepreneurial entities of the agricultural sector will be registered. Through this portal, we will have accurate information on the amount of products to be sold in a particular village, what are the quality characteristics of the product, market price, transportation conditions, etc., which will significantly help to sell agricultural products in local or international markets.

Besides, we can connect (add) the data of those interested in employment in the agricultural sector to this portal. I think an important role in eliminating this problem will play the establishment of the Employment Fund on the basis of agro-banking, the aim of which will be to promote the implementation of state policy in the field of employment, to implement social

protection measures for the unemployed, and its function should be: to obtain information about the state of the labor market, to register job seekers on the portal and to mediate their employment.

A separate farmer, small entrepreneur or farmer often fails to get the necessary credit resources, so it is less interesting for insurance companies to insure the risks for similar farms. However, in the case of cooperative associations, producers (cooperative entities) receive large loans and insure against possible risks to a large crop. Therefore, it is desirable for both credit organizations and insurance companies to deepen their relationship with similar agricultural associations.

Given the high risks in the agricultural sector, I think it will also be important to create an insurance (compensation) fund on an agro-banking basis. It should be committed to reducing the dependence of macroeconomic and budgetary policies on world market prices of exported raw materials, Which literally means - in case of falling below the pre-determined price limit on export raw materials, additional funding of budget expenditures and protection of the national currency exchange rate, which will be implemented at the expense of funds previously accumulated in the agro-bank.

Agrobank should have an independent balance, the funds of which should be formed both through treasury funds and/or loans, and through the sale of its own liabilities and should be used for various purposes (for crop sales, warehouse construction and other purposes). In addition, the source of funding can be: subsidies and targeted transfers from the central budget of Georgia, voluntary contributions and donations from individuals and legal entities, income from economic activities permitted by the agribusiness law, revenues from financial sanctions imposed by Agrobank for breach of contractual obligations; International or local grants; Revenues from the sale of licenses by the agro-center. Its annual balance sheet should be checked by independent auditors.

Agrobank should be able to issue loans (for a period of 15-20 years) to Georgian export companies, as well as to issue guarantees on the export credits of private banks (within 30-60% of the loan volume). It should provide loans at a moderate interest rate to finance loss-making enterprises or provide assistance to companies that do not have access to other sources of credit. At the same time, agrobank should stimulate private business, especially during the period of falling production.

In order to develop the agricultural sector, I think it would be better to establish a National Agrarian Research Center - Agrocenter on the basis of agrobank, where experienced specialists in the agro-sphere from Georgia and various countries will be invited to teach or train farmers. I also think it will significantly improve the qualifications of those interested in the field. The studies, which will be conducted in the laboratories of the agro-center, national and private companies and will be introduced in the industry, should be carried out with the help of agro-banking funds. At the same time, the agro-center should provide: training of labor force - creation of extension systems; Restoration of seed-nursery farms, variety selection and renewal systems; Purchase of the best quality seed-nursery materials; Creation of state reserves of agricultural products; Conducting reclamation measures; Make a significant contribution to the formation and development of agricultural manufacturing industries machinery, technology and equipment.

The Association Agreement between Georgia and the European Union in 2014 deserves special mention. The main part of this agreement is the Deep and Comprehensive Free Trade Agreement, the main idea of which is to give our country access to the freedoms of the European Union, such as the free movement of goods, services and capital, without any restrictions. As a result of the creation of the free trade zone, customs duties on imports will be abolished, which overall, will contribute to the sustainable and stable economic development of Georgia.

There is no doubt that the Association Agreement between Georgia and the European Union is a fact of historical significance for our country. However, it is important that every citizen of Georgia has comprehensive information on the key issues covered by the agreement.

Important mechanisms for the development of a food safety regulation system require considerable attention. After the signing of the Association Agreement, certain legislative activities were carried out that brought the Georgian legislation closer to the EU standards, although the problems still exist. Solving these problems will help increase the competitiveness of people employed in our country's agro-industry, both locally and in the international markets. We can talk about the activation of marketing services and the promotion of ecologically safe and clean products in Georgia in the markets of our state and developed countries.

With the right steps, approaches and state policy in the agricultural sector, agricultural entities registered in Georgia, farmers will be prepared to face the new challenges facing our state. As a

result of increasing awareness, they will be able to produce European standards, environmentally safe, competitive products and occupy a worthy place at the international level.

As for the connection of the agricultural sector with the tourism sector. According to Geostat, the number of international travelers visiting Georgia in 2019 was 9,357,964. The average cost of visitors to Georgia was about 900 GEL. If we multiply these data by each other, we will get the approximate total cost of travelers in our country during the whole year, which is more than 8 billion GEL, of which more than 2.2 billion GEL comes from food and drink (28%). This, I think, is quite a large amount, considering that Georgia is one of the leading countries in the world in terms of growth rate in the tourism sector. Based on the above data, it is obvious that there should be a steady and stable development of the agro-sphere so that Georgia can meet the needs of the growing influx of tourists every year.

In conclusion, it should be noted that the activities of the agrobank and the funds or agro-centers in it can be used effectively only in case of transparency. Otherwise, they will later be transformed into a source of corruption. This requires transparency and appropriate control over effective reporting. That's why, I think it would be better for the government to draw up an annual report with the National Bank based on the decree of the President of Georgia, which will be submitted to the President for approval, and the President will be provided with external independent audit results.

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The criteria for an effectiveness of the company's anti-crisis strategic management on the modern stage

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Abstract

An aim of the present research is to analyze the criteria for an effectiveness of the company's anti-crisis strategic management on the modern stage and to find ways to further develop it. This article is based on the basics of theoretical and empirical research. We used methods of induction and deduction as well as analyses, synthesis, generalization and abstraction. Theoretical and methodological background of the research includes related works of famous scientists both national and international, monographs, articles, normative statements, annual publications, which contain analysis and evaluation of practical experience in developed and post-Soviet countries.

An article offers the stages of an organization's anti-crisis management process.

This paper outlines the risk management functions, there is found the positive and negative aspects of the company's anti-crisis strategic management on the modern stage; Also, as a conclusion, have been formed efficiency criteria to improve an above-mentioned process in the long run.

Keywords: Anti-crisis, Strategic, Management, Effective, Modern, Organization, Company.

The challenges of 21st century force us to always be in shape, to perceive and control an environment and to react properly to the processes that take place in it.

In the modern world, in an open and global information space where constant and diverse exchange of thoughts and ideas takes place, where there are no restrictions and critical content is quite common, all types of organizations are vulnerable to the spread of negative information, which, of course, damages their reputation and business image.

As it is known, the world community has gained a lot of experience in creating legislation on bankruptcy. More or less, organizations operating in developed countries in market relations have rich experience in bankruptcy proceedings.

It should be noted that communication crises of various scales are part of an usual agenda, and each of them needs correct, long-term anti-crisis communication.

Anti-crisis management is a PR direction that develops a framework plan for predicting and eliminating possible crisis situations; Establishes strategies to attend to an impending crisis and stop it; And in times of crisis, it manages the communication process, which is focused on the development of an organization's position, as well as the perception of the problem; It avoids spreading rumors and misinformation, neutralizes and minimizes the consequences of the crisis. The culmination of professionalism is not only the focus on problem management to protect an organization from an impact of internal facts, but also the fact that the company will benefit from strengthening its business activity at an expense of neutralizing the facts that threaten its advantages.

An anti-crisis management process includes pre-crisis management, crisis management, post-crisis actions and solutions. In order to minimize the damage from the crisis, it is necessary to start preparations for it before the crisis actually begins. The first thing that often happens during a crisis is spontaneity. Motivated managers, in case of danger, formulate anti-crisis strategies in advance and create scenarios, strengthen staff.

A number of factors precede the crisis, in many cases, as mentioned above, unfortunately, they only start when the crisis has already begun.

Naturally, it is very interesting to see how an anti-crisis campaign is planned. The following supportive measures need to be taken to identify the crisis:

- ✓ Creating a working group and delegating functions;
- ✓ Timely planning of key actions;

- ✓ Identify the causes of the situation;
- ✓ Create message boxes;
- ✓ Generate key messages;
- ✓ Psychological support for the first person;
- ✓ Research and interviews;
- ✓ Evaluation of external factors;
- ✓ Staff training;
- ✓ Develop media materials and communicate unwanted messages;
- ✓ Analysis of results over time.

An organization's anti-crisis strategy envisages its accurate resource provision, which is a very difficult task in the face of an unsustainability of an external environment. Nevertheless, such situations are also subject to resolution in an event of appropriate efforts.

Anti-crisis strategy is a complex of measures to turn into a strict "corridor" of risky situations, to implement its own risk management. Risk management is a system of risk and economic relations (primarily financial) management and includes a management strategy and tactics.

It should be noted that the following functions of risk management are distinguished in anti-crisis management:

- ❖ The function of the management object, which includes an organization of risk avoidance;
- ❖ Risk of capital investments;
- ❖ Work related to risk reduction;
- ❖ The process of risk insurance: Economic Relations and connections between subjects of economic processes; Functions of management entities, including forecasting, organization, coordination, regulation, stimulation and control.

Anti-crisis strategic management, as a specific type of governance activity, with strict demarcation parameters and a narrow orientation of the target direction, is subject to evaluation in terms of efficiency. According to the purpose, the result of anti-crisis strategic management should be the transition of an organization to a higher economic quality of balanced functioning than it was in the pre-crisis period. At the same time, if an ultimate result for "external" governance (mainly financial management) is to pay off creditors (including taxes) and pay staff, and for an internal manager (mainly production management) the main goal is to achieve financial-economic balance.

Thus, such differentiation in the purpose of the company's "external" and "internal" anti-crisis management simultaneously distributes intermediate goals in management activities.

The goal of the first line of the strategic manager (both existing and external) and the main intermediate measure of efficiency (course accuracy) is to achieve the stability of personnel processes and financial settlement in the team of the crisis company.

All this is due to the fact that an uncertainty of the state and relations of production functions poses the main threat of disobedience, political strikes and other actions, which leads to socio-economic and political losses not only within an organization, but also at the meso-intermediate level.

In the face of extreme financial resource constraints, the company's general manager faces the following two closely related tasks: to continue the reproduction process and to prevent "explosions" from occurring in the team. At the same time, an indicators of an effectiveness of anti-crisis management are to ensure a calm situation, the longer the leadership will be able to maintain the business environment in the team, the higher an accuracy (effectiveness) of the anti-crisis management course.

The company’s entry into a crisis situation is a signal to its general manager that the current management system is totally unsuitable for further operations and is demanding a drastic change. The head of the crisis organization faces a specific task: to conduct a complex analysis of the crisis and to develop mechanisms for overcoming it. It can do this either with the help of invited specialists, or through the company’s staff. To avoid bankruptcy, the company is obliged to quickly solve this task either through an appointment of an existing director or a new one. In addition, they will have approximately the same tasks and functions of anti-crisis management, as well as priorities for solving anti-crisis tasks.

It is believed that among the four main types of crisis companies - product keys, costs, finance and management - the latter has a special place. This is explained by the fact that if the problem of management and governance is not solved, it becomes impossible to overcome the negative events of another three. As for the management crisis, it is important that an attempt to overcome it can be unsuccessful when it fails to attract an appropriate number of qualified personnel. The shortage of qualified personnel is explained by the fact that when a company enters a crisis zone, it is first and foremost abandoned by qualified personnel at all levels of government. Such a situation forces the head of the crisis organization to take care of the retention of qualified management staff. Especially - to your own deputies and specialists of subdivisions.

The subject of special care of the top management of the crisis company is to ensure peace of mind by balancing an interest of investors, management and staff. The managers of an organization are obliged to ensure the balance of interests between an investor and the staff, which has the possibility of partial coincidence only within the given company. It is well known that following the crisis situation of an organization, the zone of conciliation of interest's "narrows" and can turn into zero, which means the liquidation of the firm.

To assess the concurrence of an interests of investors, managers and staff, a method is used in which the measure of concurrence of interests is used as a criterion for an effectiveness of anti-crisis management. In addition, the management of the company is separated from the staff due to its special status in an organization: on an one hand, it includes hired staff, so its status coincides with the status of staff, but on an other hand, it represents an interests of investors in an organization. These qualities of management in the form of the company's top executives give it the quality of a separate factor, or a subject that functions with a specific mark (indicator).

Thus, the more the "field" of matching an interest of investors and staff, or the broader the management base, the more stable an organization's position. The reversal of such an attitude would also be valid. In particular, the broader the management base, the more sustainable an organization. Different proportions of this condition are an indicator of an effectiveness of management. Therefore, one of the central problems in the management of a crisis organization is an acquisition of a means of expanding its own base ("management base"). Studies have shown that overall management, despite its intermediate position in an organization, still tends to be in an interest of staff and is more focused on the company's economic. In this case, the property status of managers, especially senior management, is crucial. Management distance from property institutions (investors) can significantly compress their strategic resource capacity (the degree of confidence and authority caused by this compression). From an experience of practical business, it is known that an interest of the managers of an organization has increased due to their involvement in an institution of property.

Conclusions

Every manager, especially a general manager of an organization, needs to constantly think about the future of the company. Even in acute crisis situations, the strategic thinking of the supervisor needs to be directed towards creating a basis for high-speed development at a later stage of the company's crisis, such as: forming an organizational structure for intra-corporate

relationships; Study and processing of technical innovations; Renewal of production base; Purposeful formation of the staff structure, etc.

An orientation of any organization in the long run is the starting point for the work of an entire governing body and an optimal general manager.

The main goal of the head of each crisis company and its management team is to overcome organizational stress and move on to new, more efficient production. It is with these indicators that an effectiveness of anti-crisis management should be assessed.

The summary criterion of anti-crisis management (except for companies that are focused on debt compensation by all means) is not to overcome the crisis, but to provide the company with an organizational-technological quality that ensures its active development after the crisis.

The result of managerial labor in a crisis company needs to be a gradual overcoming of organizational stress according to sectors and directions, which ensures its progress. In this context, we can discuss anti-crisis management as an art of governance, which maximizes an ability to express erudition, insight, creativity, willpower, and energy, as well as an ability to charge people with other faiths. The main directions of formation of the management team, an implementation of which allows the crisis company to maintain an ability to function effectively in extreme conditions based on systemic approaches, lies in creative thinking. Here we are talking about the training of managers in order to overcome the crisis effectively; An involvement of various categories of governing apparatus in solving anti-crisis tasks; On the formation of psychologically and organizationally trained management staff groups; In order to strengthen the crisis company in an organizational way, to create governance groups according to the principle of "addition", which ensures the formation of a team from an intellectual and organizational point of view of the general manager.

It is necessary for the "team of rulers" to be formed in such a way as to exclude possible internal conflicts, which is especially devastating for a crisis organization. It is important to note that an organization's strategic focus on anti-crisis management is strengthened by its involvement in global market economy and strengthening its position, with a focus on Georgia's most successful companies in 21st century: “ Barambo”, “Kula,” “PSP "," Coca-Cola" and others.

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Business development features according to Global Competitiveness and Doing Business Indexes in South Caucasus Countries

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Abstract

The main topic of the article is the ranking of South Caucasus Countries by important international indicators such as the Global Competitiveness and the Doing Business Indexes. Global Competitiveness Index identifies strength and weakness of the country's economy and has strong importance for assessing of its productivity and competitiveness. Global Competitiveness Index represents evident strength and weakness of the country in sense of business development and helps to develop package of necessary reforms. Doing Business Index measures business regulations that affect domestic small and medium-size firms across 190 economics since 2001. Governments use Doing Business Index as a source of objective data providing unique insights into good practices worldwide. Doing Business Index measures 10 areas of business regulation – starting business, dealing with construction permits, getting electricity, registration property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts, resolving insolvency.

These indicators are very important for studying process of business environment of any country including South Caucasus Countries. Analysis, like presented here, give us a good opportunity to identify problems and find new ways to overcome it.

In conclusion both indexes show that these South Caucasus Countries still have to work hard to achieve high economic standards. Such indicators are very important for studying of business environment of South Caucasus. Activities like presented in this research will help each county to attract more investors and increase investments.

Key words: indexes, development, business, South Caucasus

1. Introduction

The main topic of present research is identification of business development features in Armenia, Georgia and Azerbaijan. We have used Global Competitiveness Index (GCI) and Doing Business Index (DBI).

GCI is based on the original idea of K. Schwab and is regarded as an important parameter not only for the government of the country, but for investors as well. Indeed, GCI gives a clear view about macroeconomic environment, institutions and technological development level and nowadays is represented for 141 countries.

2. Objectives of the Study

The objective of the study was to compere business development features in Armenia, Georgia and Azerbaijan.

For this we have used approach of comparative research analysis.

3. Methodology

In general, Global Competitiveness Index is based on the statistical information provided by international organizations such as world bank, world trade organization, international monetary foundation, etc. In fact, GCI identifies strength and weakness of the country's economy and has strong importance for assessing of its productivity and competitiveness. As follows from above mentioned, GCI represents evident strength and weakness of the country in sense of business development and helps to develop package of necessary reforms.

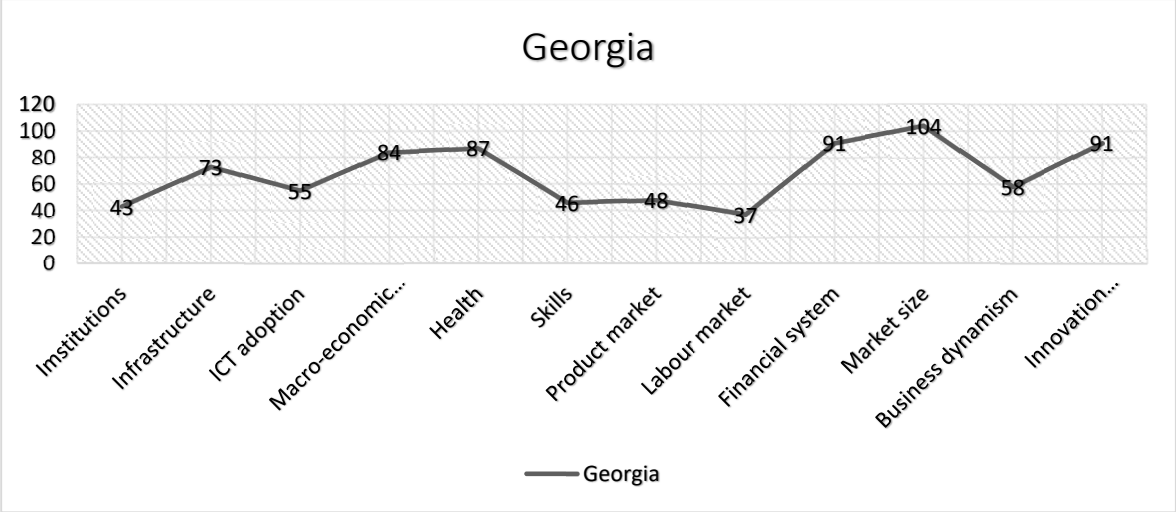
In the frame of present research, it was not intended to go in details of GCI calculations methodology and we just want to mention here that Global Competitiveness Index combines indicators that capture concepts that matter for productivity and long-term prosperity. These indicators are combined into 4 groups and 12 pillars. Enabling Environment-institutions, infrastructure, ICT adoption, macroeconomic stability; Human capital- health, skills; Markets- product market, labor

market, financial system, market size; Innovation Ecosystem-business dynamism and innovation capability.

Doing Business Index measures business regulations that affect domestic small and medium-size firms across 190 economics since 2001. The DBI methodology is based on standardized case scenarios in the largest business city in each economy. DBI relies on 4 main sources of information: the relevant laws and regulations, DBI respondents, the governments of the economies covered and the World Bank Group regional staff. Governments use DBI as a source of objective data providing unique insights into good practices worldwide. DBI measures 10 areas of business regulation – starting business, dealing with construction permits, getting electricity, registration property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts, resolving insolvency.

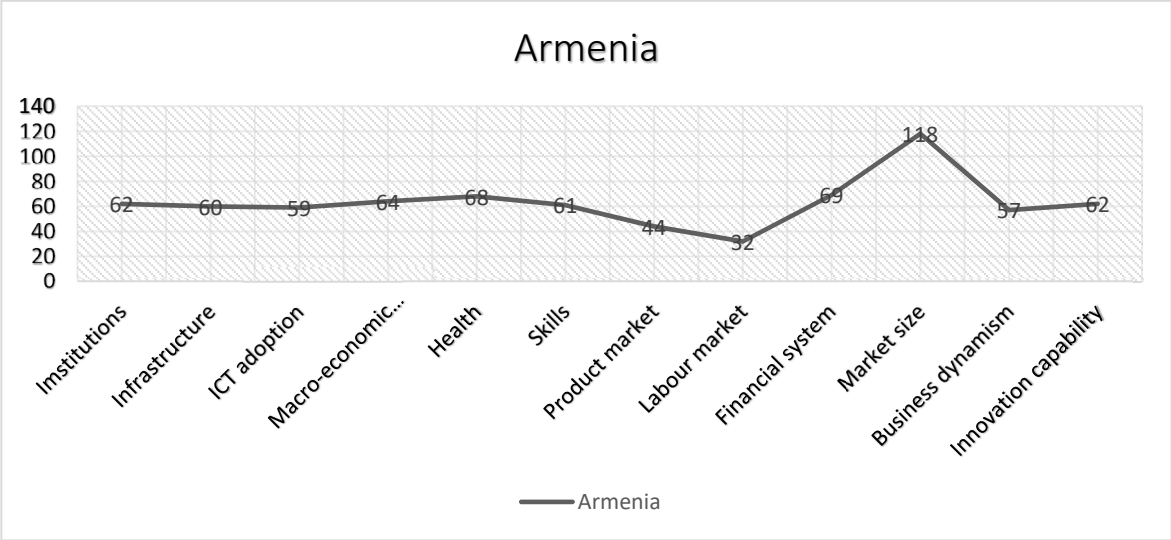
In table 1, it is presented 2019 GCI for Georgia. According to this diagram we can see that among these 12 pillars Georgia shows better perspectives in labor markets, institutions and skills. The worst in Market size, innovation capability and financial systems.

Table 1. Global Competitive Index rank for Georgia according to 12 pillars



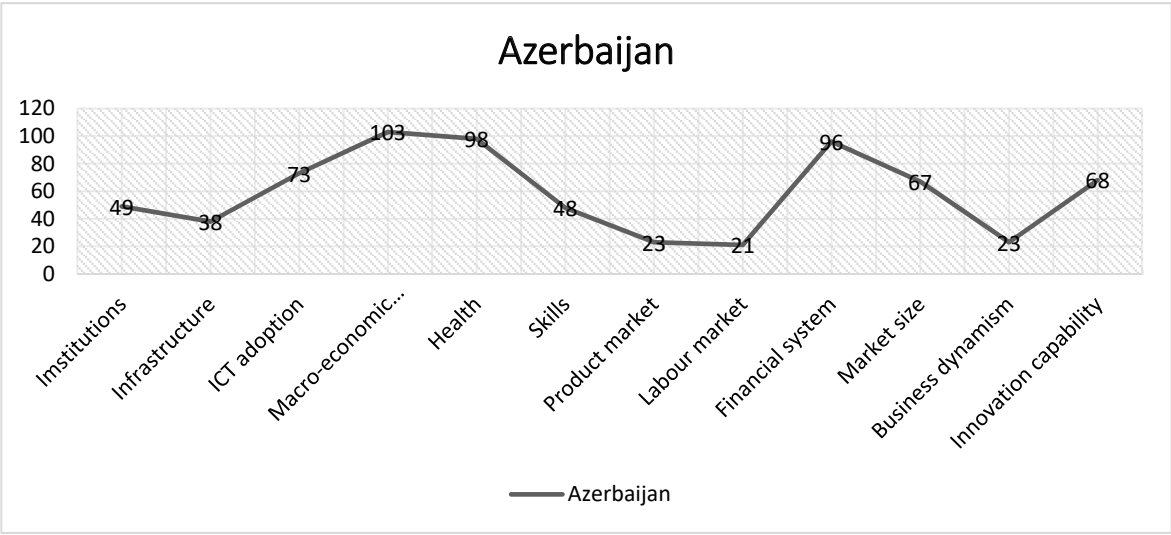
In table 2, it is presented 2019 GCI for Armenia. According to this diagram we can see that among these 12 pillars Armenia shows better perspectives in labor markets, product market and business dynamist. The worst in Market size, financial systems and health.

Table 2. Global Competitive Index rank for Armenia according to 12 pillars



In table 3, it is presented 2019 GCI for Azerbaijan. According to this diagram we can see that among these 12 pillars Azerbaijan shows better perspectives in labor markets, product market and business dynamist. The worst in Macro-economic stability, health and financial system.

Table 3. Global Competitive Index rank for Azerbaijan according to 12 pillars



We can see that among 12 pillars Georgia has better positions than Armenia and Azerbaijan in following: Institution, ICT adoption and Skills. Armenia has better positions than Georgia and Azerbaijan in following: Macro-economic stability, health, financial system and innovation

capability. Azerbaijan has better positions than Georgia and Armenia in following: Infrastructure, product market, labor market, market size and business dynamism.

Doing Business Index gives us an important information about how easy is it to start business and what kind of obstacles should business overcome in its early age.

GCI has a positive trend in South Caucasus countries, this is a good indicator for investors to invest money in these countries and help them in developing process.

There also are represented doing business ranks for Armenia, Georgia and Azerbaijan in 2019. In Table 4 we can see ranking positions of these South Caucasus countries and in table 4.1 there is a detailed information for each country and their ranking positions in each parameter which finally is combined as DBI.

Table 4. DBI ranking in South Caucasus in 2019

DBI ranking in 2019		
Armenia	Georgia	Azerbaijan
41	6	25

Table 4.1. DBI ranking according to the parameters in South Caucasus in 2019

2019	Armenia	Georgia	Azerbaijan
Starting a business	8	2	9
Dealing with construction permits	98	27	61
Getting electricity	17	39	74
Registration property	14	4	17
Getting credit	44	12	22
Protecting minority investors	51	2	2
Paying taxes	82	16	28
Trading across borders	46	43	84
Enforcing contracts	24	8	40
Resolving insolvency	95	60	45

DBI is a good source to measure how easy is it to start and do business in the country. This information is very important for investors, international organizations and decision makers.

The trend in South Caucasus gives us hope that these countries will attract more investors, make better business environment and raise money to develop economy and overcome problems.

Overall positive trend is a result of the working process of the governments, also NGOs and other organizations who always monitor processes and try to make package of initiatives and recommendations to enhance efficiency. Thus, this is just a starting stage and governments still have to work hard to achieve higher standards.

According to DBI Georgia represents better ranking than Armenia and Azerbaijan. Among 10 subindexes Georgia has better ranking in 8. These are: starting business, dealing with construction permits, registration property, getting credit, protecting minority investors, paying taxes, trading across borders and enforcing contracts. This means that Georgia has high investment potential. Armenia has better ranking than Georgia and Azerbaijan in getting electricity component. Azerbaijan has better position in resolving insolvency than Georgia and Armenia, but have the same ranking position as Georgia in protecting minority investors. The above-mentioned facts show that despite difficulties South Caucasus countries have real potential to attract investors and make better business environment. These opportunities need to be used wisely. Working with international organizations and funds will help South Caucasus countries to become more successful and goal oriented.

4. Results

Both indexes show that all South Caucasus countries still have to work hard to achieve high economic standard. Results of research once again convince how used indicators are very important for studying process of business environment of South Caucasus. This and similar researches give a good opportunity to identify problems and find new ways to overcome existed problems. All this finally will help to enhance chances of each county to attract more investors and increase investments.

5. Conclusions

Comparison of South Caucasus Countries according to Global Competitiveness and Doing Business Indexes is very important from different points of views. Meanwhile, several findings should be pointed out:

1.Georgia, Armenia and Azerbaijan should go on progress to achieve higher economic standards.

2.All of these countries have investment potential, but business environment still need to be refined mostly in Armenia da Azerbaijan.

3.Research based on such indexes is very important to help interest groups get information about business processes in the countries.

Well organized business activities will help each country to attract more investors and increase investments.

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A new challenge for tourism: the global pandemic and its impact on tourism industry

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Abstract

Travel and tourism is world's fastest growing industries but at the same time the sector is quite sensitive to diverse pandemic risks.

Nowadays we live in a new reality that is called the Covid-19 pandemic. The danger of epidemics in the modern world such as SARS, bird flu, Ebola, MERS and Zika, often becoming increasingly risky for businesses.

This work is aimed at providing desktop research-based overview on how an impact of the global pandemic on tourism, customer decisions about travel planning and What alternatives of travel do travelers prefer during a pandemic.

Key words: pandemic, impact, tourism, crisis.

1. Introduction

Tourism is one of the leading sectors of the world economy and it contributes greatly to the development of any country's economy. The tourism sector is of great importance for Georgia, which, like other developing countries, lacks the physical capital and technological experience, but Georgia has great potential in all areas of tourism field. For many countries around the world, tourism is even crucial in terms of economic income.

There are two main categories of health-related crises affecting tourism: 1. macro-level epidemics affecting people across a wide area, and 2. micro-level localized illness affecting smaller numbers of tourists (COMCEC; Risk & crisis management in tourism sector,2017, pg. 27):

1. Macro-level epidemics are outbreaks of disease that threaten both the resident population and visiting tourists, e.g. SARS (Severe Acute Respiratory Syndrome), H5N1 and H7N9 (Avian flu), both

of them originated in China and affected Asian, Middle East and African countries. In some cases the outbreak does not affect tourists directly but impacts on their ability to enjoy their holiday as planned.

2. Micro-level pandemic include illness resulting from poor hygiene or safety by service providers, e.g. outbreaks of food poisoning such as occurred on the "Caledonian Star" cruise ship in 1993 and at the "Bahia Principe" Hotel in the Dominican Republic in 2007.

For macro level crisis, the Destination must prove that the steps taken are aimed at eliminating the disease or controlling it to the point where travel to the destination is as safe as possible for tourists, therefore recognized by an international medical organization such as the World Health Organization.

For micro level pandemic crisis, affected businesses must demonstrate both to their own governments and the international tourist market that measures have been taken to rectify the failings that caused the outbreak in the first place.

the recovery time of any crisis is different. The Table 1 below shows the crisis categories and their average recovery in months, also the average recovery of pandemic crisis.(COMCEC; Risk & crisis management in tourism sector,2017, pg. 32)

Table 1: Crisis recovery time

Crisis category	Average recovery(months)
Political turmoil	26.7
terrorism	13.0
Pandemic	21.3
Environmental disaster	23.8

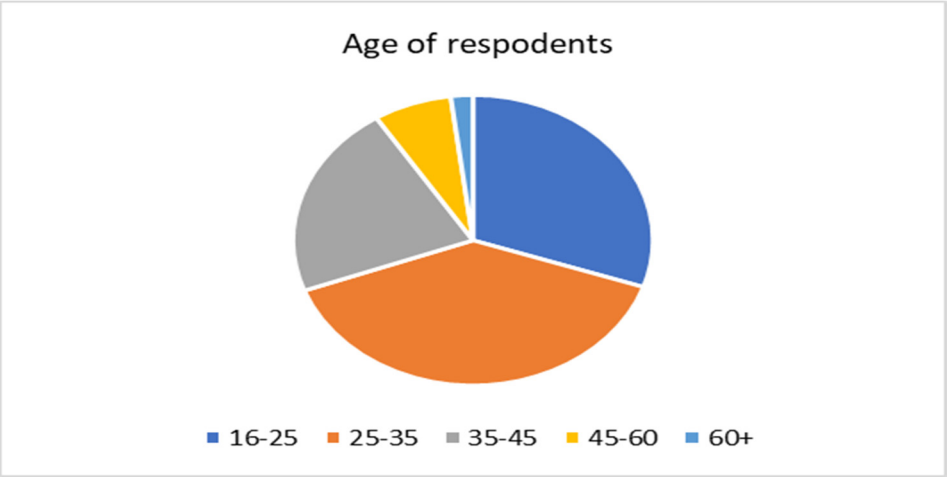
2. Methodology

Methodology of this study was quantitative. a structured questionnaire was used as an instrument, which was shared electronically. The average duration of the question was fifteen minutes and consisted of six questions. Both Georgian and foreign tourists took part in the research.

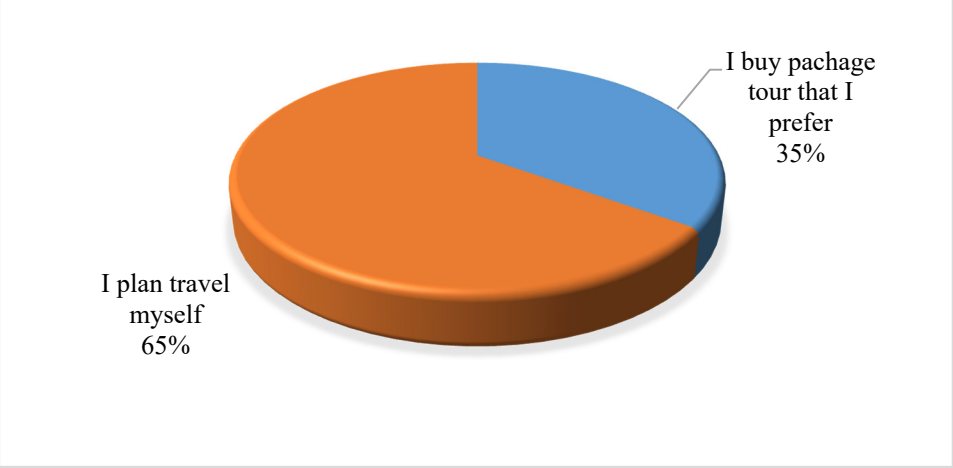
3. Results

About 200 people were interviewed by the Quantitative desk Research Questionnaire based on the research question and objectives. Participation in the study was voluntary and ethical norms were protected as much as possible.

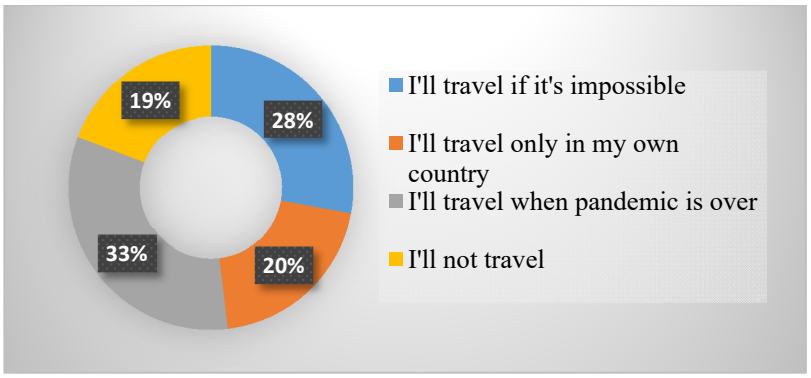
The survey involved 66% of females and 34% of males. The majority of respondents ranged in age from 25 to 35. (42.3%) The remaining age groups were divided as follows:



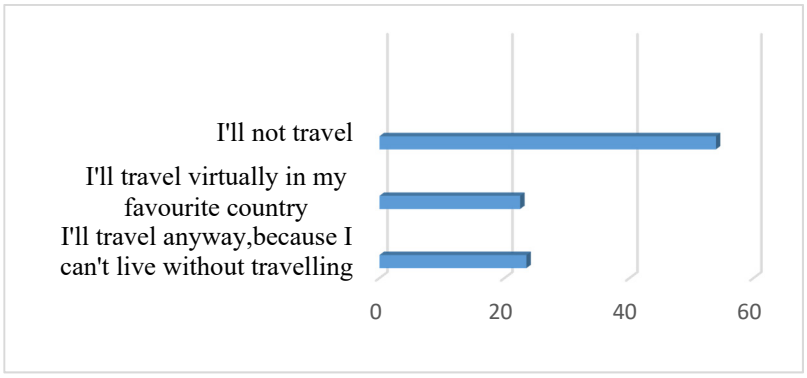
The following question, when asked how respodents plan their trip, most of them answered that they plan their trip themselves.



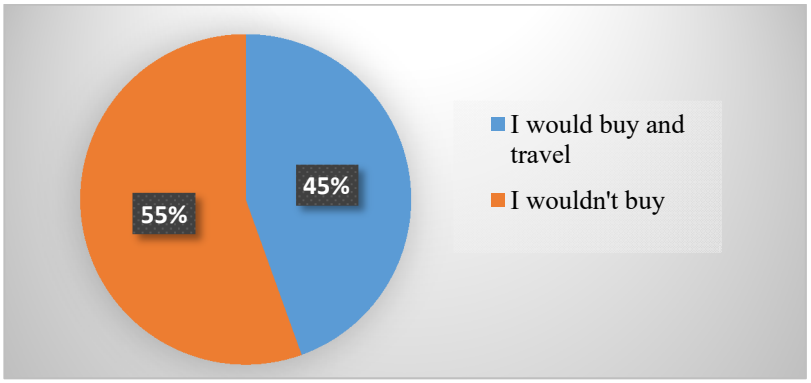
Interestingly, the answer to most of the respondents' questions about if the COVID-19 pandemic persists for the next 5 years, results of the respondents distributed as follows:



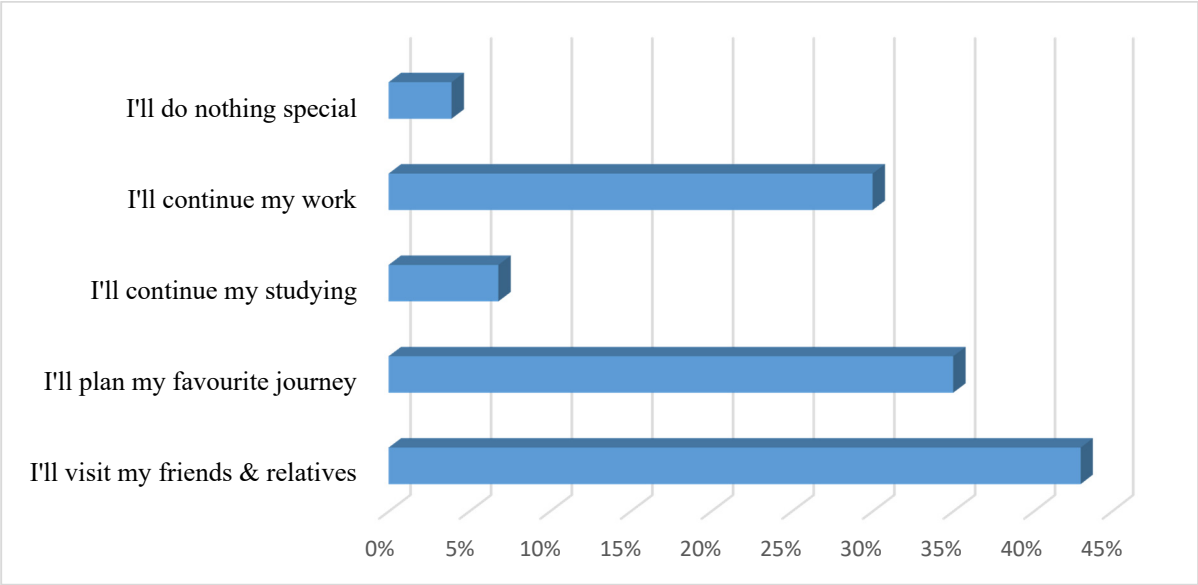
Against the backdrop of today's global pandemic, which travel alternative would you prefer? Most of respodents(53.9%) answered that they don't travel during pandemic, but it's noteworthy that 23.5% note that they travel anyway because can't live without travelling. results of the other respondents distributed as follows:



Whether to buy or not a virtual tourist package of the desired destination (place), which also includes the appropriate service of the remote guide, majority of respodents noted, that they don't buy such distance service, also some of them answered that they would buy virtual tour and travel.



After completing COVID-19, what would you do first? most of respodents(45%) note that they'll visit relatives and friends, quite a large part of the respondents(34%) also mentioned that after pandemic they'll plan preferred trip. The results were distributed as follows:



4. Conclusions

Based on the above research, which was intended to determine the impact of the global pandemic when planning travel decisions for tourists. Based on the research, we can conclude that because it is necessary for any tourist to create a safe environment in the destination country/region first of all, I think the pandemic will play a role in their decisions and therefore reduce the demand for tourism in general and international tourists for some time.

Nowadays, tourism has a difficult period. I think that despite the lifting of restrictions on countries during the pandemic and the opening of tourism, international tourism and traffic will be reduced in the first phase, although the sector will be able to return to the old mode in the short term. The most necessary and important thing is that tourist destinations gain a secure image, of course, it is also important to have constant marketing communication between the tourism sector and potential tourists.

It's very important rebuilding tourist confidence after pandemic crisis to increase the number of tourists and return tourism to work in the usual rhythm. There below is a table, where are a few recommendations on this issue:

Table 2: After the pandemic crisis: Gaining tourists' confidence

Communication	➢ *Acting in agreement with government and tourism sector* ➢ *To be active in communication with tourists* ➢ *Update news and offers on websites and social networks*
Flexibility in promotion	➢ *Create new brand tours in the context of popular destinations* ➢ *Offer discounts to potential tourists and plan special events/festivals.* ➢ *promotion of domestic and regional markets*
safety	➢ *Create a safe environment* ➢ *Work with WHO agencies to improve quality of services and facilities*

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Pandemic marketing challenges and changes: case of Georgia

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Abstract

Ongoing processes of spreading Covid-19 virus had affected Georgian market too. Some businesses had to make significant changes of their working routines and some of them even had to stop sales.

The aim of the research is to systematically analyze challenges which appeared in pharmaceutical industry and Construction and renovation materials business. In particular, we will discuss behavior change of consumers during pandemic period which has necessitated the implementation of marketing changes in the business and changed the communication strategies in the companies. As part of the research, these changes will be explored in depth with the help of qualitative and quantitative research.

The study provides comparative analytics of the results of two research and connection in between of consumer behavior change and the marketing steps of companies, caused by the pandemic, to make further recommendations.

Keywords: Pandemic, Marketing Strategy, Pharmaceutical industry, Construction and renovation materials Business, Behavior Change, Communication Channels, Consumers, Crisis, Management, Advertising.

1. Introduction

The pandemic period has led to significant changes in most countries, including Georgia.

Some businesses have radically changed the way they work, strengthening remote sales channels, changing customer approaches, and strategic and tactical marketing communication plans.

In this paper, we will be concentrated on the marketing direction and the changes that have taken place in companies due to the current situation. The issue we are reviewing will useful and interesting for the students of the field of marketing or stakeholders who are trying to have updated information on these issues, as well as to small and medium-sized businesses marketers or other related parties.

In this paper, we will conduct the research about marketing communications, it's techniques, methods, creative solutions, or other changes, and make recommendations based on two key areas:

- Pharmaceutical industry that has not undergone major changes in terms of sales, however, due to the changed behavior of consumers, it will be interesting to evaluate the changes they have made in marketing communications.
- Construction and renovation materials - this field has been fully influenced by the restrictions in the country, at the initial stage, had to be completely stopped, and later - were allowed to continue operating in the market - online.

By comparing these two areas, conducting research on them and making recommendations, we will create an ongoing picture of the topic we are discussing. We will use quantitative and qualitative methods of research and evaluate the results in two ways:

1. Consumer behavior during the period before the pandemic and changes in their behavior depending on the current situation;

2. Decisions made by companies regarding changes in marketing strategy / tactics and making business digital;

2. Main part

At the beginning, we can look at the issue internationally and evaluate what decisions are made by different, foreign marketers, in general, about marketing communications and how much, or in what way, the pandemic period – have made changes in their plans.

As Katie Bachman, CEO of one of the American consulting companies, told Forbes, companies have moved on to creating powerful online sales channels, while at the same time, resorting to optimizing marketing costs. Their plans and goals are focused on relatively short-term issues, and they are actively working to increase sales quickly.

In parallel, a new processing of the branding part is being done, which will allow companies to determine how the brand will develop in the future and with increased activities, will be able to minimize current losses.

As Wes Sparling, the Vice President of IWCO Direct says, at the current stage, it is advisable to slow down the marketing activities and conduct less aggressive marketing campaigns, as excessive activity can irritate consumers.

In addition, the structure of advertising has changed, the demand for external channels has decreased, such as "outdoor" advertising, guerrilla marketing, distribution of advertising materials, etc. And as people stay at home, television and Internet resources have increased, so concentrating will be useful and cost-effective.

Even more important are social activities and, during difficult times, the support of consumers, or the general population of the country, which has a positive impact on the image of the company. "Brands will definitely be judged on how they behave during this crisis," said Patrick Strother, founder of Minneapolis-based communications firm SCG, in an article in Time.com. You may not have time for paying attention to this – in the current situation, but they will definitely ask you later how you treated your employees, or about being honest with your customers during that time.

In Georgia, the situation of companies, in this case, is not much different from the situation of companies with a similar profile that operate in other countries.

Georgian marketers also think that it can be challenging for them and marketing tactics have become more rational rather than emotional.

According to Intouchsol.com recent article about pharmaceutical industries marketing changes – the operational changes lead to the marketing activeness changes, for instance – when the companies need to care more about their customer they can highlight it in their marketing messages, or in other cases they became more straight to the point and currently have less pushing on Brand awareness or general PR activities which are not directly related to the increases in sales volumes.

On February 26, 2020, the first case of Coronavirus – COVID-19 was registered in Georgia. In order to limit social distance and mobility, the Georgian government has decided to shut down all shopping malls, except for grocery stores, pharmacies, gas stations, post offices and banks. On March 21, Georgia has declared the state of emergency, till April 21, that was extended till May 21 Companies had to rearrange Business to work Online. People were called to #stayathome and mostly, they were encouraged to use delivery service of food/medication from a grocery store or pharmacy.

Regulations affected almost every business and the way they worked. Companies had to change their plans, budgets, aims.

To be more accurate, we decided to find out what problems and marketing challenges had companies from different fields – Pharmaceutical industry and Construction and renovation materials. As mentioned, we made quantitative (online research, by random selection) and qualitative (in-depth interviews with marketing specialists of the companies from mentioned industries.

The goals of the researches: to find out how consumer behavior changed during pandemic and what decisions were made by companies regarding changes in marketing communications and making business digital;

3. Goal and Methodology

To find out how Georgian customers react on marketing communication, what type of communication has the most effective result and what changes Georgian companies made because of COVID-19, we decided to make two types of researches, online questionnaires and depth interviews.

Research N1 and N2: The purpose of the research was to identify customer's reactions and changes in their behavior, when buying pharmaceutical or renovation products during restrictions/regulations because of pandemic.

Research Method – 191 online research by random selection (In case of pharmaceutical industry) 212 online research by random selection (in case of renovation materials).

Place of research - Georgia, Tbilisi.

Research N3: The goal of the research – companies' changes in marketing strategy, services and budgeting due to COVID-19;

Research Method - 6 Direct Interviews with marketing communication specialists (3 from pharmaceutical industry and 3 from renovation/building materials industry).

Place of study - Georgia, Tbilisi.

4. Findings

Research N1 and N2, which were aimed to define the level of changes of customer's behavior and attitude towards marketing communications while pandemic, (in case of pharmaceutical industry, where 65.4% of interviewed was 23-35 years old, see the diagram N1.1.) showed, that, 46.6% of people go to Pharmacy once a week, (diagram N1.2)

Diagram N1.1 – Age

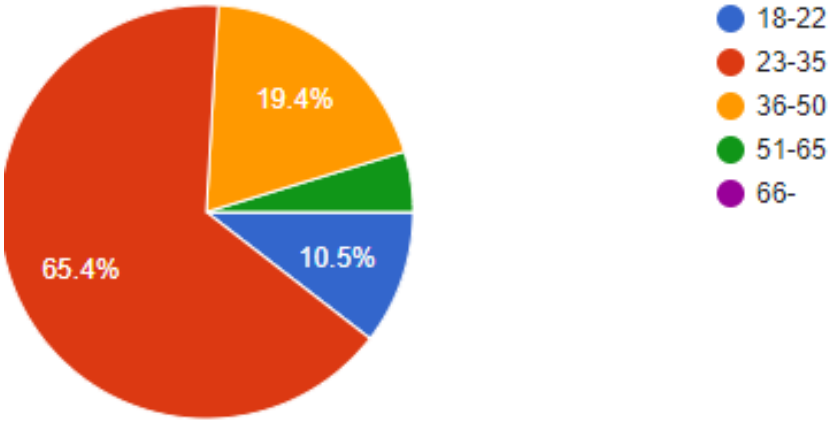
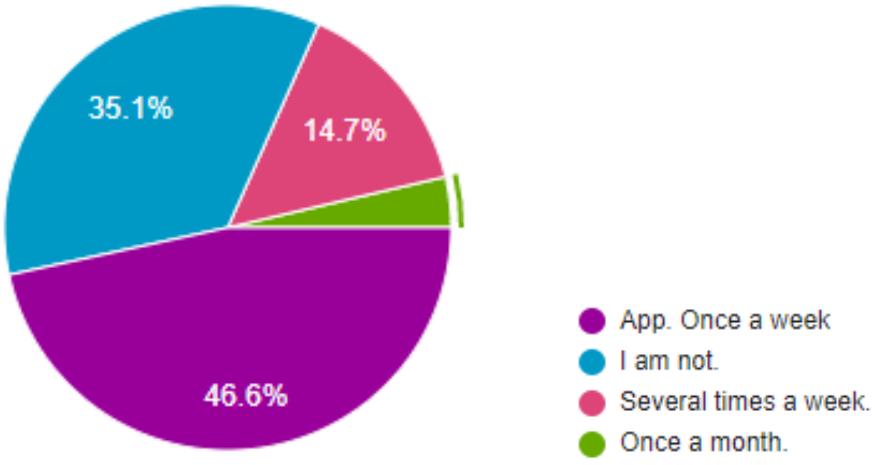
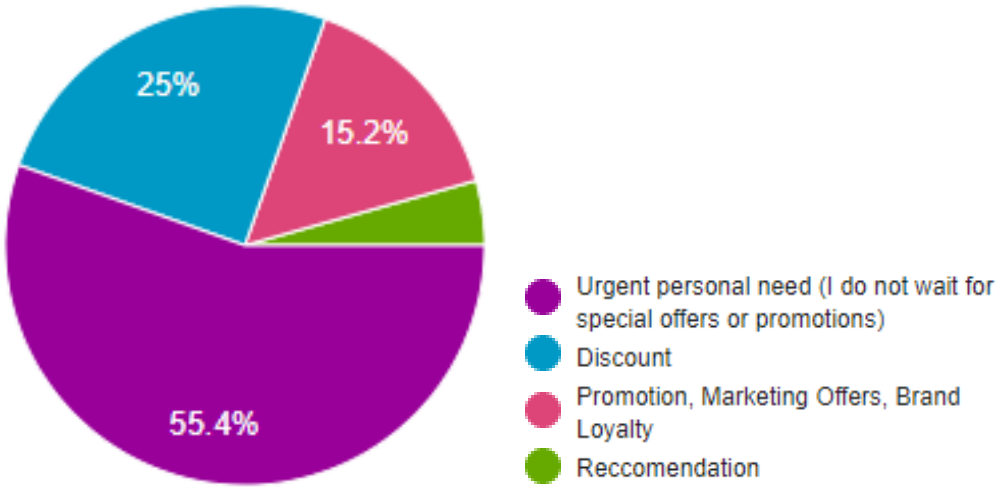


Diagram N1.2 – Are you consumer of pharmaceutical products and how often do you visit Pharmacies?



On the question, why do they usually visit pharmacies and which factors actually impact on their decisions, 55.4% answered – private needs, when they do not wait for some special discount days, marketing offers. (Diagram N1.3)

Diagram N1.3 – Why do you usually go to pharmacies and what factors impact on your buying decision?



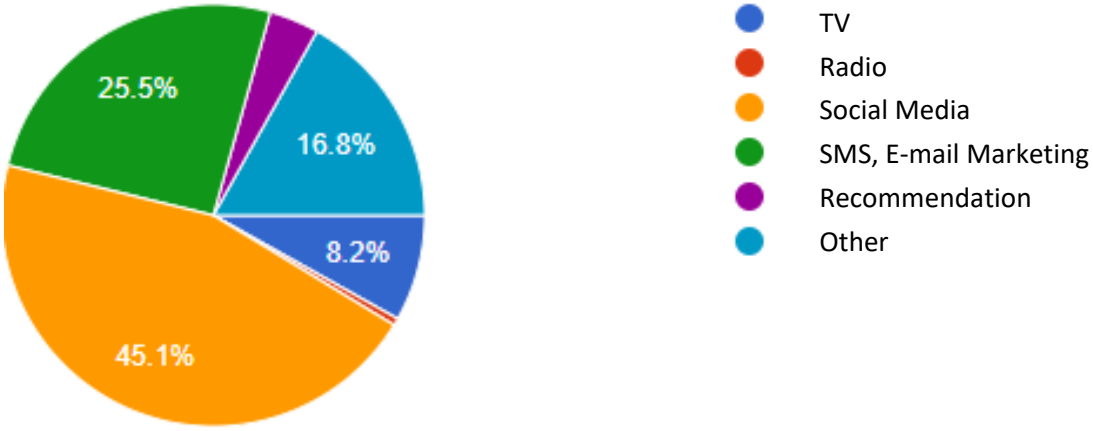
The next question was about what do they actually buy in Pharmacies and 40.8% answered – medications, 17.9% - self-care products and 7.6% - baby feeding and caring products, 337.7% said, that they buy all above mentioned products in Pharmacies. (Diagram N1.4)

Diagram 1.4 - What do you usually buy in Pharmacies?

We also wanted to find out from which communication channels they got information about Pharmacies offers and promotions before the pandemic. Most of them, 33.2% answered – social media, 22.8% -SMS, e-mail marketing and only 3.3% said, they got information about pharmacies offers from TV. (Diagram N1.5)

Diagram 1.5 - From what communication channels you usually got information about pharmacies offers and promotions before the pandemic?

To make relevant conclusions and recommendations, we also asked them from what communication channels do they usually get information about pharmacies offers and promotions during pandemic. Most of them, 45.1% answered – social media, 25.5% -SMS, e-mail marketing and 8.2% said, they got information about pharmacies offers from TV. (Diagram N1.6)
Diagram N1.6 - From what communication channels do you usually get information about pharmacies offers and promotions during pandemic?



We also needed, to define their attitude towards online shopping and home delivery service, we asked them whether they used delivery service of pharmaceutical products while pandemic (Diagram N1.7) and if they would continue online shopping after pandemic (Diagram N1.8).

Diagram N1.7 - Did you use delivery service for pharmaceutical products while pandemic?

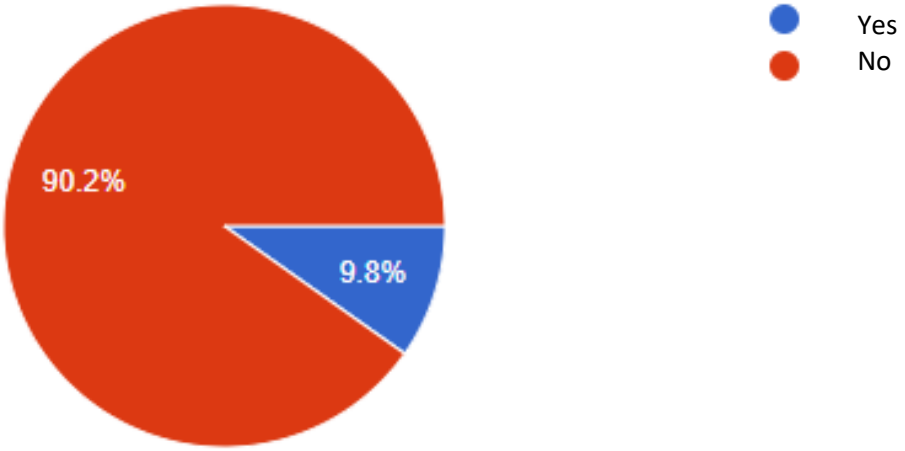
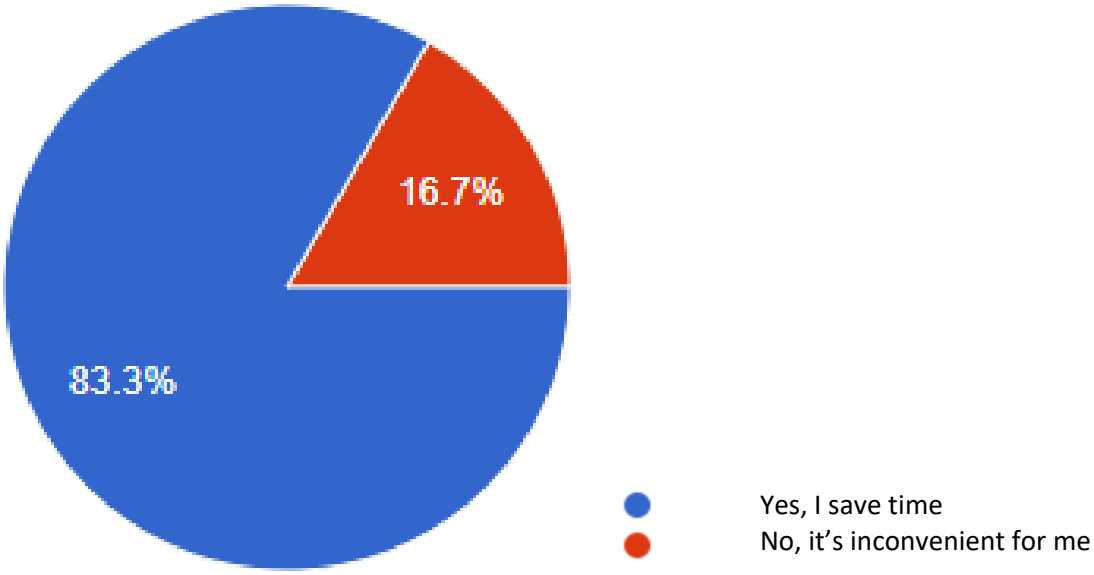


Diagram N1.8 - Do you think you will use delivery service for pharmaceutical products after pandemic?



Research N2, which was aimed to define the level of changes of customer's behavior and attitude towards marketing communications while pandemic, (in case of renovation materials segment) where 67% of interviewed was 23-35 years old, (Diagram N2.1.) showed, that, 8 % of people planned home renovation, but had to postpone it and 10.4% were in the process of renovation and had to stop it because of pandemic. (Diagram N2.2)

Diagram N2.1 – Age

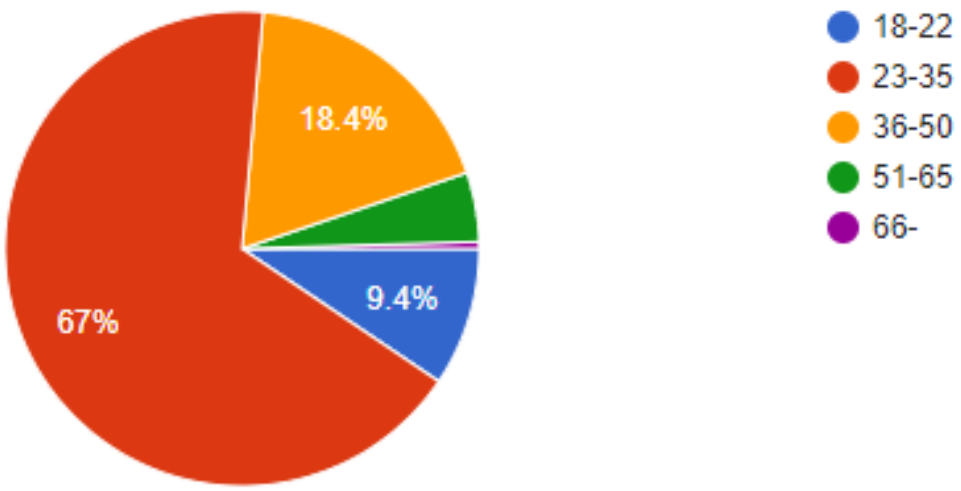
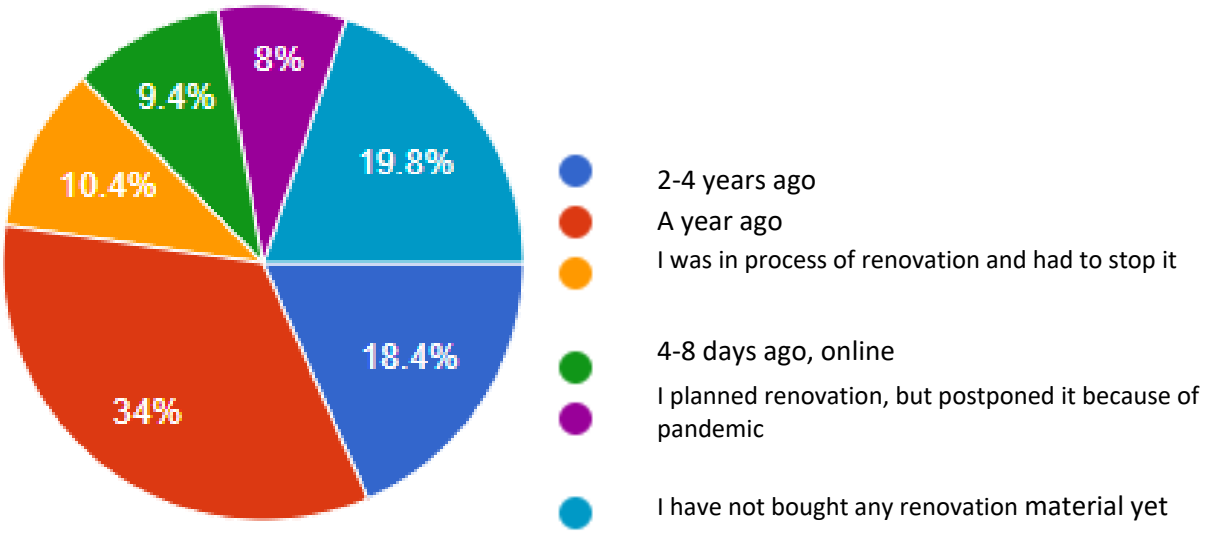
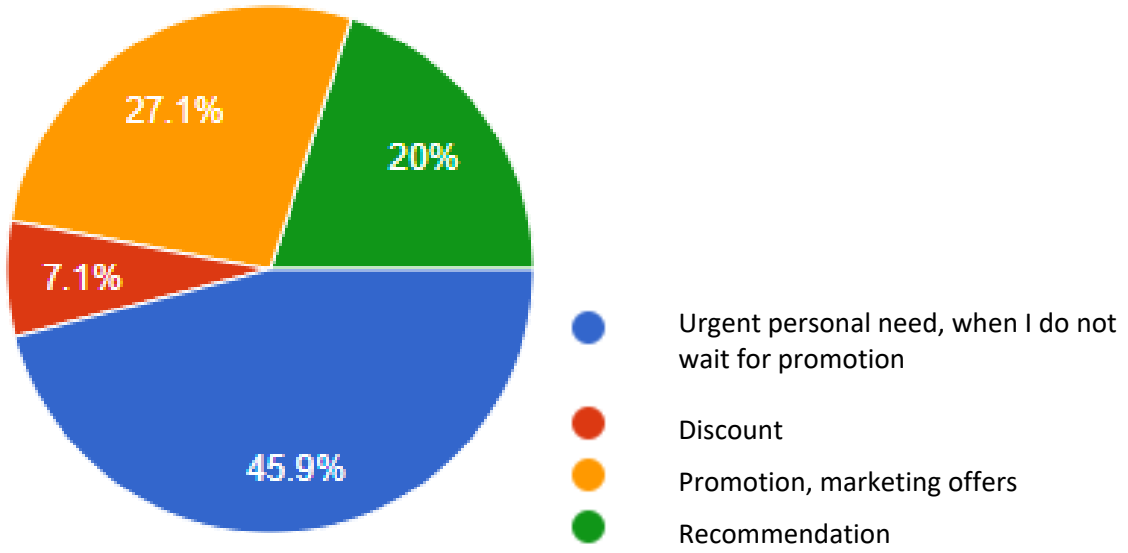


Diagram N2.2 – Please, recall the last buying in renovation materials hypermarkets.



On the question, why do they usually visit renovation materials hypermarkets and which factors actually impact on their decisions, 45.9% answered – private needs, when they do not wait for some special discount days, marketing offers. (Diagram N2.3)

Diagram N2.3 – Why do you usually go to renovation materials hypermarkets and what factors impact on your buying decision?

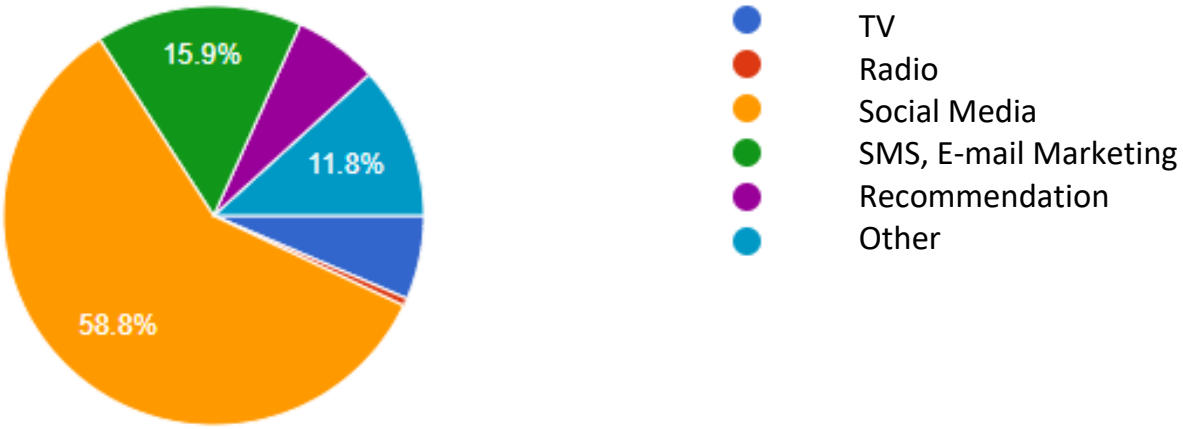


We also wanted to find out from which communication channels they got information about renovation materials hypermarket's offers and promotions before the pandemic. Most of them, 33.2% answered – social media, 22.8% -SMS, e-mail marketing and only 3.3% said, they got information about pharmacies offers from TV. (Diagram N2.4)

Diagram 2.4 - From what communication channels you usually got information about renovation materials hypermarket's offers and promotions before the pandemic?

For more information, we also asked them from what communication channels do they usually get information about renovation materials hypermarket's offers and promotions during pandemic. Most of them, 58.8% answered – social media. (Diagram N2.5)

Diagram N2.5 - From what communication channels do you usually get information about renovation materials hypermarket's offers and promotions during pandemic?



We also needed, to define their attitude towards online shopping and home delivery service, we asked them whether they used delivery service of renovation materials while pandemic (Diagram N2.6) and if they would continue online shopping for these products after pandemic (Diagram N2.7).

Diagram N2.6 - Did you use delivery service for renovation materials while pandemic?

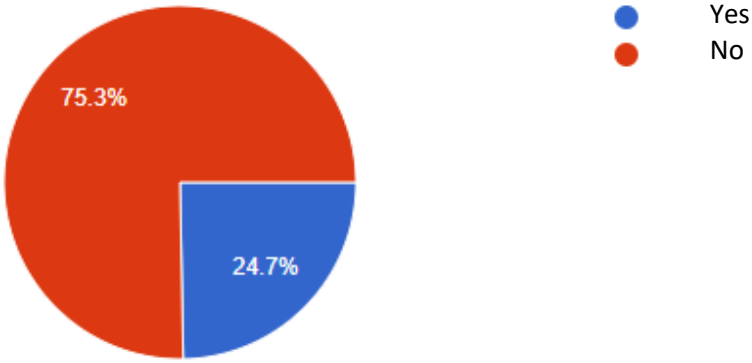
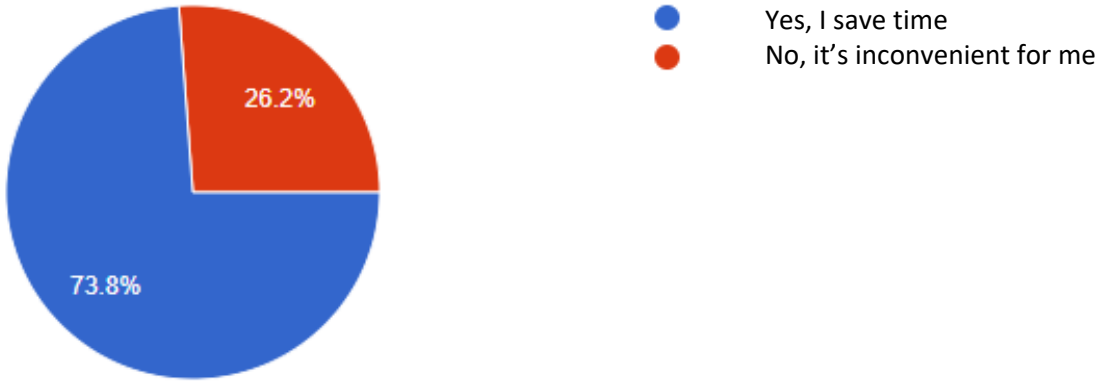


Diagram N2.7 - Do you think you will use delivery service for renovation materials after pandemic?



Research N3

To explore in more detail exactly how companies in two industries reacted on changes caused by COVID-19, we held Depth interviews with marketing communication and PR managers of 3 pharmaceuticals and 3 renovation materials companies. The information gained in a direct interview is determining how companies changed their marketing communication strategy, budget and the way they worked to gain a competitive advantage and not to lose a market share while pandemic.

Interviews lasted for 1 hour and Specific objectives of the study were to find out what has changed in brand marketing communication, whether additional services were needed to be developed and how much the pandemic needs affected the sales figures.

Marketing managers from Pharmaceutical industry, confirmed, that regulations had affected on their usual way of work, they had to change workings schedules, issues related to employee transportation.

Changes they made:

- Everyone entering the pharmacy should wear a face covering, regardless of symptoms;
- Pharmacists and pharmacy technicians should always wear a facemask while they are in the pharmacy;
- Provided hand sanitizers and protective barriers;
- Put stickers on the floor to help patients maintain social distancing.
- Encouraged buyers to pay with contactless debit cards rather than cash.
- Limits on the number of customers allowed inside the pharmacy at one time.

As to marketing communications, they actually stopped outdoor and radio advertisement and mostly use social media and SMS ad. The demand, logically has risen on disinfectant liquids and face masks and reduced on self-care products. Regarding plans, they stopped all marketing and PR campaigns that was aimed to promote self-care products. As far, as on all over the world was campaign #stayathome they had to add online shopping to their service.

According to the changes in customer behavior – companies now prefer to use segmented marketing communication and stop ATL (Above the line) campaigns for a while, they don't have exact dates – when they will start mass marketing campaigns again.

Also, the budget slightly moved to direct marketing campaigns (SMS marketing, telemarketing) and internet communication where they can get more details about advertisement results and be more cost effective.

Some managers also mentioned increase in a workload with influencers, cause of possibility to get insights faster and react on it more efficient ways.

The second case, renovation materials industry was fully affected by the regulations. Since 20th of March, all showrooms of renovation materials were closed. In Georgia, customers preferred not to by renovation materials online, because it is not easy to buy door, bath, washing cabin or marble countertop. The expectations were pessimistic, but the reality was absolutely different. #stainghome, people paid more attention to interior of their homes and they not even stopped demanding renovation materials, on some products demand has even risen.

Because of this, renovation materials hypermarkets launched more technically corrected web-sites and started distance sales. As to marketing communications, they did the same - stopped outdoor and radio advertisement and mostly use social media and SMS ad.

The marketing managers of those companies think that pandemic period changes influenced on their future strategy as well, as it changed customer behavior and they became more internet friendly, which is again more customizable, measurable and efficient for companies.

According to the facts mentioned above – the budget of digital marketing campaigns also increased, including Social Media, banner advertisements in certain web portals and using the influencing marketing the same time.

Overall – as we see, there are differences, but a lot of similarities in the changes or action plans of these two, different industries and pandemic period influenced not only their current situation but on the future plans as well.

5. Conclusion

The research has shown that the customers of pharmacies and house repair shops usually make decisions based on their personal needs. But during the pandemic, companies have to change the strategies or tactic plans of marketing communications and plan various activities – related to the current situation. The results of the in-depth interviews show that they mostly emphasized social media, SMS, and email marketing. The results of the questionnaire also point to that, according to the customers, during the pandemic, they get more information via those sources more than others.

A typical customer usually purchases medicines in the pharmacies. The demand has risen on disinfectant liquids and face masks and reduced on self-care products during a pandemic and so the companies have started to direct their marketing and PR activities towards that. The changes have occurred in the house repair and construction businesses too. People who got stuck at home paid more attention to their interior designs and even though part of the society just stopped any kind of construction works, the sales of interior design related items have increased.

During this self-isolation business faced a new challenge - it has become necessary to implement online sales services and/or improve them, as well as planning various activities. Even though not a huge part of the pharmacies and construction materials customers used these services, they think that they will keep on using them even in the future, as it cuts down the whole purchase process time by a lot. Based on the results of the research the marketing departments of various businesses are now being encouraged to keep on perfecting the online sales services and pay even more attention to electronic commerce. The research proves that customer behavior can become a habit. Businesses must accept the new challenges and not lose their connection with the customers, no matter the crisis.

During the research, the marketing activities of the pharmacies and repair/construction materials businesses were studied and compared to each other, where we face among differences a lot of similarities.

For the future, it will be beneficial to conduct such research again, but that time it must be about the post-crisis period as well, in order to do the comparative analysis.

ბიბლიოგრაფია

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