The Perception of Technology Development on Purchasing Behavior in Some Selected Regions in Russia

Valeriya Ignatyuk

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Approval of the Institute of Graduate Studies and Research

_____
Prof. Dr. Ali Hakan Ulusoy
Director

I certify that this thesis satisfies all the requirements as a thesis for the degree of Master of Business Administration.

_____
Prof. Dr. Melek Şule Aker
Chair, Department of Business Administration

We certify that we have read this thesis and that in our opinion it is fully adequate in scope and quality as a thesis for the degree of Master of Business Administration.

_____
Prof. Dr. Melek Şule Aker
Supervisor

Examining Committee
_____

1. Prof. Dr. Melek Şule Aker   _____

2. Prof. Dr. Cem Tanova   _____

3. Asst. Prof. Dr. Iman Aghaei   _____

ABSTRACT

Today, the modern world is impossible to follow without technology. Technology has been introduced into every corner of our life, whether inside the house, at work, at school, or vacation. It is especially important to develop technology in the field of business and service sectors to improve product quality and reduce the cost of the product, which will ultimately lead to increased customer satisfaction and loyalty. Technological progress, playing such an important role in the lives of the majority of the world's population, will also affect purchasing behavior.

This study will show how technological developments affect purchasing behavior in several regions of Russia, both in the service sector and in the manufacturing sector. The survey will help us find answers to questions such as how the development of technology has influenced the preferences of customers in choosing the process of purchasing goods, communication with workers, as well as preferences in the production of goods. This survey is conducted in Russia among peoples of different ages, occupations, gender, and marital status. The sample groups are interviewed to obtain the correct and accurate information about the above question. After the survey, this information will be analyzed using the SPSS software.

In the last chapter of this study, the possible consequences of technological developments on purchasing behavior are presented.

Keywords: Technological development, purchasing behavior, Russia.

ÖZ

Bugün modern dünyada, teknoloji olmadan verimli bir üretim yapmak imkansızdır. Evde, işte, okulda, tatilde vb. hayatımızın her köşesine teknoloji girmiştir. Özellikle iş ve hizmet sektöründe teknolojiyi geliştirmek, ürün kalitesini iyileştirmek ve ürün maliyetini düşürmek için önemlidir, bu da sonuçta müşteri memnuniyetinin ve bağlılığının artmasına yol açacaktır. Dünya nüfusunun çoğunluğunun hayatında böylesine önemli bir rol oynayan teknolojik ilerleme, satın alma davranışını da etkileyecektir.

Bu çalışma, teknolojik gelişmelerin Rusya'nın çeşitli bölgelerinde hem hizmet, hem de imalat sektörlerinde satın alma davranışını nasıl etkilediğini gösterecektir. Anket, teknolojik gelişmelerin müşterilerin mal satın alma sürecindeki tercihlerini nasıl etkilediği, işçilerle iletişim, mal üretimindeki tercihler gibi sorulara yanıt bulmamıza yardımcı oldu. Bu anket Rusya'da gerçekleştirildi; daha doğru bilgi almak için farklı yaş, meslek, cinsiyet ve medeni durumdaki kişilerle görüşüldü. Anket sonrasında bu bilgiler SPSS yazılımı kullanılarak analiz edildi.

Bu çalışmanın son bölümünde teknolojik gelişmelerin satın alma davranışı üzerindeki olası sonuçları sunulmaktadır.

Anahtar Kelimeler: Teknolojik geliştirme, satın alma davranışı, Rusya.

ACKNOWLEDGMENT

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

BRIC   Brazil, Russia,India and China

EAEU   Eurasian Economic Union

GDP   Gross Domestic Product

ICT   Information and Communications Technology

IIDF   Internet Initiatives Development Fund

ILO   International Labor Organization

IMF   International Monetary Fund

NAFI   National Financial Research Agency

PPP   Purchasing Power Parity

R&D   Research and Development

SME   Small and Medium-sized Businesses

SPSS   Statistical Package for the Social Sciences

UN   United Nations

UNESCO   United Nations Educational, Scientific and Cultural Organization

WTO   World Trade Organization

Chapter 1

INTRODUCTION

1.1 Background of the Study

We live in an era of rapid change that is gaining momentum. Technology is one of the main factors causing this rapid change. Technology is irreplaceable component in today's world; it helps to develop and achieve incredible results in various areas of our lifes. Thanks to technology, doctors have saved the lives of thousands of people, a huge number of young people and the older generation have the opportunity to study, work and contact people from different parts of the world. The importance of technology in today's world cannot be summed up in ordinary words. Thus the defenitions of these components like technology and purchasing behavior are presented below as they are referred in this research.

Technology: almost everyone understands what it is, but it is quite difficult for people to correctly formulate their knowledge. In accordance with the dictionary of the Russian language, ed. A. P. Evgenieva (1999) technology is a set of operations carried out in a certain way and in a certain sequence, which make up the process of producing a material or a product. The most popular area at the moment is "high technology". It is used to denote the performance of a complex type of work which in the end obtain an amazing result, which is based on the surrounding microcosm.

Purchasing behavior: according to K. Ganderova (2009), purchasing behavior is a set of forms, principles, methods of decision-making and actions aimed at evaluating, acquiring and using goods and services, as well as meeting needs and requirements, taking into account changing tastes and preferences. Buying behavior is influenced by too many complex causes, so it is difficult to find the most important reason influencing it. The main object in the business system is the buyer (or consumer) of goods, since the profit comes directly from there. It can be an individual or an entire organization. Therefore, it is important to study consumer behavior in order to improve the service provided and increase business income. If the company takes a close look at purchasing behavior, it will be able to produce products and the process of buying goods in the way the customer wants, which will lead to more satisfied customers and thereby increase the firms market and income.

We need to understand how the technological developments affects the purhcasing behavior of customers. It is very important to know how and when the buyer begins to show interest in the product, under the influence of what factors his desire to purchase the product is formed, how to direct this desire to purchase this particular product.

Some analysts worry about the development of technology affects the labor market. It is shown that new technologies during the last two centuries have been resulting in the growth of employment and reduction of working hours (Lyashok, Maleva & Lopatina, 2020).

But there are also experts who are inclined to believe that the development of technology, especially the creation of robots, negatively affects the employment of

the population in the country. Thus they have a negative effect in their perception of technology development. According to S. Zemtsov (2017), many of the new technologies are disruptive, capable of leading to the collapse of entire subsectors and therefore potentially leading to an increase in the level of structural unemployment. To date, three main types of unemployment have been identified: cyclical, structural and frictional types. The most common type is cyclical unemployment, which occurs during a recession. But the two remaining types make up the natural unemployment rate.

Kimberly Amadeo (2021) described structural unemployment as unemployment that exists when shifts occur in the economy that creates a mismatch between the skills workers have and the skills needed by employers, such as, replacing mechanics with robots. In order to stay in the workplace, mechanics now need to undergo additional training and learn how to manage these robots that have replaced them. If they cannot learn these skills, they will have to look for another job for which they will also need to undergo additional training, which generates long-term structural unemployment.

But not everyone agrees with the above statements. According to Odegov & Pavlova (2018) the beginning of the XXI Century was also the beginning of a new technological revolution. Smart factories, online stores, information and communication technologies of the 6th technological order, etc. are actively entering our lifes. Therefore, it is necessary to investigate how these innovations affect consumers and their behavior. The scientific community is beginning to realize that qualitative changes are taking place in material production. These contradictions in

the opinions of experts initiated the interested to write my thesis on this topic. It is very important to understand the relationship between these two significant elements of business life because they directly affect the standard of living of an individual and the general population.

1.2 Problem Statement and Motivation

A company that produces a product or provides a service cannot succeed if it ignores the needs of consumers. Therefore, it is no coincidence that marketing research is conducted on consumer behavior, in the broadest sense, consumer behavior is defined as actions directly related to the receipt, consumption and disposal of goods and services, including the decision-making processes that precede and follow them. A company that truly understands how consumers react to various product features, prices, advertising arguments, has a huge advantage over competitors. Therefore, if a company clearly understands how technology development and innovation affect consumer behavior, the company can use this to increase the number of goods sold. For example, if market research has shown that the majority of customers are the younger generation and are very closely connected with technology, then more technologically produced products should be used to satisfy customers, such as self-service checkouts or cashless payments through Apple Pay or Google Pay.

Unfortunately, not many specialists realize that with the development of high technologies, various industries are also developing and expanding, which makes it possible to increase the number of jobs, create new professions, increase the customers satisfaction and simplify the production process of goods. In this thesis, a survey among the population in Russia will be conducted, and using the data obtained, SPSS program will be used to more correctly identify the perception of

technology development on purchasing behavior in some regions in Russia. The objectives of the research are as follows:

- To understand how technological development affects the purchasing behavior in Russia;

- To analyze the current technology development rate in Russia;

- To analyze how other countries are using technological development in order to satisfy customers;

- To develop appropriate recommendations about purchasing behavior in Russia.

1.3 Research Questions and Hypothesis

This thesis strives to investigate and figure out the solution for the below-noted problems. It defines the structure and relevance of this research:

1. What is the relationship between the technology development and the purchasing behavior in some regions of Russia?

Based on the aim, this research tries to analyze the subsequent hypotheses:

H1.0: The development of technology affects the increase in buying more technological goods.

H1.1: The development of technology affects the buying less technological products.

H2.0: The development of technology affects increases the use of more technological services by customers.

H2.1: The development of technology affects the use of less technological services by customers.

H3.0: The younger people buy more technological goods, so in future the production of technological use will increase.

H3.1: The younger people buy less technological goods, so in future the production of technological use will decrease.

5

H4.0: The younger people use more technological services, so in future the usage of technological services will increase.

H4.1: The younger people use less technological services, so in future the usage of technological services will decrease.

1.4 Limitations

In this research, only three cities in Russia are analyzed, because of the limitation in time. Given the small amount of survey data found on this topic, the research focused more on the data obtained in the population survey. The study period was not completely exhaustive in terms of analyzing the impact of technology development on the purchasing behavior in Russia. The survey is conducted between 5th of December and 20th of December. The research with a more extensive period is important in evaluating independent variables against dependent variables.

1.5 Framework of the Study

This thesis is organized in 5 charters. The first chapter is introduction, in which the background of the research presented, a summary of what technological development and purchasing behavior are, and then limitations and hypotheses are outlined. The second chapter is the literature review on the topic of the thesis and the chosen geolocation. Similar studies from foreign and national literature are summarized in the second chapter. The third chapter includes information about the general economic background of Russia and the level of technology development in Russia. Research design and methodology, data collection, source of data, the finding of the research and interpretation of the SPSS analysis are discussed in the fourth chapter. And the last chapter includes the conclusion and provides the policy implications and recommendations.

Chapter 2

LITERATURE REVIEW

Technology goes hand in hand with progress most of the time. If we mean development, which is progress for a certain field of activity or business, technologies are an integral part of this process. Development in a certain field of activity or business allows expanding the boundaries of activities, opening new geolocations for business, increasing the quality of the product and service provided, increasing safety in the workplace and production, simplifying the work of employees, which ultimately leads to an improvement in the quality of goods and services, and improving the emotional condition and motivation of employees in the workplace, which in turn leads to increased customer satisfaction. One of the most important tasks of any business is to increase profits. This cannot be achieved without satisfied customers, since they are one of the main components of profit growth, because a satisfied customer means a customer who will come back again and again and most likely will recommend this product and service to his friends and relatives. Therefore, the development of technology in the field of business and service is directly related to customer satisfaction, improving the quality of products and services and the way service provided.

As Ramanauskiene (2010) and Hoover (2012) mentioned, there are two types of technological innovations:

❖ Product. It is linked to the revolution of new breakthroughs: the use of new materials and components, the acquisition of new products, such as

telegraph, railways, cars, radio, etc. This leads to a qualitative improvement in a life and opens up new opportunities in various areas. This type of technological progress makes it possible to produce more at lower costs.

❖ Process. It means new production organization methods (new technologies). An example of process innovations is H. Ford's idea of producing replaceable parts, assembling production lines, which allowed to produce cheaper cars.

According to Odegov and Pavlova (2018) the introduction of robots into industrial production, the use of automated production knowledge in manufacturing industries have eliminated tens of millions of jobs. At the same time, such professions as picker, packer, etc. have ceased to exist in developed countries. As we can see, technological developments have both positive and some negative impacts. According to Strelec (2011), information technology contributes to the growth of labor productivity in high-tech sectors, but the question of their impact on the growth of labor productivity in other sectors of the economy remains fairly open.

Elections are held every day in every country in the world. These elections are not about which political parties will lead the country. No, consumers vote for the victory of companies and firms, they do this with their dollars, euros and Turkish liras and other currencies. With their money, consumers elect the retailers and other market participants they want to continue to live and profit enough to provide jobs for the citizens of a particular country. People who study consumer behavior usually seek to influence or change consumer behavior in one way or another. Some

marketers, such as consumer goods manufacturers, seek to use marketing to influence brand choice and purchases (Blackwell R., Miniard P. & Engel J., 2007). The use of technology also influences customer behavior and many famous marketers successfully use technology to attract and satisfy customers. And they also have an idea of what to expect from their target market in the future due to the impact of technology developments on them.

The introduction of information technology is not the first industrial revolution in the world. This topic was touched upon by Lyashok, Maleva and Lopatina (2020) in their research work and detailed the previous industrial revolutions that have occurred in history. According to them, developed countries have already experienced three industrial revolutions:

❖ the first, associated with the spread of pig iron production, the introduction of steam engines, and the development of the textile industry (late 18th – mid-19th Centuries);

❖ the second, which led to the widespread use of electricity, internal combustion engines, and continuous production methods (second half of the 19th – early 20th Centuries);

❖ the third, during which new information technologies appeared (second half of the XX Century).

Each of these revolutions frightened people. Because when something new comes, people are afraid of how it will affect their lives, whether it will bring them something positive or negative. For example, during the first revolution in Great Britain, there were numerous strikes and riots. People protested against replacing

skilled and highly paid manual labor in the textile industry with unskilled industrial labor. To suppress these riots, the intervention of the army was required (Isarov, 2014). In one of his works in 1931, John Keynes (2012) expressed the opinion that mass unemployment will only be temporary after the introduction of innovations. This will have a short-term negative effect on the employment rate of the population. At that time, people did not understand how important technology would become in their lives and how it would simplify their duties in the workplace. According to Koropets and Tukhtarova (2021), advanced technologies have a multi-directional effect on different people, depending on the level of education.

Cloter Rapay (2008) in his book spoke about the so-called cultural code, that due to this code it is possible to understand and satisfy the needs of each person, how the buyer will behave. The perception of any thing, phenomenon or concept - be it a car, food, relationships between people, and even the country itself - goes back to the earliest childhood impressions and is deposited in the deep part of the brain that is responsible for survival. The secret meaning of the prevailing images in each culture is different. This is a kind of lock, and it opens with the help of a cipher - a cultural code (Rapay, 2008). Just as the cultural code affects the behavior of today's buyers, technology affects the purchasing behavior.

Some research papers were based on the theory presented by economists in the first half of the 19th Century. Subsequently, Karl Marx called this theory, to all the currently known meaning, "compensation theory". In his book Capital (1961), Karl Marx paid great attention to the theory of compensation, which consists of various mechanisms of market compensation that are triggered by technological changes

themselves and can balance the initial economic impact of technological innovation. Since its inception as an economic discipline, economists have sought to allay people's fears that technological progress will have a detrimental effect on the working class. But Karl Marx was rather skeptical about this theory. Not only Karl Marx criticized the theory of compensation, but also Hicks (1973), Freeman (1982), Malthus (1964) and many other analysts. This theory is based on such mechanisms as:

- ❖ The compensation mechanism "via new machines": The same process innovations, which displace workers in the user industries, create new jobs in the capital sectors where the new machines are produced (Say, 1964);

- ❖ The compensation mechanism "via decrease in prices": On the one hand, process innovations involve the displacement of workers; on the other hand, these innovations themselves lead to a decrease in the unit costs of production and – in a competitive market – this effect is translated into decreasing prices. In turn, decreasing prices stimulate new demand for products and so increase additional production and employment. This mechanism was singled out at the very beginning of the history of the economic thought (Steuart, 1966);

- ❖ The compensation mechanism "via new investments": In a world where the competitive convergence is not instantaneous, it is observed that during the gap between the decrease in costs – due to technological progress – and the consequent fall in prices, extra profits may be accumulated by the innovative entrepreneurs. These profits are invested and so new productions and new jobs are created (Ricardo,1951);

- ❖ The compensation mechanism "via decrease in wages": In a demand-for-labor framework, the direct effect of job-destructive technologies may be compensated within the labor market. In fact, assuming free competition and full substitutability between labor and capital, technological unemployment implies a decrease in wages and this should induce a reverse shift back to more labor-intensive technologies (Vivarelli, 2007);

- ❖ The compensation mechanism "via increase in incomes": Directly in contrast with the previous one, this compensation mechanism has been put forward by the Keynesian and Kaldorian tradition. In a Fordist mode of production, unions take part in the distribution of the fruits of technological progress. So it has to be taken into account that a portion of the cost savings due to innovation can be translated into higher income and hence higher consumption. This increase in demand leads to an increase in employment which may compensate the initial job losses due to process innovations (Pasinetti, 1981);

- ❖ The compensation mechanism "via new products": Technological change is not only process innovation, but it can imply the birth of entirely new economic branches where additional jobs can be created (Vivarelli, 2007).

One such research paper based on compensation theory was written by Vivarelli in 2007. He tried to find out how true this theory is. According to this theory, market forces should fully compensate for the lost initial labor force due to innovation. Vivarelli (2007), in Chapter 3 of his research work, made a general conclusion that compensation still works, but it is impossible to assume that there will be a complete balancing of previously laid-off workers. But Vivarelli (2007) suggested that in the

end, the debate could lead to a dead-end or an ideological quarrel. One of the solutions, he considered conducting empirical research in order to identify whether innovation really affects the demand for labor. Vivarelli (2007) concluded from empirical evidence that although most microeconometric studies show a positive correlation between ICT and employment, there may be some doubts about the generalizability of such microstudies. Once the focus is on the sectoral level, it becomes important to distinguish between product innovation (in growing employment-friendly sectors such as new ICT services) and process innovation (in labor-saving restructuring sectors, mainly in manufacturing) (Vivarelli, 2007). On the one hand, process innovation implies a labor-saving effect, while product innovation is generally labor-friendly. On the other hand, together with their labor-saving impact, process innovations involve decreasing prices and increasing incomes, and these, in turn, boost an increase in demand and production that can compensate for the initial job losses (Vivarelli&Piva, 2017).

In merchandising and marketing, a lot of rules and laws are based on human psychology, if you successfully understand the human mind, you can find an approach to your customers and become successful in your profession. For example, within the framework of the "figure and background" law, we can find the answer to the question why a person pays attention to what is in the center (shelving, corporate block, etc.). It automatically starts looking for a shape in the background, even if it is not selected (Sysoeva, 2019). Therefore, if we correctly understand the influence of each factor on the behavior of buyers, we will be able to predict their further actions and use this to our advantage.

We all know that technologies affect our lives, although we do not always track it, because they enter our lives imperceptibly and routinely. Marketing is one area where technology is having a significant impact on many fronts. If we look at what changes the elements of this chain are undergoing, we will see that the product, the consumer, and the marketing technologies that come into contact with it are changing.

How is technology changing the consumer? If we look at young people, it may seem that they are the same as the older generation. But nothing like that: these are people who were born in the years around the millennium, in 2001-2002. They also say that they were born with a sensor on their finger, because in the very first years of their lives they already got acquainted with gadgets, played with toys, dialed phones. They feel very comfortable with these technologies, which means that they solve many problems with their help. This generation Z is completely different from all the previous ones. It goes to the Internet - in the positive sense of the word. They don't sit around playing games from morning to night, as Generation X or Y might have, who bought a video game in the 1990s and played it all day. The new generation is very open and sociable. They go not only to social networks, but also to life - they have an active civic position. This is the target audience that marketing is now facing, and it feels like it needs different approaches. With such a change in perception, it is clear that such a consumer needs to be approached through new formats. We see that the consumer and the product are changing a lot. Marketing changes its strategies to reach a new consumer and sell him exactly his product.

According to Kapelyushnikov (2017) by increasing productivity, technological progress frees up resources, thereby creating opportunities to meet needs that previously simply could not physically affordable. Today, for many service organizations, a prosperous future depends on understanding the expectations and desires of customers. Market research is a means of maintaining constant contact with customers, helping to understand the mechanism used by them in evaluating the service process before purchase, during service delivery and after consumption (Fedorec, 2002).

Information technology is a powerful engine and modifying force of modern society. Today it is no longer necessary to prove this obvious fact. But considering the global impact of information technology on macroeconomic processes, we often leave aside the problems of the microsubject, while modern technologies have a major impact on changing its behavior. The market is becoming consumer-oriented to a much greater extent than it was 20-30 years ago (Strelec, 2008).

The number of people choosing online shopping around the world has almost caught up with the offline audience of stores, and the number of people who like to buy online is constantly and rapidly growing. This is facilitated by the use of mobile devices that have become part of our lives. The use of the revolutionary potential of tablets and smartphones is changing not only the behavior of people, but also the traditional behavior of buyers. Experts are already talking about the formation of a mobile consumption model (Uvarova, 2015).

Chapter 3

TECHNOLOGY DEVELOPMENT

3.1 General Economic Background of Russia

First, let's take a closer look at Russia, its geographic location and, in brief, about the position of the economy today.

The Russian Federation is a state located in Eurasia – in the eastern part of Europe and the northern part of Asia. It has state borders with sixteen countries: in the Northwest with Norway and Finland, in the west with Estonia, Latvia, Lithuania, Poland, Belarus, Ukraine, in the South with Georgia, Azerbaijan, Kazakhstan, Mongolia, China, in the east with North Korea and Japan (by sea), in the Northeast with the United States of America (by sea), and also in the South with two state entities unrecognized by the United Nations: Abkhazia and South Ossetia. It is the largest country in the world. It ranks first in the world in terms of the size of the territory and the length of land and sea borders. In the survey used for this research work, two regions were taken: the Kaliningrad and Moscow regions.

Russia is a nuclear power; one of the leading industrial and space powers in the world; ranked 3rd in the ranking of the most influential countries in the world for 2020. Russian is a language of world importance, one of the six official and working languages of the UN, UNESCO and other international organizations. The territory

of Russia within its constitutional boundaries is 17,125,191 km²; the population of the country (within its declared territory) is 146,171,015 people.

Figure 1: Map of Russian Federation

According to the IMF, the volume of GDP at par in 2019 amounted to $ 1.7 trillion ($ 11,585 per person, 61st in the world). The volume of GDP in PPP for 2019 amounted to $ 4.39 trillion ($ 29,181 per person, 50th in the world).

The population of Russia is about 1.9% of the global population; the country's contribution to the global economy reaches 3.12% for 2018. Russia belongs to a group of countries with a very high level of human development, is a member of the WTO and the EAEU. The contribution of the state and state-owned companies to Russia's GDP is a controversial issue; its assessments differ by an order of magnitude: according to the Federal Antimonopoly Service, with reference to anonymous experts, it is 70%, according to the IMF – 33%.

In the graph below you can see the GDP growth in Russia from 2012 to 2020.
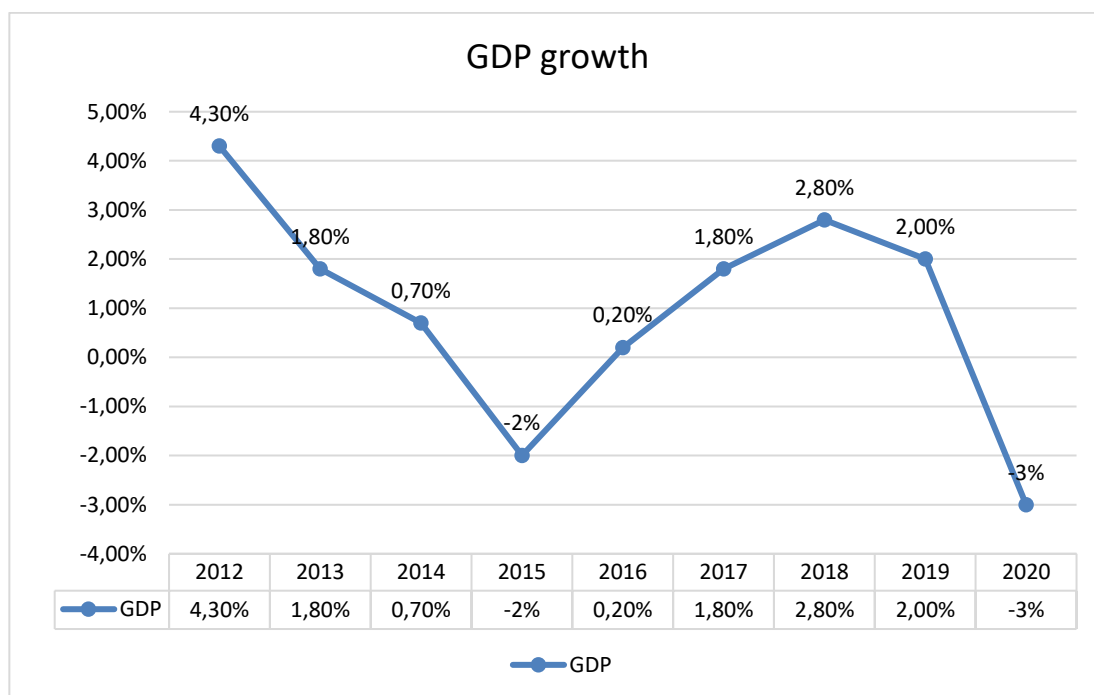
Figure 2: GDP Growth in Russia 2012-2020

On the economy of Russia, as well as on the economy of most other countries, Covid-19 had a rather negative impact. Sectors such as hospitality and catering have been hit hard, quite a few small businesses will never reopen because they cannot cope with the need to pay fixed expenses without income. According to experts, due to the pandemic, Russia's GDP may fall by 10-20%.

To improve the statistics of Russia's GDP, analysts are constantly developing new programs, taking into account the situation within the country and taking into account external factors. So, one of the main tasks for the development of the economy is to increase the share of SMEs. Effective small business always has a good effect on the country's economy, so it must be purposefully developed in order

to improve the situation in a particular industry. Along with this, banks offer a number of lucrative business loans.

In relation to other developed countries of the world, Russia has room for development. Below you can see the bar chart to compare the level of Russian share in global GDP according to IMF.
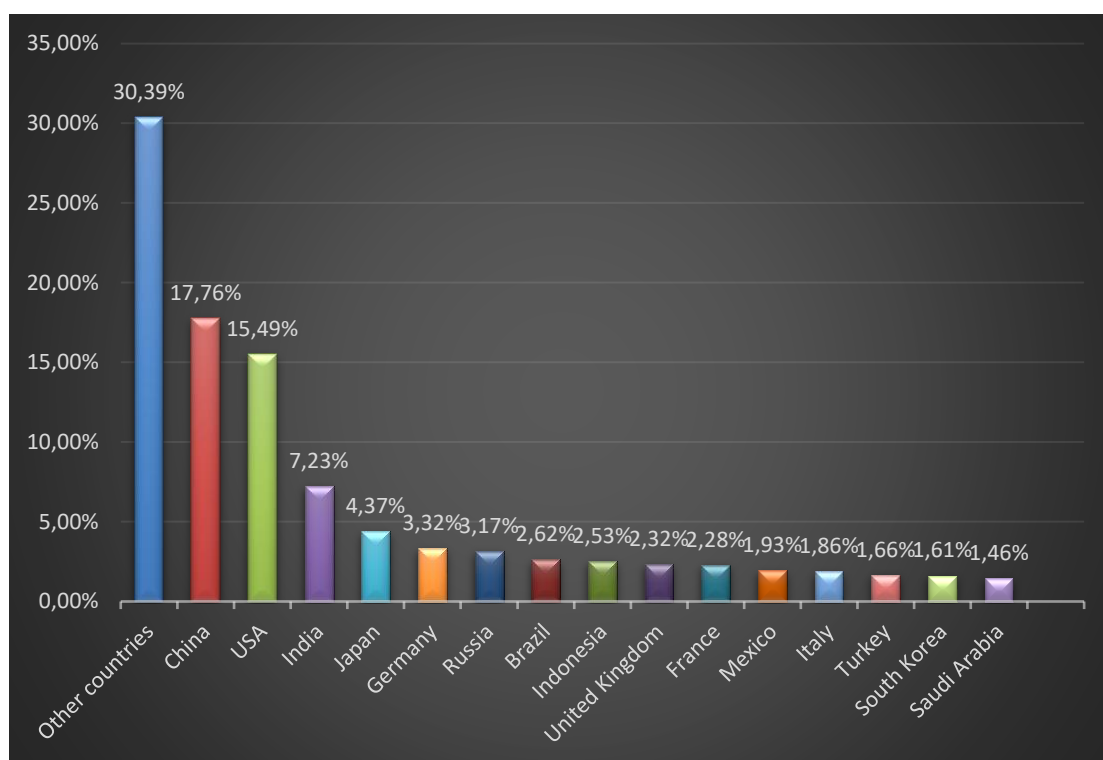
Figure 3: Share of the largest 15 countries in global GDP (PPP)

Despite the different risks and opportunities for increasing the competitiveness of Russian goods in different regions, to a large extent the successful positioning of Russia in the world economy will be determined by the processes taking place within the country. In particular, without a real fight against corruption and countering the excessive monopolization of the Russian economy, one can hardly count on an

improvement in the investment climate in the country, which would facilitate the inflow of capital into technologically advanced industries.

3.2 Level of Technology Development in Russia

Every person understands the importance of scientific and technological development in the country. President of the Russian Federation Vladimir Putin also spoke on this topic. According to him, in fact, the viability of entire peoples, societies and states, as well as the position of countries in the world, especially such large states as Russia, depends on advanced technologies, their effective development and rapid implementation.

To assess the level of development of technologies in Russia and what importance they betray, the research information indicated directly on the official website of the scientific and technological development of the Russian Federation. The Russian Federation has identified a priority in scientific and technological development such as:

- ❖ digital technologies, artificial intelligence, new materials;
- ❖ personalized medicine and high-tech healthcare;
- ❖ effective interaction of human, nature and technology;
- ❖ rational agricultural and aquaculture, environmental protection, safe food;
- ❖ environmentally friendly and resource-saving energy, new energy sources;
- ❖ countering threats to national and individual security;
- ❖ connectedness of the territory of the Russian Federation.

As you can see Russia has set itself difficult technological challenges. Today, nothing is impossible if the government takes this issue seriously and, first of all,

provides the necessary resources and support to the research team; then soon these tasks can be fulfilled.

According to the report prepared by the Institute for the Development of the Information Society (2018), the analysis shows that in terms of non-digital factors affecting the development of the digital economy, the situation in Russia seems to be quite satisfactory. The digital foundations for the development of the digital economy in Russia have also been formed satisfactorily, and very well in terms of the development of individual digital platforms, the use of digital technologies and e-commerce.

But along with this, the digital transformation of the public sector (government, education, healthcare, culture) and, especially, the transformation of business under the influence of digital technologies lags far behind. The level of use of digital technologies by citizens and in households of the Russian Federation is also insufficient, which explains the generally low level of social and economic effects from the impact of digital technologies (2018). As we can see from the conclusion of the Institute for the Development of the Information Society, not every area that has been researched uses technology at a high level.

Also, the prestigious online publication Harvard Business Review (2021) has released its ranking with the most digital countries in the world for 2020. In this rating, Russia is also represented in the category of promising countries. This zone is characterized by economies in which the digital infrastructure is still limited, but which are rapidly digitalizing. This is where China stands out: in terms of the pace of

digital evolution, it is significantly ahead of all other countries – primarily due to a combination of rapidly growing demand and innovation.

But not all experts are so rosy about the level of technology development in Russia. The MKRU news portal published an article entitled "Russia is 50 years behind developed countries in terms of technology" (2019). This article was written according to the subjective opinion of the author of this article, Gleb Fetisov. First of all, the author notes that due to the fact that the state does not have clear, understandable goals for everyone (focused primarily on improving the well-being of citizens), the lack of responsibility for achieving the planned results and the level of technology in Russia is quite low in relation to other developed countries (2013). According to Fetisov (2013), it is the multiple growth of investments in "human capital" (education, science, medicine and culture) that is a response to the country's low innovation indicators and ratings, and not some PR campaigns and pinpoint projects like Skolkovo. The core of the newest technological order cannot be created by investing (as, for example, Rusnano does) tens and hundreds of millions of dollars in advanced developments abroad, or, as the leadership of the Ministry of Education and Science is trying, by borrowing an imported model for the development of science at universities, abandoning the inheritance of the Russian Academy of Sciences.

We can also refer to an interview with the director of IIDF Kirill Varlamov, who told the Novosibirsk Regional Investment Fund about promising areas for investment, the replacement of human labor with robots, cooperation between corporations and startups, the development of technology leaders and much more (2019). In this

interview, the question of replacing working labor with robots was raised again, which indicates a high level of technology in Russia.

According to Varlamov (2017), this is a trend that cannot be stopped. And this should be regarded as given. Business will always look for how to cut costs and reduce the cost of internal processes, and people will always get rid of the routine that can be passed on to robots. Those professions where low-skilled intellectual activity can disappear partially or completely: lawyers, accountants, and human resources have such "segments" of work processes. Much will be reduced in these areas; this is already happening now. There will be people who are engaged in organizing, planning, controlling robots, but the very technical office work will disappear. About 90% of the work can be taken from a person. In this interview, it was noted that over the next 10 years in Russia, with the active modernization of industries, up to 6 million jobs can be reduced, while for 25 million people, the requirements of employers and the composition of work can radically change, which gives the right to talk about the actual disappearance of these jobs. If measured as a percentage, then, to a greater or lesser extent, changes may affect 60-70% of jobs.

3.3 Technology Development in Different Sectors

As presented, some experts expressed their opinion that technological progress will negatively affect the level of employment, especially in certain areas of employment. For example, one of these areas are the banks. Their fears that bank employees will lose their jobs at the time of the appearance of ATM or online banking can only be shown in words. Indeed, even with the advent of new technologies in any area, employees are needed who will monitor the work of this process. Advances in technology will simplify the work we do and use less energy of the worker. Most

people want to save time and not simply waste time in queues, so with the advent of ATM and online banking, a large number of bank visitors have switched to a new type of banking. This inovations not only helped bank customers to simplify transactions and solve their problems in quick way, but also helps employees to reduce the number of visitors to the bank and also reduce the amount of paperwork after the advent of ATM and online banking.

In the general array of tasks solved by workers, one should expect a shift from routine operations (both physical and intellectual) to non-routine ones, since the execution of the former is increasingly taken over by machines.

Let's now turn to the service industry and directly discuss how the creation of self-service machines affects cashiers and customers. These machines were created to speed up the process of paying for goods and reduce the waiting time in the line. But the machines are not perfect, there can always be some kind of failure or error and you need the help of a specialist. Therefore, there is always one cashier for 2-3 self-service cars. The buyer rarely completes the entire order without any intervention from the cashier. This proves once again that technology, in particular self-service machine, has an impact on increasing jobs. Of course, the creation of these machines simplifies the work of cashiers, they spend less physical strength and there is no need to sit in one place for 8-10 hours, which also has a positive effect on the health of employees. Some people have a negative attitude towards this procedure. But no one forces you to use self-service machine. Each store always has at least one traditional cashier. There are also positive aspects for the buyer with the emergence of this opportunity. These machines avoid awkward social interactions. This gives you the

ability to keep whatever you buy with you. Sometimes it even allows you to get out of the store faster.

Many people shout about the creation of machines as something negative, but they do not think about how technology helps keep us alive, especially breakthroughs in medicine or national defense. For example, the creation of robotic nursing in Japan helps with the care of patients with Covid-19. Nurses are less at risk due to the lack of direct contact with patients. Or let's take the creation of drones and combat robots, which led directly to saving the lives of many military men, because it is possible to control these machines from distances safe for human life. Due to breakthroughs in technology, instead of many hours of continuous work at the factory, robots and machines now do this work, and people just control this process, thereby spending less effort, energy and without harming their health, it also reduced the risk of injury in the workplace. Therefore, we need to understand how this positively affects not only employees, but also consumers. For example, earlier the creation of a car by human hands could take months, and with the help of robots and machines, it can be produced 2 times faster, thus the client will receive his order 2 times faster and will be more satisfied because of it. And most probably in the future, client will prefer products produced by a technological method.

3.4 The Perception of Technology Development on Purchasing Behavior

To improve the quality of service provided, goods production and delivery for each business, it is necessary to conduct marketing research on the behavior of customers, which affects them in a positive and negative way. Perhaps too catchy advertising repels a large number of customers or attracts them more than other advertisements.

Or the ability to receive the ordered product within 24 hours will attract more customers than receiving the product within a week after the order. It is necessary to monitor how this affects buyers. It is also necessary to pay attention to different groups in the target market, needs and desires, for example, men and women can be divided, or the needs of the older and younger generations can also be completely different. Similarly, single people and married or employed and unemployed people may have different preferences and desires, in the form of delivery, in the time of delivery, in the method of payment, and the like. Therefore, for example, if your product is produced for an older and a younger generation, you must try to meet the needs of both parties, for example, as banks do, there is access to online banking for the younger generation and direct bank branches with employees for the older generation. Or for example, supermarkets and cafes, where there are self-service checkouts and also cashiers and waiters, so you can choose which way to use.

An enterprise cannot succeed if it ignores the needs of consumers. Three basic types of actions are included in the definition of consumer behavior - purchasing, consumption and disposal:

- ❖ **Purchasing** is the actions leading to a purchase and includes the purchase or order of a product. Some of these activities include searching for information regarding product features and choices, evaluating alternative products or brands, and making the actual purchase. Consumer behavior analysts study these behaviors, including how consumers shop—do they visit specialty stores, malls, or use the Internet? Other questions may concern how consumers pay for products (with cash or credit cards), whether they pick up their purchases themselves or use a delivery service, where they get

information about products and alternative stores, and how brands influence product choice.

- ❖ **Consumption** is how, where, when and under what circumstances consumers use goods. For example, is the product fully used until the release stage, or is some of it never used?

- ❖ **Disposal** is how consumers get rid of the product and packaging. Analysts can examine consumer behavior from an environmental perspective: how do consumers dispose of packaging or product leftovers? Can the goods be biodegradable? Can they be recycled? It is also possible that consumers will want to extend the life of some products by giving them to children, donating to thrift stores or selling them online.

Consumer purchases are strongly influenced by cultural, social, personal and psychological factors:

- ❖ **Cultural factors** (subculture, social position, social classes);

- ❖ **Social factors** (Consumer behavior is also determined by factors of the social order, such as reference groups, family, social roles and statuses);

- ❖ **Personal factors** (Buyer decisions are also influenced by personal external characteristics, especially age, family life stage, occupation, economic status, lifestyle, personality type and self-image);

- ❖ **Psychological factors** (Four basic psychological factors also affect the purchasing choice of an individual: motivation, perception, assimilation, persuasion and attitude).

The buying process begins long before the act of sale and purchase, and its consequences are manifested for a long time after its completion. In order to manage people's behavior, it is necessary not only to study them from the point of view of consumers, but also to determine the main classification of consumer behavior, which will help form the correct idea of the consumer and determine the main types of consumer behavior in modern market conditions. The specificity of the consumer goods market lies in the fact that these markets are divided into numerous segments that have certain categories of buyers with their own requirements, tastes, requests, traditions, cultural characteristics, and effective demand limits. It is the consumer, deciding what and where to buy, who determines what goods to produce and what business will be successful. The freedom of choice of goods by the buyer is now especially enhanced due to his mobility and better awareness through advertising, the media, and the Internet. Market researchers study the influence of numerous factors on the behavior of the buyer when making a purchase decision. And the development of technology is one of the conditions that affects the purchasing behavior.

Chapter 4

METHODOLOGY AND ANALYSES

4.1 Data and Questionnaire

Today, there is certainly a connection between the purchasing behavior and the development of technologies, not only in Russia, but throughout the world. In order to find out the relationship between these two values, I conducted an analysis in which I tried to find out which types of goods and services the Russian population prefers more, produced by technology or by the traditional methods. Since the demand for a particular product or service increases, the more it will be produced. This is the rule of supply and demand, the higher the demand, the higher the supply. If potential customers have a desire to buy products manufactured in a certain way, for example, using high technology, then the volume of production of these products will increase and we can assume that in the future the demand for this product will also grow and in order to satisfy customers, companies and factories will increase the quantity of goods produced. Of course, the demand for a product depends on cultural experience, family lifestyle and personal experience of the target market. For example, should not expect a high demand for touchscreen phones if you have brought the product into the jungle where peoples live without the use of technology even in the slightest amount. Since in Russia any type of technology is widely used an increased demand for products produced using technologies, for example, robotic machines and services that are provided through the use of technologies, for

example, self-service machines, is expected. Therefore, the relationship between these two values will be revealed after the survey.

In this survey, the Likert Scale was used predominantly. The Likert Scale is a rating scale that is often used when asking customers about their experience with a particular product or brand, where they rate the services that were provided to them or the overall performance of the product or brand. The Likert scale uses a 5- or 7-point scale, sometimes called the satisfaction scale, which ranges from one extreme attitude to the other. Typically, a question in a Likert survey includes a moderate or neutral response. The Likert Scale (named after its creator, American sociologist Rensis Likert) is quite popular because it is one of the most reliable ways to measure opinions, perceptions and behavior, compared to binary questions, which only have two choices (for example, yes or no), Likert questions provide more detailed information about whether your product was "normal," "great," or there is work to be done. In addition, questions with a Likert scale can help, for example, assess the overall customer experience: whether they were "very happy," "somewhat dissatisfied," or just plain 'indifferent'. This method allows the researchers to identify nuances of opinion that can significantly affect the understanding of the feedback the researcher receives from customers. It can also identify areas where the producers need to improve their services or products.

In the questionnaire the attention is targeting to 4 separate areas of life where technology is directly used. In the first part of the questionnaire, there are demographic and economic questions. Then, the first area in which technologies are used that can directly affect the employment of the population analyzed, this is the

method of purchase goods, which at the moment can be made online or in a store. Questions 10 to 12 relate directly to the method of purchasing a product.

The second area that is examined during the survey is the production of goods, because today it can be produced both by human force and by machines and robots. Questions 13, 14 and 15 refer to the second area.

The third area, in which technology also occupies a large part today, is the banking sector. The topic of using Internet banking, ATM or visiting a bank branch directly is examined. Questions 16-18 refer to this sector.

And the last sector in this questionnaire is focusing on the service sector, the moment of ordering goods, which can occur through an employee or a self-service machine. Questions 19, 20 and 21 refer to this topic.

Data collection took place in Russia in 3 different cities of the people surveyed, some used technology to a lesser extent, some to a greater extent. In total, this survey covered 237 people in Russia due to the limited time. The first part of the survey contains demographic information such as gender, marital status, educational level and age. Then the second part, which consists of economic issues such as having a job, if there is no job, then the reason for leaving it, as well as the monthly salary of the interviewed person. The third part deals with how often they use and how knowledgeable they are about the technology. The fourth part refers to the four areas described above. These are areas in which the use of technology will directly lead to a change in the employment of the population.

The main demographic results are described as followed. 109 samples interviewed are males (46%) and 128 samples are female (54%). The second part of survey is related with marital status of interviewed. There are 92 married (38.8%), 79 interviewd are dating (33.3%), 62 people out of interviewed are single (26.2%) and 4 are widowed (1.7%). 145 interviewed are educated with undergraduate program (61.2%), 44 people with master/doctorate degree (18.6%), 26 interviewed with technical school diploma (11%) and 22 out of all interviewd have high school diploma (9.3%). Interviewed of the majority age between 25 to 40 are 92 people (38.8%). A large number of respondents aged between 41 to 50 are 64 people (27%) and between 18 and 24 are 61 people (25.7%). The smallest number of respondents aged between 51 and 60 are 17 people (7.2%) and aged 61+ (1.3%). The average income per month of respondents varied widely from 13.000 RUB(1USD= 70RUB) to more than 85.000 RUB. Almost half of the customers have the average income per month around 35.000 RUB to 50.000 RUB (35%). This is followed by answers with a salary in the range of 50,000 RUB and 60,000 RUB, which is 61 people (25.7%). 54 people indicated that their salary ranges from 20,000 RUB to 35,000 RUB (22.8%). Only small portion of respondents have average income per month to more than 85.000 RUB their number are 10 (4.2%). 17 people indicated that their income is only from 13.000 RUB to 20.000 RUB (7.2%). 12 respondents (5.1%) have income in the amount of 65.000 RUB to 85.000 RUB. Among all respondents, 203 (85.7%) people have a stable job, 11 (4.6%) people work as freelancers (from time to time) and 23 (9.7%) people do not have a stable job at the moment. 12 (5.1%) people said that the reason for not having a stable job is left for family reasons, 11 (4.6%) people lost their jobs because of covid-19, 10 (4.2%) people left because of difficulties at work, and 1 (0.4%) person said that the company had decided to cut

jobs. 84 people (35.4%) stated that they very often use technology in their daily life. 80 people (33.8%) said they sometimes use technology. 58 people constantly use technologies in everyday life (24.5%). Only 12 of the respondents (5.1%) indicated that rarely use technology. But also 3 people (1.3%) stated that they do not use technology at all. With regard to the personal knowledge of the interviewed people about technology. 98 people (41.4%) confirmed that they have good knowledge in this area, 91 people (38.4%) have very good knowledge, 23 people (9.7%) are very close to technology, 22 people (9.3%) have poor knowledge and 3 people (1.3%) have no knowledge of technology at all.

This thesis is focused on to find about peoples preferences to use technology in different sectors in Russia. From results it can be observed that the number of men and women in survey gave similar answers and there is no gender bias as far as technology use. Generally most of the responds are university graduates people. Aged level between 25 and 40 had a larger percentage from the sample. Most of the respondents have stable jobs and have a good knowledge of technology. In order to accept or reject the hypotheses given in Chapter 1, we studied the data obtained after the analyzes carried out in the SPSS program.

In order to find out whether the younger people use more technological services so in the future the usage of technological services will increase, information about the method of ordering products and goods by customers was analyzed.

What kind of shopping do you prefer?
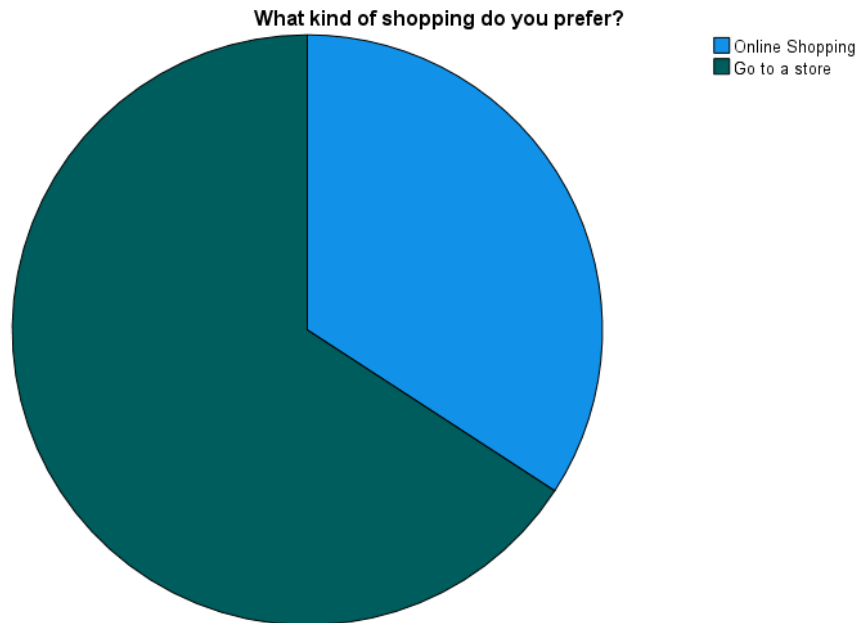
Figure 4: What kind of shopping does the interviewed prefer?

Figure 4 shows how the percentage is distributed between the preference for buying a product over the Internet or going to the store. According to this survey, 156 people (65.8%) prefer to purchase goods directly when they go to the store. The number of people who prefer to shop at home via the Internet is also quite large, 81 out of the respondents gave this answer (34.2%).

Table 1: Crosstabs Gender*Shopping Type

Gender * What kind of shopping do you prefer? Crosstabulation

			What kind of shopping do you prefer?		Total
			Online Shopping	Go to a store	
Gender	Male	Count	41	68	109
		% of Total	17.3%	28.7%	46.0%
	Female	Count	40	88	128
		% of Total	16.9%	37.1%	54.0%
Total		Count	81	156	237
		% of Total	34.2%	65.8%	100.0%

Table 2 shows a cross-tabulation of the percentages of men and women choosing one of the two types of purchasing. The percentage is almost identical for men and women. The number of men who prefer online shopping is 41 (17.3%), the number of women is 40 (16.9%). The number of men who prefer to visit the store to buy goods is 68 (28.7%), the number of women is 88 (37.1%), since a larger number of women are received in the survey, the percentage of men and women in this issue is almost identical. The important finding is that 65.8% of the respondents prefer going to store. Only 34.2% prefer online shopping.

Table 2: Crosstabs Age*Shopping Type

Age * What kind of shopping do you prefer? Crosstabulation

| | | | What kind of shopping do you prefer? | | Total |
			Online Shopping	Go to a store	
Age	18-24	Count	35	26	61
		% of Total	14.8%	11.0%	25.7%
	25-40	Count	29	63	92
		% of Total	12.2%	26.6%	38.8%
	41-50	Count	14	50	64
		% of Total	5.9%	21.1%	27.0%
	51-60	Count	3	14	17
		% of Total	1.3%	5.9%	7.2%
	61+	Count	0	3	3
		% of Total	0.0%	1.3%	1.3%
Total		Count	81	156	237
		% of Total	34.2%	65.8%	100.0%

Table 3 shows a crosstab with the distribution of the answers of the method of purchasing a product by age. With increasing age, the percentage of online purchases decreases and the percentage of purchases when going to the store increases. Between the ages of 18 and 24, 35 people (14.8%) prefer online shopping and 26 people (11.0%) prefer shopping. The big difference in answers is observed among

respondents aged 25-40 years, 29 people (12.2%) prefer online shopping, while 63 people (26.6%) preferred going to the store. But the greatest difference in choice is observed among respondents aged 41-50, 14 people (5.9%) prefer online shopping, while 50 people (21.1%) preferred going to the store. People aged 51-60 preferred to visit the store 14 people (5.9%) and only 3 people (1.3%) choose online shopping. Respondents aged 61+, but they all preferred go to the store (1.3%). Only at age 18-24 the consumers prefer online shopping to going to store. This gives a clue about future of online shopping which could be expected to rise in time. For the time being 65.8% of the respondents of all age groups prefer going to store.

Based on the data obtained after the analysis carried out in the SPSS program, we can accept the null hypothesis that the younger people use more technological services so in the future the usage of technological services will increase and in the same time the alternative hypothesis that the younger people use less technological services so in the future the usage of technological services will dicrease is rejected. Since the majority of the younger generation aged 18-24 compared to other age groups older than them, they prefer to order goods in a technologically produced way, i.e. using online services rather than going to the store. Thus, this proves that in the future we will see an increase in the use of technological services among the population of the country.

Table 3: T-test for Shopping type(online)

Independent Samples Test

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | |
		F	Sig.	t	df	Significance One-Sided p	Significance Two-Sided p	Mean Difference	Std. Error Difference
Onlinetype	Equal variances assumed	.268	.606	-1.281	79	.102	.204	-.73537	.57403
	Equal variances not assumed			-1.278	75.670	.103	.205	-.73537	.57536

Since the Levene's test is not significant, we can state that equal variance is assumed. Since 0.606 > 0.05. When we check T-test for equality of means we see that there is no significant difference in the mean scores on variable for each of the two groups and vice versa. I made this conclusion because 0.204 > 0.05.

Table 4: T-test for Shopping type(store)

Independent Samples Test

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | |
		F	Sig.	t	df	Significance One-Sided p	Significance Two-Sided p	Mean Difference	Std. Error Difference
Storetype	Equal variances assumed	.007	.932	.720	154	.236	.473	.32754	.45513
	Equal variances not assumed			.724	147.445	.235	.470	.32754	.45223

Referring to the data of the Levene's test, we can say that it is not significant, thereby we prove that there is an equal variance assumed since 0.932 > 0.05. The T-test is also not significant as 0.473 > 0.05. Therefore, we conclude that there is equity of means and there is no significant difference in the average scores for the variable for each of the two groups, and vice versa. The following table shows the average data related to the question of why the interviewed people prefer a particular method of purchasing goods. In this part interviewed people should give the point each of statements between 1 and 5. One is at the least importance for them, and five is the at most importance for them. So minimum is one and maximum is five. And in the

table the "X" is shows the average of between minimum and maximum, and generally it shows average percentage of the importance of this item. The table "S" shows the standard deviation of the answers.

Table 5: Reasons for choosing particular method of purchasing goods

Why do you prefer particular method for purchasing goods?	X	S	Min	Max
Online				
24/7 usage opportunity	4.42	0.86	2	5
Fast, practical and easy to use	4.53	0.61	2	5
No need to wait in line at the branch	4.23	0.86	2	5
Large availability of discounts and promotions	3.43	1.01	1	5
Recommendations from environment	3.16	1.05	1	5
Go to a store				
Near where I am or on my way	3.85	0.95	1	5
Ability to touch and see the product	4.56	0.69	1	5
It is safer	4.03	0.94	1	5
Consultants will always help	3.56	1.01	1	5
Recommendations from environment	3.25	1.03	1	5
Total	237			

As we can see, the most important reasons for choosing to buy online are that it is fast, practical and easy to use, and that it can be used any time when you want without matter it is night or early morning. Another important reason is that

interviewed people do not waste their time at the branch waiting on the line. People can easily do their transaction from the internet and because of it they save their time. Less important reasons for choosing this method were considered the availability of additional discounts and promotions, as well as advice from the environment. If we turn to the reasons why people prefer going to a store, the most important reason is the ability to see and touch a product before buying. An equally important reason is that people believe it is a safer way to buy a product, that stores are found nearby and sales consultants will always help. Recommendation from the environment according to findings from the survey is not very important factor, however it is still important to very few people.

Table 6: ANOVA test for Online type (age factor)

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Onlinetype	Based on Mean	2.187	3	77	.096
	Based on Median	1.750	3	77	.164
	Based on Median and with adjusted df	1.750	3	57.169	.167
	Based on trimmed mean	2.051	3	77	.114

ANOVA

Onlinetype

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	40.470	3	13.490	2.088	.109
Within Groups	497.530	77	6.461		
Total	538.000	80			

Homogeneity of variances shows that Levene's test is not significant because it is more than 0.05 (sig=0.096) and that is why we do not reject the assumption of homogeneity of variances. In ANOVA test there is no significant difference among the mean scores on dependent variable for the four groups because of this statement

0.109>0.05. We do not reject the null hypothesis stated that all groups' means are equal. Mean for age groups were: 18-24 is 19.600; 25-40 is 20.586; 41-50 – 18.571 and 51-60 is 19.667.

Table 7: ANOVA test for online shopping type (technology use factor)

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Onlinetype	Based on Mean	1,067	4	76	,379
	Based on Median	,997	4	76	,414
	Based on Median and with adjusted df	,997	4	59,445	,416
	Based on trimmed mean	1,066	4	76	,379

ANOVA

Onlinetype

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	105,771	4	26,443	4,649	,002
Within Groups	432,229	76	5,687		
Total	538,000	80			

Since age groups did not show significant difference, we will check is there any difference in mean scores in groups according to technology use in their lives. Test of Homogeneity of Variances says that it is non-significant since p=0.379 and we do not reject null hypothesis. ANOVA test is significant because p=0.002 and we can state that there is significant difference in mean scores on dependent variables for these groups and we reject null hypothesis. After we check Tukey to find out where is differences the biggest difference is between Always and Seldom using groups (p=0.036; mean difference is 5.12) and between Always and Sometimes using groups (p=0.013; mean difference is 2.25).

Table 8: ANOVA test for store shopping type (age factor)

Tests of Homogeneity of Variances

Storetype		Levene Statistic	df1	df2	Sig.
Storetype	Based on Mean	4.764	4	151	.001
	Based on Median	4.112	4	151	.003
	Based on Median and with adjusted df	4.112	4	108.250	.004
	Based on trimmed mean	4.719	4	151	.001

ANOVA

Storetype

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	36.294	4	9.074	1.150	.335
Within Groups	1191.449	151	7.890		
Total	1227.744	155			

First of all, we are checking Levene's test for homogeneity of variances and it is significant because of sample sizes sharply unequal (0.01< 0.05) and we reject null hypothesis of equal population variances. Because we reject null hypothesis we cannot not interpret or report the F-test that is why we will use Welch statistic.

Table 9: Welch test for store shopping type

Robust Tests of Equality of Means

Storetype

	Statistic[a]	df1	df2	Sig.
Welch	1.117	4	13.093	.390
Brown-Forsythe	.520	4	5.362	.726

a. Asymptotically F distributed.

Mean answers differ not significantly across age groups, F_{welch} (4,5.362) = 0.520, p=0.726. We do not reject the null hypothesis stated that all groups' means are equal. Mean numbers for age groups were as followed: 18-24 is 18.577; 25-40 is 19.079; 41-50 is 19.700; 51-60 is 20.000; 61+ is 18.000.

Table 10: ANOVA test for store shopping type (stable job factor)

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Storetype	Based on Mean	,036	2	153	,965
	Based on Median	,034	2	153	,966
	Based on Median and with adjusted df	,034	2	152,196	,966
	Based on trimmed mean	,036	2	153	,964

ANOVA

Storetype

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	48,274	2	24,137	3,131	,046
Within Groups	1179,470	153	7,709		
Total	1227,744	155			

In Tests of Homogeneity of Variances for store shopping type based on stable job factor we see that there are equal variances assumed because p=0.965 and we do not reject null hypothesis. In ANOVA test we can state there is significant difference in mean scores because p=0.046 and we reject null hypothesis.

Table 11: Tukey for store shopping type (stable job factor)

Multiple Comparisons

Dependent Variable: Storetype
Tukey HSD

(I) Stable job	(J) Stable job	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Yes	No	-,29104	,86964	,940	-2,3493	1,7672
	I work from time to time (freelancer)	2,84532*	1,15771	,040	,1053	5,5853
No	Yes	,29104	,86964	,940	-1,7672	2,3493
	I work from time to time (freelancer)	3,13636	1,40913	,070	-,1987	6,4714
I work from time to time (freelancer)	Yes	-2,84532*	1,15771	,040	-5,5853	-,1053
	No	-3,13636	1,40913	,070	-6,4714	,1987

*. The mean difference is significant at the 0.05 level.

Tukey test says that there is difference in mean score between group of people having stable jobs and freelancers (p= 0.04; mean difference is 2.85).

Table 12: Comparation of genders according to purchasing method

Why do you prefer particular method for purchasing goods?	Male x	S	Female x	S
Online				
24/7 usage opportunity	4.37	0.859	4.47	0.877
Fast, practical and easy to use	4.49	0.597	4.58	0.636
No need to wait in line at the branch	4.05	0.893	4.42	0.781
Large availability of discounts and promotions	3.37	0.888	3.50	1.132
Recommendations from environment	3.15	1.062	3.18	1.059
Go to a store				
Near where I am or on my way	3.88	0.970	3.83	0.937
Ability to touch and see the product	4.54	0.609	4.57	0.755
It is safer	4.13	0.896	3.95	0.970
Consultants will always help	3.65	1.033	3.50	0.994
Recommendations from environment	3.24	1.009	3.26	1.056
Total	237			

The answers given by men and women are relatively similar on all points, but there are small differences on some questions. For example, for women who prefer online shopping, the moment that there is no need to wait in line and the availability of additional discounts and promotions are more important than for men. If we turn to the respondents who preferred to make purchases when going to the store, we will see that the biggest difference in the answers is that men believe that this method of buying is safer and consultants can always help them.

Table 13: Comparation of the ages according to purchasing method

Why do you prefer particular method for purchasing goods?	18-24 x/S	25-40 x/S	41-50 x/S	51-60 x/S	61+ x/S
Online					
24/7 usage opportunity	4.51	4.52	4.14	3.67	-
	0.818	0.738	1.027	1.528	
Fast, practical and easy to use	4.54	4.62	4.43	4.0	-
	0.505	0.677	0.646	1.000	
No need to wait in line	4.20	4.31	4.21	4.0	-
	0.719	0.930	0.893	1.732	
Large availability of discounts	3.40	3.66	2.86	4.33	-
	0.946	1.078	0.864	0.577	
Recommendations	2.94	3.48	2.93	3.67	-
	0.906	1.184	0.917	1.528	
Go to a store					
Near where I am or on my way	3.65	3.87	3.94	3.93	3.33
	1.018	0.975	0.740	1.269	1.528
Ability to touch and see the	4.65	4.63	4.56	4.14	4.0
product	0.485	0.630	0.705	1.027	1.000
It is safer	3.77	4.03	4.12	4.29	3.67
	0.951	1.031	0.689	1.139	1.528
Consultants will always help	3.50	3.40	3.70	4.07	3.0
	0.762	1.199	0.678	1.141	2.000
Recommendations	3.00	3.14	3.38	3.57	4.0
	1.095	1.148	0.725	1.222	1.000
Total	237				

From Table 14, you can understand that for the age group 18-24 who prefer online shopping, the most important thing is that purchases can be made 24/7 and this is a very practical and easy-to-use method. For the age group 18-24 who prefer go to a store, the most important thing is that there is ability to touch and see the product before buying. People from group aged 18-24 are not very interested in recommendations from environment. Age groups 25-40 and 41-50 gave the most similar answers, which is confirmed by the ANOVA test. The most important reasons for them to buy online are that it is a practical and easy to use method and a no need to wait in line at the branch. For people in these age groups who preferring to go to a store, the most important reason is the ability to see and touch the product before buying. The least important reasons for them are the recommendations of environment and the availability of additional promotions and discounts (for online purchases). For people aged 51-60, the most important things when shopping online are no waiting in line, the availability of additional discounts and the fact that it is a quick and practical method. The least important reasons for shopping online are 24/7 usage and recommendations from environment. Among people aged 61+, no one prefer online shopping. For people aged 61+ who prefer to go to the store for shopping, the most important reasons are the opportunity to see and touch the product before buying and the recommendations from colleagues and friends. Since the number of people aged 61+ was only 3 people, it will not be correct to speak for the entire age group, the data obtained relate more to the personal preferences of these 3 people. The least important values for them were the help of consultants and the proximity of shops to home.

We are done with analyzing the obtained data about the method of buying goods, now we move onto examining the responses received on the topic of manufacturing goods. In order to find out whether we can accept or reject the hypothesis that development of technology affect the increase in buying more technological goods, data was taken from the analysis of the SPSS program on the question of what kind of products the interviewed people prefer. Also, the hypothesis that the younger generation buys more technological products, therefore, in the future, an increase in the number of goods produced and their consumption is expected after this survey was accepted or rejected.
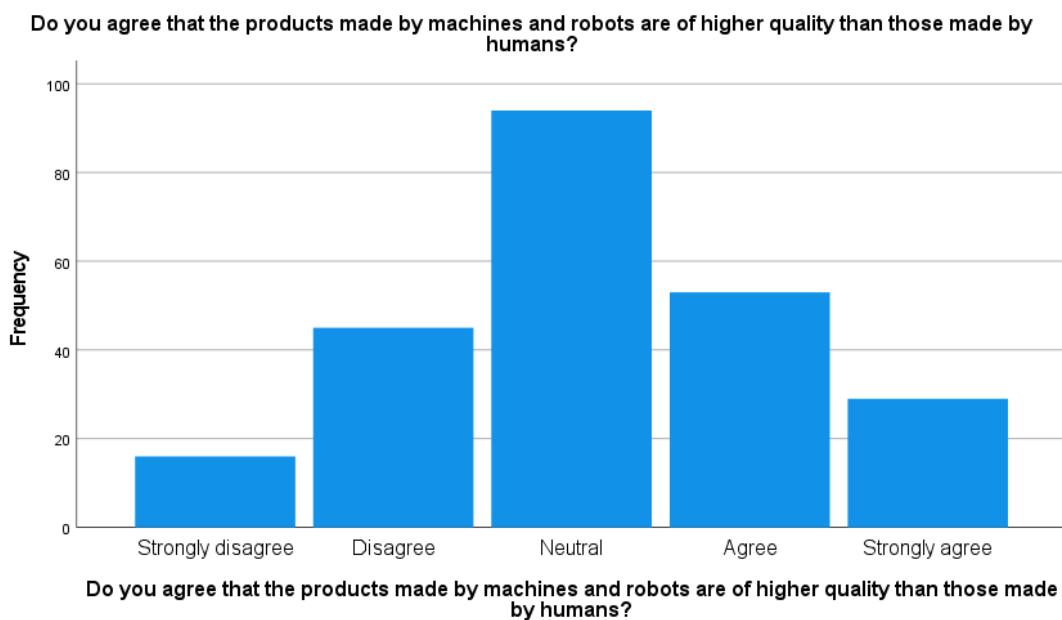
Figure 5: Bar chart for Manufacturing method frequencies

Figure 15 shows the frequency of responses to the question whether the simplified respondents agree that the products produced by machines are of better quality than those produced by humans. As we can see, most people could not give a specific answer to this question, they chose a neutral position, there were 94 such people (39.7%). Since they gave a neutral answer, they did not participate in this section of

46

the survey. The number of those who agree and disagree with this statement is almost the same. There were 53 people who agreed with this statement (22.4%) and 45 people who disagreed (19.0%). There are also people who strongly agree or disagree with this statement. For example, 29 people (12.2%) strongly agreed with this statement and 16 people strongly disagreed (6.8%).

Table 14: Crosstabs Gender*Manufacturing method

Gender * Do you agree that the products made by machines and robots are of higher quality than those made by humans? Crosstabulation

| | | | Do you agree that the products made by machines and robots are of higher quality than those made by humans? | | | | | Total |
			Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
Gender	Male	Count	9	20	39	30	11	109
		% of Total	3.8%	8.4%	16.5%	12.7%	4.6%	46.0%
	Female	Count	7	25	55	23	18	128
		% of Total	3.0%	10.5%	23.2%	9.7%	7.6%	54.0%
Total		Count	16	45	94	53	29	237
		% of Total	6.8%	19.0%	39.7%	22.4%	12.2%	100.0%

Table 15 shows the distribution of responses by gender. As we can see, the majority of men preferred a neutral answer 39 people (16.5%) and 30 people (12.7%) agreed with this statement. The smallest answer was given by men with a strongly negative assessment there were 9 people (3.8%). With regard to women, most of them, as well as men, chose the neutral position 55 women (23.2%). The next by the number of answers shared the line 25 women disagree (10.5%) and 23 women agree (9.3%). Least of all women chose the position strongly disagree 7 people (3.0%).

Table 15: Crosstabs Age*Manufacturing method

Age * Do you agree that the products made by machines and robots are of higher quality than those made by humans? Crosstabulation

			Do you agree that the products made by machines and robots are of higher quality than those made by humans?					Total
			Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
Age	18-24	Count	2	10	23	16	10	61
		% of Total	0.8%	4.2%	9.7%	6.8%	4.2%	25.7%
	25-40	Count	5	18	37	22	10	92
		% of Total	2.1%	7.6%	15.6%	9.3%	4.2%	38.8%
	41-50	Count	3	9	31	13	8	64
		% of Total	1.3%	3.8%	13.1%	5.5%	3.4%	27.0%
	51-60	Count	5	7	3	2	0	17
		% of Total	2.1%	3.0%	1.3%	0.8%	0.0%	7.2%
	61+	Count	1	1	0	0	1	3
		% of Total	0.4%	0.4%	0.0%	0.0%	0.4%	1.3%
Total		Count	16	45	94	53	29	237
		% of Total	6.8%	19.0%	39.7%	22.4%	12.2%	100.0%

If we pay attention to the difference according to the age principle, most of the given by people aged 18-20 were neutral position 23 people (9.7%) and agree position 16 people (6.8%). The respondents aged 25-40 also most of all supported the neutral position 37 people (15.6%), and also a considerable number of 22 people agreed with this statement (9.3%). The same position was expressed by people aged 41-50, the majority supported the neutral position of 31 people (13.1%) and a considerable number agreed with this statement of 13 people (5.5%). The age groups 51-60 and 61+ differ slightly in their answers. For example, most of the 51-60 group disagreed with this statement 7 people (3.0%) and 5 people (2.1%) strongly disagree with this statement. There were no people in this age group who would strongly agree with this expression. With regard to the 61+ group, the answers were scattered among 3 people. 1 person strongly disagrees (0.4%), another person disagrees with this statement (0.4%) and one strongly agrees (0.4%).

According to the data obtained, it can be seen that most people cannot choose the exact position, but the second most answered was the position that the people

surveyed prefer products produced by the technological way more than those produced by human labor. And as a conclusion from this, the null hypothesis is accepted that development of technology affects the increase in buying more technological goods and the alternative hypothesis is refuted. We also accept the null hypothesis that the younger people buy more technological goods, so in the future the production of technological use will increase and decline the alternative one.

Table 16: T-test for Machine manufacturing products

Independent Samples Test

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | |
		F	Sig.	t	df	Significance One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference
Machinetype	Equal variances assumed	1.722	.193	.735	80	.232	.465	.26829	.36504
	Equal variances not assumed			.735	79.296	.232	.465	.26829	.36504

We can confidently assert that equal variances assumed because Levene's test in not significant (0.193 > 0.05). We can also state that that T-test is not significant and there is no significant difference in the mean scores on variable for each of the two groups and vice versa (0.465>0.05).

Table 17: T-test for Human manufacturing products

Independent Samples Test

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | |
		F	Sig.	t	df	Significance One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference
Humantype	Equal variances assumed	.165	.686	1.354	59	.090	.181	1.04095	.76884
	Equal variances not assumed			1.357	58.850	.090	.180	1.04095	.76693

The answers given by people who prefer human-made goods according to the Levene's test show that equal variances assumed since this test is not significant (0.686>0.05). When we check for equality for means we see that it is also not

significant (0.181>0.05) and we can state that there is no significant difference in the mean scores on dependent variable for each of the two groups and vice versa.

Table 18: Reasons for choosing particular method of manufacturing products

Do you agree that the products made by machines are higher quality than made by humans?	X	S	Min	Max
Machine products				
People tend to make mistakes	4.48	0.69	2	5
A person can be influenced by external factors	4.34	0.67	2	5
Lack of experience/knowledge of a person	4.29	0.73	2	5
Human-made products				
Machines/robots may crash	4.05	0.85	2	5
Distrust of machines/robots	3.52	1.30	1	5
Fear that robots will take over the world	2.98	1.46	1	5
Total	143			

As we can see from table number 5, people who prefer goods produced by robots and machines choose this type because people can make mistakes, people can be influenced by external factors and also a person may not have enough experience and skills. People who prefer human-made products did not all agree with the statements presented. For example, people agreed with the expression that machines and robots can break down. And with regards to distrust of machines and robots, they chose a neutral position. Also, the respondents are not afraid that robots and machines can take over the world in the future.

Table 19: ANOVA test for Machine manufacturing products

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Machinetype	Based on Mean	.626	3	77	.600
	Based on Median	.487	3	77	.692
	Based on Median and with adjusted df	.487	3	75.255	.692
	Based on trimmed mean	.445	3	77	.722

ANOVA

Machinetype

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.073	4	1.768	.639	.636
Within Groups	212.940	77	2.765		
Total	220.012	81			

Based on the Levene's test, we can say that test of homogeneity of variances is non-significant because p=0.600 is bigger than 0.05. So, we do not reject null hypothesis. When we look at ANOVA test, we see that there is no significant difference in mean scores on dependent variable for these groups, we do not reject null hypothesis that mean variances are equal.

If we turn to the ANOVA test for people who prefer products made by human labor, we will see that the Leven's test is also non-significant because p=0.099 which is bigger than 0.05 and because of it we do not reject null hypothesis that equal variances assumed. But ANOVA test tells us that there is no significant difference in mean score on dependent variable for these groups, so we do not reject null hypothesis as well.

Table 20: ANOVA test for Human manufacturing products

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Humantype	Based on Mean	2.058	4	56	.099
	Based on Median	1.673	4	56	.169
	Based on Median and with adjusted df	1.673	4	47.673	.172
	Based on trimmed mean	1.988	4	56	.109

ANOVA

Humantype

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	62.643	4	15.661	1.810	.140
Within Groups	484.406	56	8.650		
Total	547.049	60			

Table 21: Comparation of genders according to manufacturing method

Why do you prefer goods produced in particular way?	Male x	S	Female x	S
Machine products				
People tend to make mistakes	4.54	0.674	4.41	0.706
A person can be influenced by external factors	4.39	0.703	4.29	0.642
Lack of experience/knowledge of a person	4.32	0.789	4.27	0.672
Human-made products				
Machines/robots may crash	4.17	0.711	3.94	0.948
Distrust of machines/robots	3.66	1.261	3.41	1.341
Fear that robots will take over the world	3.28	1.437	2.72	1.455
Total	143			

According to Table 22, we can see that men and women who prefer products made by machines and robots choose this product more due to the fact that people can make mistakes. Men and women who prefer human-made products choose these

products because machines and robots can break down and care less about machines and robots taking over the world.

Table 22: Comparison of age according to manufacturing method

Why do you prefer goods produced in particular way?	18-24 x/S	25-40 x/S	41-50 x/S	51-60 x/S	61+ x/S
Machine products					
People tend to make mistakes	4.50	4.56	4.24	5.00	5.00
	0.707	0.564	0.831	0.000	-
A person can be influenced by	4.23	4.47	4.29	4.50	4.00
external factors	0.710	0.567	0.784	0.707	-
Lack of experience/knowledge	4.38	4.34	4.19	4.0	3.00
	0.697	0.745	0.680	1.414	-
Human-made products					
Machines/robots may crash	3.75	4.04	4.17	4.25	4.00
	0.965	0.928	0.718	0.754	0.000
Distrust of machines/robots	2.83	3.57	3.67	4.08	3.00
	1.403	1.472	1.073	0.900	0.000
Fear that robots will take over the	2.17	2.87	3.67	3.25	3.50
world	1.193	1.687	0.888	1.485	0.707
Total	143				

Table 23 shows the average of the responses based on age groups. Most people in the 18-24, 25-40, 51-60 and 61+ age groups say that they prefer products made by machines and robots because people tend to make mistakes. But the 41-50 age group argue that people can be influenced by external factors, so they prefer goods made by

machines and robots. All 5 age groups agreed that they prefer goods produced by human power because machines and robots tend to break down. And they are also not concerned that robots and machines can take over the world. Mistrust to robots also to humans are more pronounced at older ages.

We have finished analyzing half of our questionnaire now moving on to the part related to the bank sector. The question in this section that was asked to the interviewed people is "What banking channel do you prefer?". In this part, the answer is found to the question of whether the hypothesis that the development of technologies affects the increase in the use of more technological services by customers can be accept or decline.
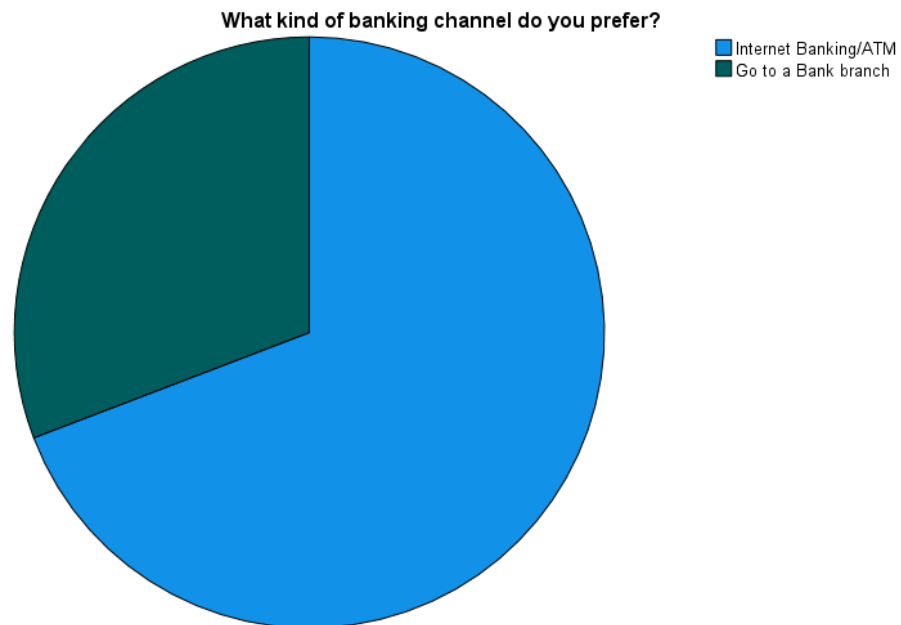

Figure 6: What kind of banking channel do you prefer?

Most of the people surveyed preferred online banking/ATM rather than going to a bank branch. The number of people who chose an online banking is 164 (69.2%), people who chose to visit a bank branch 73 people (30.8%).

Since most people prefer using ATM or online banking, the null hypothesis stating that the development of technologies affects the increase in the use of more technological services by customers accepted and the alternative hypothesis declined.

Table 23: Crosstabs Gender*Banking channel

**Gender * What kind of banking channel do you prefer?
Crosstabulation**

| | | | What kind of banking channel do you prefer? | | Total |
			Internet Banking/ATM	Go to a Bank branch	
Gender	Male	Count	73	36	109
		% of Total	30.8%	15.2%	46.0%
	Female	Count	91	37	128
		% of Total	38.4%	15.6%	54.0%
Total		Count	164	73	237
		% of Total	69.2%	30.8%	100.0%

If we turn to Table 24, we can see that the percentages of the responses of men and women are almost the same. Online banking/ATM was chosen by 73 men (30.8%) and 91 women (38.4%), and visiting a bank branch was chosen by 36 men (15.2%) and 37 women (15.6%). Perhaps the age groups will give us different answers, let's turn to the next cross-table.

There is a difference in age groups. For example, people aged 18-24, 25-40 and 41-50 prefer online banking / ATM more, from their age groups 50 people (21.1%), 77 people (32.5%) and 33 people (13.9%) answered so. But people aged 51-60 and 61+ preferred visiting a bank branch – 14 people (5.9%) and 2 people (0.8%).

Table 24: Crosstabs Age*Banking channel

Age * What kind of banking channel do you prefer? Crosstabulation

			What kind of banking channel do you prefer?		Total
			Internet Banking/ATM	Go to a Bank branch	
Age	18-24	Count	50	11	61
		% of Total	21.1%	4.6%	25.7%
	25-40	Count	77	15	92
		% of Total	32.5%	6.3%	38.8%
	41-50	Count	33	31	64
		% of Total	13.9%	13.1%	27.0%
	51-60	Count	3	14	17
		% of Total	1.3%	5.9%	7.2%
	61+	Count	1	2	3
		% of Total	0.4%	0.8%	1.3%
Total		Count	164	73	237
		% of Total	69.2%	30.8%	100.0%

Table 25: T-test for Online banking

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Significance One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference
InternetBanking	Equal variances assumed	.075	.784	-.550	162	.292	.583	-.22415	.40784
	Equal variances not assumed			-.544	147.792	.294	.587	-.22415	.41188

In table 26, we see a T-test of people who chose online banking. Leven's test is non-significant which means that we do not reject null hypothesis which states that equal variances assumed. We made this decision depends on p=0.784 which is bigger than 0.05. When we look for equality of means we see that p=0.583 which is bigger than 0.05. So, we do not reject null hypothesis that there is no difference in the mean scores on dependent variable for each of two groups and vice versa.

Table 26: T-test for Bank branch

Independent Samples Test

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | |
		F	Sig.	t	df	Significance One-Sided p	Significance Two-Sided p	Mean Difference	Std. Error Difference
Bankbranch	Equal variances assumed	.210	.648	.942	71	.175	.349	.63288	.67199
	Equal variances not assumed			.941	70.030	.175	.350	.63288	.67284

In T-test of interviewed people who prefer visit a bank branch, Levene's test is non-significant as well since p=0.648 and we do not reject null hypothesis about equal variances assumed. In t-test for equality of means we can see that it is non-significant as well because p=0.349 and we do not reject null hypothesis for equality of means as well.

Table 27: Reasons for choosing particular banking channel

Why do you prefer particular banking channel?	X	S	Min	Max
Online banking/ATM				
24/7 usage opportunity	4.54	0.67	1	5
Very advanced, providing safe use	4.05	0.86	1	5
ATMs are available in many places, menu is easy	4.48	0.76	1	5
Make all transactions from the phone	4.31	0.80	2	5
I do not wait in line	4.33	0.77	1	5
Go to a bank branch				
Has bank branches in many places	3.89	1.05	1	5
Bank employees promptly help	4.26	0.83	2	5
I am not good at phone/ATM	3.26	1.09	1	5
I think it is safer	3.97	0.85	1	5
A family habit	3.71	0.84	1	5
Total	237			

This table shows that most people prefer online banking / ATM due to the fact that there is a possibility of using 24/7 (4.54) and also a large number of ATMs and its easy-to-use menu (4.48). For people who prefer to visit a bank branch, the most important reasons are considered that this is a more secure way and the help of bank employees make people choose this type of banking channel.

Table 28: ANOVA test for Online banking type

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
InternetBanking	Based on Mean	10.153	3	159	<.001
	Based on Median	7.858	3	159	<.001
	Based on Median and with adjusted df	7.858	3	56.233	<.001
	Based on trimmed mean	9.905	3	159	<.001

ANOVA

InternetBanking

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	121.224	4	30.306	4.956	<.001
Within Groups	972.306	159	6.115		
Total	1093.530	163			

In ANOVA test we are looking for test of homogeneity of variances which is significant because p=0.01 and we do reject null hypothesis of equal population variances and accept alternative hypothesis. Because we reject null hypothesis, we cannot not interpret the F-test that is why need to use Welch statistic but because at least one group has the sum of case weights equal to 1 we cannot run it.

Table 29: ANOVA test for Bank branch type (age factor)

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Bankbranch	Based on Mean	.919	4	68	.458
	Based on Median	.845	4	68	.502
	Based on Median and with adjusted df	.845	4	60.573	.502
	Based on trimmed mean	.904	4	68	.467

ANOVA

Bankbranch

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	22.198	4	5.550	.662	.621
Within Groups	570.131	68	8.384		
Total	592.329	72			

In this case test of homogeneity of variances shows that it is non-significant and we do not reject null hypothesis of equality of variances. ANOVA test also shows that there is no significant difference somewhere among mean scores on dependent variable for these groups.

Table 30: ANOVA test for Bank branch type (stable job factor)

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Bankbranch	Based on Mean	1,717	2	70	,187
	Based on Median	1,482	2	70	,234
	Based on Median and with adjusted df	1,482	2	59,143	,235
	Based on trimmed mean	1,614	2	70	,206

ANOVA

Bankbranch

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	100,594	2	50,297	7,160	,001
Within Groups	491,735	70	7,025		
Total	592,329	72			

In Test of Homogeneity of Variances for bank branch type (stable job factor) there are equal variances assumed because p=0.187 and we do not reject null hypothesis. ANOVA test shows that there is significant difference in mean scores on dependent variable for these groups. Tukey shows that there is difference between group that have stable job and do not have stable job (p=0.001; mean difference is 5.10) and between freelancers and people who don't have stable job (p=0.016; mean difference is 5.75). There is difference in mean scores between group who never and always using technology in their lives (p= 0.031; mean difference is 7.50).

Table 31: Tukey for Bank branch type (stable job factor)

Multiple Comparisons

Dependent Variable: Bankbranch
Tukey HSD

(I) Stable job	(J) Stable job	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Yes	No	5,09848*	1,36478	,001	1,8304	8,3665
	I work from time to time (freelancer)	-,65152	1,56462	,909	-4,3981	3,0951
No	Yes	-5,09848*	1,36478	,001	-8,3665	-1,8304
	I work from time to time (freelancer)	-5,75000*	2,02430	,016	-10,5973	-,9027
I work from time to time (freelancer)	Yes	,65152	1,56462	,909	-3,0951	4,3981
	No	5,75000*	2,02430	,016	,9027	10,5973

*. The mean difference is significant at the 0.05 level.

Table 32: Comparations of genders according to banking channel

Why do you prefer particular banking channel?	Male x	S	Female x	S
Online banking/ATM				
24/7 usage opportunity	4.51	0.729	4.56	0.618
Very advanced, providing safe use	3.99	0.773	4.11	0.924
ATMs are available in many places, menu is easy	4.47	0.801	4.49	0.736
Make all transactions from the phone	4.25	0.846	4.36	0.753
I do not wait in line	4.38	0.775	4.29	0.764

Go to a bank branch				
Has bank branches in many places	3.78	1.174	4.00	0.913
Bank employees promptly help	4.33	0.828	4.19	0.845
I am not good at phone/ATM	3.50	1.082	3.03	1.067
I think it is safer	4.08	0.841	3.86	0.855
A family habit	3.72	0.815	3.70	0.878
Total	237			

Table 33 shows the distribution of responses by gender. But mostly men and women gave similar answers. For example, men and women who prefer online banking/ATM, one of the main reasons for choosing this method is the ability to use 24/7 and the large number of ATMs and their easy-to-use menu. Men and women who prefer to visit bank branches also gave similar answers, the most important reason for choosing this method was the help of bank employees. The men then pointed out that this is the most secure method, and the women preferred this method due to the fact that there are bank branches everywhere.

Table 33: Comparation of age groups according to banking channel

Why do you prefer particular banking channel?	18-24 x/S	25-40 x/S	41-50 x/S	51-60 x/S	61+ x/S
Online banking/ATM					
24/7 usage opportunity	4.62	4.64	4.36	3.00	3.00
	0.635	0.536	0.603	2.000	-
Very advanced, providing safe use	4.06	4.16	3.91	2.67	5.00
	0.843	0.812	0.765	2.082	-

ATMs are available in many	4.56	4.47	4.48	3.67	4.00
places, menu is easy	0.733	0.788	0.667	1.528	-
Make all transactions from the	4.42	4.40	3.97	4.00	4.00
phone	0.673	0.799	0.810	1.732	-
I do not wait in line	4.52	4.26	4.36	3.00	3.00
	0.614	0.768	0.699	2.000	-
Go to a bank branch					
Has bank branches in many places	3.45	4.00	4.06	3.79	3.50
	1.293	1.069	0.854	1.251	0.707
Bank employees promptly help	4.36	4.40	4.23	4.07	4.50
	1.027	0.737	0.805	0.917	0.707
I am not good at phone/ATM	3.18	2.93	3.06	4.00	4.00
	1.168	1.223	0.892	1.038	1.414
I think it is safer	3.82	4.07	3.77	4.36	4.50
	0.751	1.163	0.762	0.633	0.707
A family habit	3.55	3.60	3.81	3.64	4.50
	0.688	1.056	0.749	0.929	0.707
Total	237				

The Table 34 presents the distribution of answers by age group. For example, for age groups 18-24, 25-40 and 41-50, the ability to use online banking 24/7 is much more important than for age groups 51-60 and 61+. The same situation with a lot of ATMs and a simply menu to use. The ability to conduct transactions from your phone is important enough for all age groups. Do not need to wait in line is more important

for the 18-24, 25-40 and 41-50 age groups than for the 51-60 and 61+ age groups. Very advanced, secure online banking is an important reason for the 18-24, 25-40 and 61+ age groups. This reason is less important for age groups 41-50 and 51-60. For people who prefer visiting a bank branch, the answers by age group varied slightly. For example, for the age groups 25-40 and 41-50, a large number of bank branches is important, in contrast to the age groups 18-24, 51-60 and 61+. The help of bank employees is an important reason for all age groups. Age groups 61+ and 51-50 indicated that an important reason for choosing this method was not good use of the phone / ATM, in contrast to the 18-24, 25-40 and 41-50 age groups. Age groups 61+, 51-60 and 25-40 consider this method is the most secure in contrast to groups 18-24 and 41-50. As an important reason for using this method, family habit is only for the 61+ age group, other groups considered this reason less important.

We move to the final part of the questionnaire, the topic of which is self-service or to place an order through an employee, which do you prefer?
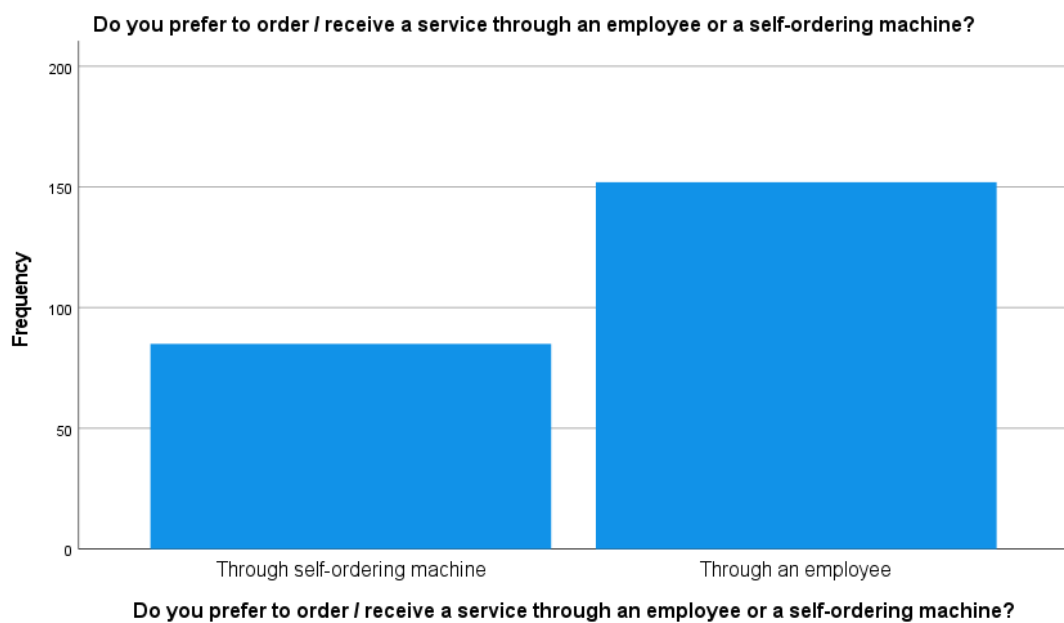
Figure 7: What kind of ordering method do you prefer?

As you can see, figure 7 shows which ordering method people prefer. 152 people (64.1%) prefer to place an order through an employee, the remaining 85 people (35.9%) prefer to order through a self-service machine. Almost 2 times more surveyed people preferred to place an order through an employee.

As the cross table below shows, most men and women prefer to place an order through an employee, for example 72 men (30.4%) and 80 women (33.8%) preferred this method. 37 men (15.6%) and 48 women (20.3%) prefer to place an order through a self-service machine.

Table 34: Crosstabs Gender*Ordering method

Gender * Do you prefer to order / receive a service through an employee or a self-ordering machine? Crosstabulation

			Do you prefer to order / receive a service through an employee or a self-ordering machine?		Total
			Through self-ordering machine	Through an employee	
Gender	Male	Count	37	72	109
		% of Total	15.6%	30.4%	46.0%
	Female	Count	48	80	128
		% of Total	20.3%	33.8%	54.0%
Total		Count	85	152	237
		% of Total	35.9%	64.1%	100.0%

The cross table 36 also shows that all age groups prefer to place an order through an employee, but in different percentages. Now we will tun the T-test for these variables.

Table 35: Crosstabs Age*Ordering method

Age * Do you prefer to order / receive a service through an employee or a self-ordering machine? Crosstabulation

			Do you prefer to order / receive a service through an employee or a self-ordering machine?		Total
			Through self-ordering machine	Through an employee	
Age	18-24	Count	26	35	61
		% of Total	11.0%	14.8%	25.7%
	25-40	Count	35	57	92
		% of Total	14.8%	24.1%	38.8%
	41-50	Count	21	43	64
		% of Total	8.9%	18.1%	27.0%
	51-60	Count	2	15	17
		% of Total	0.8%	6.3%	7.2%
	61+	Count	1	2	3
		% of Total	0.4%	0.8%	1.3%
Total		Count	85	152	237
		% of Total	35.9%	64.1%	100.0%

Table 36: T-test for self-ordering method

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Significance One-Sided p	Significance Two-Sided p	Mean Difference	Std. Error Difference
selfordering	Equal variances assumed	6.474	.013	-.770	83	.222	.444	-.37218	.48350
	Equal variances not assumed			-.808	81.894	.211	.422	-.37218	.46090

Levene's test shows that equal variances not assumed since p=0.013 which is less than 0.05 because of it we reject null hypothesis and accept alternative one. When we looking for t-test equality of means it is non-significant because p=0.422 which is bigger than 0.05 and we do not reject null hypothesis states that all means are equal. There is no significant difference in the mean scores on variable for each of the two groups and vice versa.

Table 37: T-test for ordering through employee method

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					
						Significance		Mean	Std. Error
		F	Sig.	t	df	One-Sided p	Two-Sided p	Difference	Difference
employeetype	Equal variances assumed	1.160	.283	-.856	150	.197	.393	-.36389	.42497
	Equal variances not assumed			-.862	149.946	.195	.390	-.36389	.42218

For this variable Levene's test is non-significant which means that equal variances assumed and we do not reject null hypothesis since p=0.283 it is bigger than 0.05. T-test for equality of means shows that it is also non-significant and there is no significant difference in mean scores and we do not reject null hypothesis because p=0.393 which is bigger than 0.05. Let's see what the most important reasons for choosing one of the two methods were indicated by the respondents.

Table 38: Reasons for choosing particular ordering method

Why do you prefer particular ordering method?	X	S	Min	Max
Self-ordering machine				
It is quick	4.60	0.73	2	5
An employee can make mistake	3.52	0.91	1	5
No one trying to sell me product I don't want	4.28	0.91	1	5
An employee can be rude	3.46	0.95	1	5
Ordering through employee				
Not good in self-ordering machine	2.88	1.10	1	5
An employee can offer alternative or help	3.89	0.93	1	5
Self-ordering machine can suddenly stop to work	3.46	0.95	1	5
A smile can cheer me up	3.86	0.95	1	5
Employee can fulfill my special wishes	4.47	0.72	1	5
Total	237			

This table shows that the most important reasons for choosing a self-service machine is that it is a faster way and no one is trying to sell a product that you do not need. And among people who prefer to order through an employee, the most important reasons are that the employee can help fulfill special wishes and help with ordering. Now let's do ANOVA analysis directly on the two variations (Self-ordering machine and through an employee order) on age groups to see if the responses differ among the different groups.

Table 39: ANOVA test for self-ordering method

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
selfordering	Based on Mean	,341	3	80	,796
	Based on Median	,383	3	80	,766
	Based on Median and with adjusted df	,383	3	74,176	,766
	Based on trimmed mean	,340	3	80	,796

ANOVA

selfordering

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	48,816	4	12,204	2,716	,035
Within Groups	359,490	80	4,494		
Total	408,306	84			

First of all, we check Test of Homogeneity of Variances which says that it is non-significant and we can say equal variances assumed since p= 0.796 and we do not reject null hypothesis. ANOVA test is significant since p=0.035 which is less than 0.05 and we reject null hypothesis and accept alternative one. Because of it we can state that there is significant difference somewhere among the mean score on dependent variable for the three group. But we cannot run Post Hoc analysis because at least one group has the sum of case weights equal to one.

Table 40: ANOVA test for ordering through employee method (age factor)

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
employeetype	Based on Mean	1,680	4	147	,158
	Based on Median	1,460	4	147	,217
	Based on Median and with adjusted df	1,460	4	131,973	,218
	Based on trimmed mean	1,610	4	147	,175

ANOVA

employeetype

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	33,524	4	8,381	1,234	,299
Within Groups	998,055	147	6,789		
Total	1031,579	151			

Levene's test says that equal variances assumed and we do not reject null hypothesis because p=0.158. ANOVA test is also non-significant because p=0.299 and we can state that there is no significant difference in mean scores so we can reject null hypothesis and accept alternative one. But I will run one more ANOVA test for ordering through employee method to find different mean scores.

In ANOVA test showed in Table 42 below Levene's test is non-significant since p=0.885 and we do not reject null hypothesis stated that equal variances assumed. ANOVA test is significant and there is significant difference somewhere among the mean scores on dependent variable for these groups since p=0.026. So now we will look for Tukey to find out where is these differences in means score. There is difference in mean scores between group of people having stable job and freelancers (p=0.027; mean difference=2.79) and there is difference between group of people who don't have stable job and freelancers (p=0.032; mean difference=3.36).

Table 41: ANOVA test for ordering through employee method
(stable job factor)

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
employeetype	Based on Mean	,122	2	149	,885
	Based on Median	,082	2	149	,922
	Based on Median and with adjusted df	,082	2	143,874	,922
	Based on trimmed mean	,104	2	149	,902

ANOVA

employeetype

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	49,271	2	24,635	3,737	,026
Within Groups	982,308	149	6,593		
Total	1031,579	151			

Table 42: Tukey test for ordering though employee (stable job factor)

Multiple Comparisons

Dependent Variable: employeetype
Tukey HSD

(I) Stable job	(J) Stable job	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Yes	No	-,57500	,84127	,773	-2,5666	1,4166
	I work from time to time (freelancer)	2,79167*	1,07110	,027	,2560	5,3274
No	Yes	,57500	,84127	,773	-1,4166	2,5666
	I work from time to time (freelancer)	3,36667*	1,32591	,032	,2277	6,5056
I work from time to time (freelancer)	Yes	-2,79167*	1,07110	,027	-5,3274	-,2560
	No	-3,36667*	1,32591	,032	-6,5056	-,2277

*. The mean difference is significant at the 0.05 level.

In Table 44 showed below, we can observe that the most important reasons for choosing a self-service machine are for both men and women, that this is a faster way of ordering and no one offers you to buy a product that you do not need. For men and women preferring to place an order through an employee, the most important reasons were that the employee can fulfill special wishes and help with the order.

Table 43: Comparation of genders according to ordering method

Why do you prefer particular ordering method?	Male x	S	Female x	S
Self-ordering machine				
It is quick	4.65	0.716	4.56	0.741
An employee can make mistake	3.32	0.747	3.67	0.996
No one trying to sell me product I don't want	4.27	0.932	4.29	0.898
An employee can be rude	3.41	0.762	3.50	1.072
Ordering through employee				
Not good in self-ordering machine	2.79	1.125	2.96	1.084
An employee can offer alternative or help	3.90	0.937	3.87	0.919
Self-ordering machine can suddenly stop to work	3.44	0.918	3.47	0.981
A smile can cheer me up	3.89	0.897	3.83	1.003
Employee can fulfill my special wishes	4.33	0.751	4.59	0.669
Total	237			

Table 45 shows the difference in responses based on age groups. For example, age groups 18-24, 25-40 and 41-50 indicated that the most important reason for choosing a self-service machine is a fast-ordering process and no one is trying to sell unnecessary items. The 51-60 age group, however, cited the most important reason that workers can make mistakes and be rude. The 61+ age group indicated that all 4 positions are equally important to them. Among people who prefer to place an order through an employee, all age groups cited the most important reason is that an employee can fulfill the special wishes of customers, something that a self-service machine cannot.

Table 44: Comparation of age groups according to ordering method

Why do you prefer particular ordering method?	18-24 x/S	25-40 x/S	41-50 x/S	51-60 x/S	61+ x/S
Self-ordering machine					
It is quick	4.69	4.74	4.43	2.50	5.00
	0.549	0.561	0.870	0.707	-
An employee can make mistake	3.27	3.69	3.43	4.00	5.00
	1.002	0.932	0.676	0.000	-
No one trying to sell me product I	4.19	4.34	4.33	3.50	5.00
don't want	0.849	0.906	0.913	2.121	-
An employee can be rude	3.31	3.71	3.10	4.00	5.00
	0.736	1.100	0.700	1.414	-
Ordering through employee					
Not good in self-ordering machine	2.60	2.77	2.93	3.73	3.50
	1.035	1.150	0.936	1.223	0.707
An employee can offer alternative	3.77	4.05	3.72	4.07	3.50
	1.060	0.789	0.908	1.100	0.707
Self-ordering machine can	3.60	3.51	3.26	3.47	4.00
suddenly stop to work	1.117	0.928	0.759	1.125	0.000
A smile can cheer me up	3.91	3.77	3.81	4.13	4.00
	0.919	1.102	0.852	0.743	0.000
Employee can fulfill my special	4.26	4.63	4.49	4.20	5.00
wishes	0.852	0.487	0.668	1.082	0.000
Total	237				

Chapter 5

CONCLUSION

We live in such century when nothing stands still, everyone and everything change. Competition is incredibly fierce in the 21st century, so in order to stay on top, companies and businesses need to be focused and always keep up with the times. If companies manage to pleasantly surprise and satisfy their regular and potential customers, the company develops customer loyalty to their product. Technology is one of the irreplaceable key items today for customer satisfaction. It is very important for companies to have satisfied customers, because satisfied customers indicate potential income in the near future, what is necessary for business development and what is directly the main task of the business which is to generate income. Therefore, technology development is a very important part of business development.

The federal project "Personnel for the Digital Economy" set target values for the proportion of Russians with digital literacy and key competencies of the digital economy. This is 27% of the population in 2019, 30% in 2020 and 32% in 2021. Russians understand the importance of competencies in the digital sphere. Half of working Russians believe that they have a low level of knowledge and skills in the field of information technology, and this prevents them from getting better-paid jobs. At the same time, additional training in the field of digital literacy is more often carried out by those who already have it at a fairly high level. (NAFI, 2021).

As the citizens of Russia realize the importance of learning about technology, we can expect an increase in the percentage of information literate people in the near future, which will mean a greater need for technologically produced goods and products.

Therefore, based on the analysis carried out by the SPSS, technology has become an indispensable part in many areas and we proved that technology development has an impact on purchasing behavior in some regions of Russia. Based on the data obtained after the analysis in the SPSS, such hypotheses were accepted:

❖ The development of technology affects the increase in buying more technological goods.

❖ The development of technology affects increases the use of more technological services by customers.

❖ The younger people buy more technological goods, so in future the production of technological use will increase.

❖ The younger people use more technological services, so in future the usage of technological services will increase.

According to the survey, it can be concluded that technologies play an important role in people's lives; more than half of the respondents said that they use technologies in everyday life all the time, and more than half of the respondents claim that they have very good knowledge in the field of technology, since this is an important aspect today. Based on the data obtained, we can conclude that most people prefer to use technologically advanced services/products, because it saves them time since the time is an important aspect for everyone and their use is very simple and convenient. It also helps to make purchases and carry out any transactions wherever they are and

at any time. For example, in the banking sector, based on the survey data, the number of people who prefer to use online banking or ATM exceeds the number of people who prefer to visit a bank branch more than 2 times. This example clearly shows how the development of technology affects the purchasing behavior.

Based on the data obtained from the survey, many people prefer products made by machines and robots, because people tend to make mistakes, which is less common for robots, therefore interviwed people often trust robots more than people. It can be concluded from the survey that the use of technologically produced services helps people avoid unnecessary and unwanted contact with employees or other customers. Therefore, it is safe to say that advances in technology are increasing customer satisfaction in many areas. Therefore, customers want to consume more technologically produced products, thereby influencing their behavior and we can expect that in the future the demand for these products will increase especially among the younger generation.

Most people assume that men have the greatest knowledge in the field of technology, but today women are not much inferior in this matter and we can safely confirm that this is just a stereotype, since the ratio of men and women using technologically produced products and services is almost equal. Even looking at the age groups, there is certainly some difference in the use of technologically produced products and services, but the older generation is trying to keep pace with the times and learn new skills in this area.

The analysis shows that younger people use technology more and prefer to use technology in banking, manufacturing sector and while purchasing products

compared to older people in Russia. This means that technology use is spreading and expanding in time. Of course a wider and more encompassing research is required to have more concrete results.

In conclusion, we can safely say that the development of technology affects the purchasing behavior in Russia that is, the more technology develops, the more it will affect the purchasing behavior.

As a suggestion, companies need to develop more technologically in order to keep up with the times and be able to understand in time what customers want, in what form and try to please them, as they directly affect the company's profits. Also, do not forget to conduct market research in order to understand what and how influences customer purchasing behavior.

 For the younger and older generation, it is necessary to develop as much as possible in the field of technology, since today it is a very important part of our life, if you feel confident in this area, then you will be successful both at work and outside of it.

Among the demographic factors "age" is significantly effecting perception and the use of technology in purchasing goods and services in three cities in Russia.

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APPENDICES

Appendix A: Demographic Characteristic

	Number	Percentage %
Gender		
Male	109	46.0
Female	128	54.0
Education		
High School	22	9.3
Technical School	26	11.0
Undergraduate	145	61.2
Master/PHD	44	18.6
Marital Status		
Single	62	26.2
Dating	79	33.3
Married	92	38.8
Widowed	4	1.7
Age		
18-24	61	25.7
25-40	92	38.8
41-50	64	27.0
51-60	17	7.2
61+	3	1.3
Stable Job		
Yes	203	85.7
No	23	9.7
I work from time to time	11	4.6
Monthly Income		
13 000 – 20 000 RUB	17	7.2
20 000 – 35 000 RUB	54	22.8
35 000 – 50 000 RUB	83	35.0
50 000 – 65 000 RUB	61	25.7
65 000 – 85 000 RUB	12	5.1
85 000 RUB+	10	4.2
If you are unemployed, why?		
The firm reduced the workplace	1	0.4
Difficulties at the job	10	4.2
Family reason	12	5.1
Because of Covid-19	11	4.6
Knowledge of Technology		
No previous knowledge	3	1.3
Weak	22	9.3
Good	98	41.4
Very good	91	38.4
Excellent	23	9.7

How often do you come across with it?		
Never	3	1.3
Seldom	12	5.1
Sometimes	80	33.8
Frequently	84	35.4
Always	58	24.5
Total	**237**	**100**

Appendix B: Ethics Committee Approval

Doğu Akdeniz Üniversitesi
"Erdem, Bilgi, Gelişim"

Eastern Mediterranean University
"Virtue, Knowledge, Advancement"

Galileo Galilei Sk. / Str.,
99628, Gazimağusa, KUZEY KIBRIS /
Famagusta, NORTH CYPRUS,
via Mersin 10, TURKEY
Tel: (+90) 392 630 1327
bayek@emu.edu.tr

Bilimsel Araştırma ve Yayın Etiği Kurulu (BAYEK) / Board of Scientific Research and Publication Ethics

Reference No: ETK00-2021-0102   13.12.2021

Subject: Your application for ethical approval.

Re: Ignatyuk Valeria and Prof. Dr. Melek Şule Aker

Faculty of Business and Economics.

EMU's Scientific Research and Publication Ethics Board (BAYEK) has approved the decision of the Ethics Board of Business and Economics (date: 09.12.2021, issue: 21/11) granting Ignatyuk Valeria and Prof. Dr. Melek Şule Aker from the Faculty of Business and Economics to pursue their work titled **"The Relationship Between Technology Development and Unemployment Rate in Russia".**

Best Regards

Prof. Dr. Yücel Vural

Chair, Board of Scientific Research and Publication Ethics - EMU

YV/ek.

Appendix C: Questionnaire "Technology use in everyday life"

Questionnaire for the thesis with topic "The relationship between technology development and the unemployment rate in Russia"

1. **What is your gender?**
    O Man   O Woman

2. **What is your present marital status?**

    O Single   O Dating   O Married   O Widowed

3. **What is your educational background?**

    O High School

    O Technical school

    O Undergraduate program

    O Master / PhD

4. **How old are you?**

    O 18 – 24

    O 25 – 40

    O 41 – 50

    O 51 - 60

    O 61+

5. **What is your monthly income? (Russian Ruble) (1 US dollar = 70 RUB)**

    O 13 000 – 20 000

    O 20 000 – 35 000

    O 35 000 – 50 000

    O 50 000 – 65 000

    O 65 000 – 85 000

    O 85 000 +

6. Do you have a stable job?

  O Yes   O No   O I work from time to time (freelancer)

7. If you are unemployed why did you lose your job?

  O The firm reduced the workplace

  O I left it because of the difficulties at the job

  O I left for family reasons

  O I lost my job because of Covid-19

8. How often do you come across high technology in your life? (Phone, internet, contactless payment, robots, online shopping, etc.)

  O Never

  O Seldom

  O Sometimes

  O Frequently

  O Always

9. Please give an assessment of your personal knowledge of technology development.

  O No previous knowledge

  O Weak

  O Good

  O Very good

  O Excellent

10. What kind of shopping do you prefer? (Answer next question if you prefer online shopping. If you prefer go to a store please skip next question)

O Online Shopping   O Go to a store

11. Why do you prefer online shopping? (According to the degree of importance 1 minimum - 5 maximum)

	1	2	3	4	5
O Fast, practical and easy to use	O	O	O	O	O
O 24/7 usage opportunity	O	O	O	O	O
O I don't have to wait in line at the branch	O	O	O	O	O
O Large availability of additional discounts and promotions	O	O	O	O	O
O Because of the advice I got from my environment	O	O	O	O	O

12. Why do you prefer go to a store for shopping? (According to the degree of importance 1 minimum - 5 maximum)

	1	2	3	4	5
O Near where I am or on my way	O	O	O	O	O
O The ability to touch and see the product before buying	O	O	O	O	O
O I think it is safer	O	O	O	O	O
O Sales consultants will always help with the choice of goods	O	O	O	O	O
O Because of the advice I got from my environment	O	O	O	O	O

13. Do you agree that the products made by machines and robots are of higher quality than those made by humans? (Answer next question if you prefer products produced by machines. If you prefer products made by human please skip next question)

O Strongly disagree

O Disagree

O Neither agree nor disagree

O Agree

O Strongly agree

14. Why do you prefer goods produced by machines? (According to the degree of importance 1 minimum - 5 maximum)

	1	2	3	4	5
O People tend to make mistakes	O	O	O	O	O
O A person can be influenced by external factors	O	O	O	O	O
O Lack of experience / knowledge of a person	O	O	O	O	O

15. Why do you prefer goods produced by human? (According to the degree of importance 1 minimum - 5 maximum)

	1	2	3	4	5
O Machines / robots may crash	O	O	O	O	O
O Distrust of machines / robots	O	O	O	O	O
O Fear that robots will take over the world	O	O	O	O	O

16. What kind of banking channel do you prefer? (Answer next question if you prefer internet banking. If you prefer go to bank branch please skip next question)

O Internet banking/ATM   O Go to Bank Branch

17. Why do you prefer internet banking channel or ATM? (According to the degree of importance 1 minimum - 5 maximum)

	1	2	3	4	5
O Internet banking is very advanced, providing safe use	O	O	O	O	O
O ATMs are available in many places; the menu is easy	O	O	O	O	O
O I can easily make all my transactions from the phone	O	O	O	O	O
O I don't wait in line	O	O	O	O	O
O 24/7 usage opportunity	O	O	O	O	O

18. Why do you prefer go to bank branch? (According to the degree of importance 1 minimum - 5 maximum)

	1	2	3	4	5
O Has bank branches in many places	O	O	O	O	O
O Bank employees promptly help me	O	O	O	O	O
O I am not good at phone / ATM	O	O	O	O	O
O I think it is safer	O	O	O	O	O
O A family habit	O	O	O	O	O

19. Do you prefer to order / receive a service through an employee or a self-ordering machine? (Answer next question if you prefer order/receive a service by self-ordering machine. If you prefer order/receive a service through an employee please skip next question)

O Through self-ordering machine   O Through an employee

20. Why do you prefer ordering/ receiving a service through self-ordering machine? (According to the degree of importance 1 minimum - 5 maximum)

	1	2	3	4	5
O It is quick	O	O	O	O	O
O An employee can make a mistake while getting an order	O	O	O	O	O
O Not trying to sell a product that I don't want	O	O	O	O	O
O The employee can answer rudely and be not interested in you	O	O	O	O	O

21. Why do you prefer ordering/ receiving a service through an employee? (According to the degree of importance 1 minimum - 5 maximum)

	1	2	3	4	5
O The employee can offer an alternative or help with the choice	O	O	O	O	O
O The self-ordering machine may suddenly stop working	O	O	O	O	O
O A smile and polite communication can cheer me up	O	O	O	O	O
O I am not good at self-ordering machine	O	O	O	O	O
O If I have special wishes, then a person can fulfill them	O	O	O	O	O