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THE INFLUENCE OF THE COVID-19 OUTBREAK ON THE ECONOMY OF THE BALTIC STATES

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Abstract

The pandemic caused by the spread of Covid-19 has become the biggest challenge in the modern world not only for healthcare, but also for economic, political, social, cultural or other sectors. This paper examines the impact of the pandemic on the leading industries of the economies of the Baltic States. Also, the trend of changes in GDP and unemployment rates is analyzed and the circumstances leading to similar and different outcomes are identified. Based on the results of the research, conclusions and recommendations of practical importance have been developed.

Keywords: *COVID-19, Crisis, Economy, Pandeconomy, Baltic States.*
JEL Codes: F63, G01, H12, R58

Introduction

The urgency of the research is due to the fact that despite the great scientific and technological progress made in the medical field, the biggest challenge for the world was the coronavirus pandemic, which radically changed the structure of existing social, economic or cultural relations. The need for in-depth scientific research on this issue is also due to the following circumstances: 1) The Covid-19 pandemic is not the only one. World history includes four large-scale pandemics over the past century; 2) On the one hand, there is no accurate data on the duration of this particular pandemic and on the other hand, the circumstance that the economic damage caused covers the long-term existence of the pandemic itself. Accordingly, the development of practical recommendations based on scientific research is necessary to objectively assess the existing challenges and minimize economic damage.

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Research Methodology

In the paper are used both qualitative and quantitative research methods. In particular, the scientific literature around the research topic is analyzed and Policy documents (anti-crisis plans) developed by the government are also discussed. As for the use of quantitative research methods, the trend of change in the numerical data of the following indicators in the Baltic States is presented: GDP growth rate and rate of unemployment.

Results and Discussion

Covid-19 and its Impact on the Baltic States

The COVID-19 pandemic has an important impact on global economy. The world economy faces a negative supply stock and thereby disrupting the global network of supply chains (Abuselidze & Slobodianyk, 2020; Abuselidze & Mamaladze, 2020; Abuselidze & Zoidze, 2021; Abuselidze, 2021; Atalan, 2020; Brada *et al*., 2021; Buheji, 2020; Ciobanu *et al*., 2020; Černikovaitė & Karazijienė, 2021; Kachanovska & Yakubovskiy, 2020; Karmaker *et al*., 2021; Nandi *et al*., 2021; Segal & Gerstel, 2020; Simachev *et al.*, 2020; Zoidze & Abuselidze, 2021). Given the scale of the impact, it is important to study the economic impact of a pandemic across countries and geographic regions and one approach cannot be globally generalized. Indeed, each country or region is distinguished by specific characteristics that need to be taken into account.

In the case of the Baltic States, despite the similarity of the general situation, a number of differences were identified at an early stage in the management of the Covid-19 pandemic and the crisis. In particular, a national-level emergency was developed in Lithuania much earlier (February 26, 2020) than Latvia (March, 12) and Estonia (March 13).

It should be noted that the pandemic has had a significant impact on the economy of the Baltic state since the 1st quarter of 2020. The coronavirus outbreak and the lockdown of various workplaces led to disruptions in supply negative shocks. Also, demand and consumption for exports and investments decreased significantly. During the isolation, the construction sector remained open in all three countries, which helped mitigate the crisis (Staehr & Urke, 2021).

Leading Economic Industries in the Baltic States

When the pandemic was declared, a number of measures were taken in the Baltic States, as well as in other countries, to reduce the number of covid infections. This included

a ban on certain economic activities. Accordingly, at the initial stage of the study, we decided to highlight the leading industries in the economies of the Baltic States by share of GDP in order to clearly identify the degree of impact of the pandemic on the economies of the Baltic States.

It is noteworthy that the tourism sector plays an important role in the Lithuanian economy. As of 2019, it accounted for 5% of GDP and employed 4.9% of total employment in the country. In addition, the food and beverage sector is one of the primary sectors, comprising up to a thousand manufacturing companies, which accounts for 11% of their total exports, accounting for 4.5% of Lithuania's GDP and employing 4.6% of the workforce. A chemical product is another important industrial activity in Lithuania, accounting for about 12.5 percent of total exports since 80 percent of the chemicals produced in the country are exported. It should also be noted that the furniture production sector employs over 50,000 individuals in Lithuania. Also, farming has been one of the most crucial occupations in the country for centuries and modern production is based on safety standards set by high EU standards. The agricultural sector employs more than 8% of the country's workforce and supplies raw materials to most Lithuanian food processing companies. Despite the declining share of GDP, the agricultural sector remains important for Lithuania, as it works with almost 8% of the workforce and supplies materials to the food processing sector (World Atlas, 2021b).

The high level of digital technology adoption should also be taken into account. The 2,000 companies employ about 37,000 people. Lithuania is represented by 13 of the 20 largest IT firms in the Baltic region (The Latvian Institute, 2020). Some of Lithuania's most promising sub-sectors include business process outsourcing and general services (World Atlas, 2021b). Also, Europe's first international Blockchain Center was launched in Vilnius in 2018. Also, Vilnius ranked seventh in the city according to FinTech Foreign Direct Investment (FDI) in 2019.

The Latvian economy is therefore based on four main sectors: agriculture, chemicals, logistics and wood processing. However, there are other industries that are interesting to consider, including the textile industry, the food industry, mechanical engineering and green technologies. High-tech electronics and information technologies make business life much easier, and their products and services more competitive (The Latvian Institute, 2020). In addition, Latvia imports 100% of its natural gas from Russia (Jones, et al., 2015). In addition, tourism is considered to be one of the main drivers of the Latvian economy, a significant source of export earnings and a major contributor to GDP. In 2019, tourism directly accounted for 8.4% of Latvia's total GDP.

Chemicals, textiles, machinery, equipment, electronics, and oil shale energy are all produced in Estonia's industrial sector. Estonia produces virtually all of its power locally,

utilizing oil shale produced on the island. In truth, Estonia's oil shale sector is one of the most developed in the world, with Estonia producing 80 percent of the world's oil shale. Shipbuilding is also part of Estonian industry and boats and ships are used for both recreational and commercial purposes.

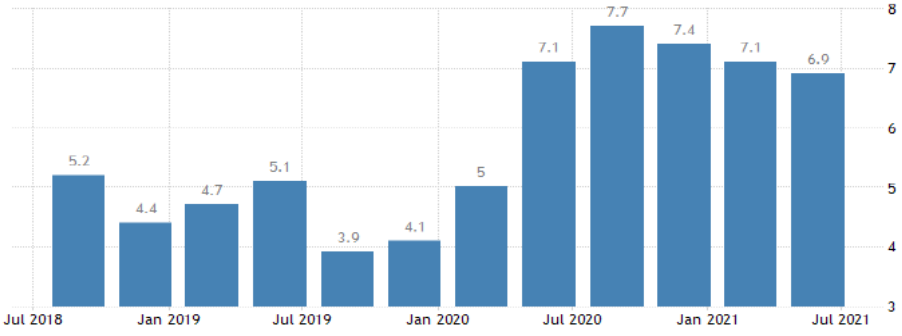
The Estonian metallurgical industry is associated with the production of machinery and equipment, which employs more than 14,000 people. The service sector is the largest industry in Estonia contributing to the country's GDP. It mainly covers transport, telecommunications and banking sectors. The transport sector includes favorable infrastructure and country has a relatively high share in the transit trade, which operates in the Baltic Sea. In addition, foreign investments have been made in the development of the telecommunications sector (World Atlas, 2021a).

The Rate of Unemployment

Unemployment trend in the Baltic States has changed since the beginning of 2020. Despite the general picture of the labor market, differences between sectors were evident. Unlike the financial crisis, in this case, the most affected industries are very labor-intensive, which means that if restrictions persist for a longer period, the employment situation can quickly deteriorate. In addition, there is still uncertainty about the tourism sector, which is related to the weaker expected demand and possible decline in export demand in manufacturing (Foresight Centre, 2020).

Unemployment in the Baltic States increased significantly from the second to the third quarter, especially notable in the case of Estonia (Fig. 1), where labor protection regulations are less stringent than in Lithuania and Latvia. The crisis in Estonia has hit the tourism sector hardest.

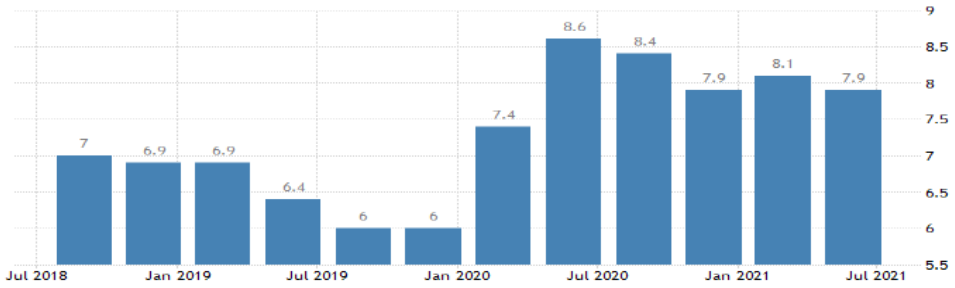
Figure no. 1 The rate of unemployment in Estonia



Source: Trading economics (2021)

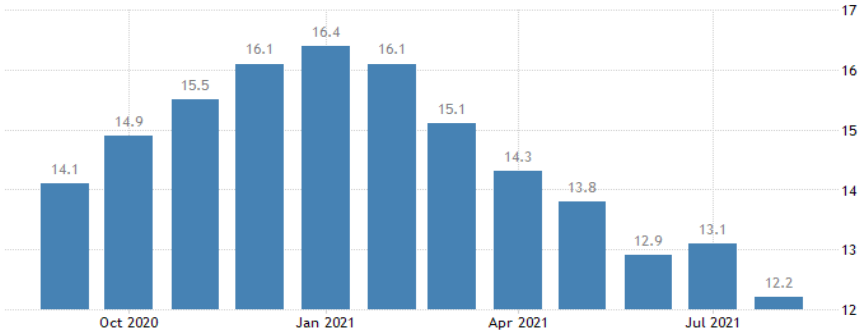
In the third quarter of 2021, unemployment rate in Latvia (Fig. 2) and Lithuania (Fig. 3) increased again, but at a lower rate (Staehr & Urke, 2021).

Figure no. 2 The rate of unemployment in Latvia



Source: Trading economics (2021)

Figure no. 3 The rate of unemployment in Lithuania



Source: Trading economics (2021)

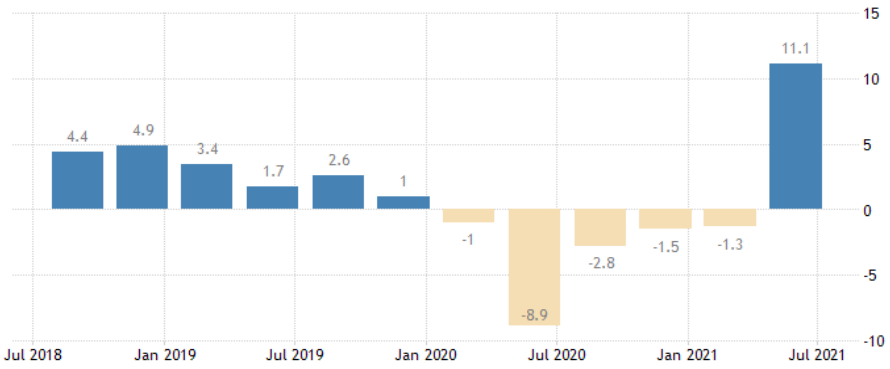
When analyzing the dynamics of unemployment, it should be noted that the data do not include employees on vacation. The coronavirus pandemic disproportionately affected low-wage workers in the service sector and the manufacturing sector (Eesti Pank, 2020).

GDP Growth Rate

Since regaining its independence in 1991 the Baltic States have seen very strong business cycles. The economic downturn due to the coronavirus pandemic in the Baltic States was severe but contained relatively well compared to the experience of the global financial crisis (Staehr & Urke, 2021). GDP has already started to decline in the first quarter of 2020 and growth in Latvia and Estonia has been reversed by the decline. The decline of GDP from the first quarter of 2020 to the second was 5.5% in Estonia, 7.1% in Latvia, and

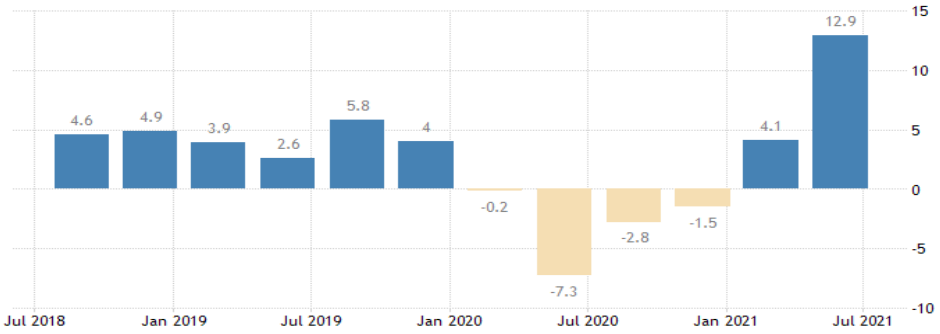
5.9% in Lithuania (Staehr & Urke, 2021). The GDP decreased by a -1% in Latvia (Fig. 4) and -0.7% in Estonia (Fig. 5).

Figure no. 4 GDP growth rate in Latvia



Source: Trading economics (2021)

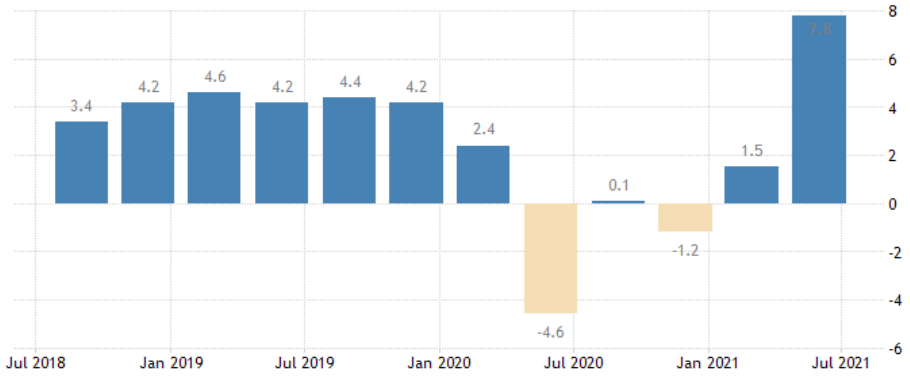
Figure no. 5 GDP growth rate in Estonia



Source: Trading economics (2021)

The GDP in Lithuania was still growing in the first quarter of 2020 that can be linked with the stable government expenditures and lower decline in exports (Fig. 6), while export decline in Estonia and Latvia was respectively 2.4% and 2.6%. Export rates changed in the second quarter: in particular, Latvia decreased by only 10.9%, while in Estonia and Lithuania by 14.7% and 16.4% (Eurostat, 2021).

Figure no. 6 GDP growth rate in Lithuania



Source: Trading economics (2021)

The second quarter of 2020 was the most difficult for all three Baltic States. GDP decline reached -8.9% in Latvia, -6.9% in Estonia and -4.6% in Lithuania (Foresight Centre, 2020).

It should also be noted that at the initial stage of the crisis, all three states were in different positions. The slowdown in economic growth in Latvia and Estonia was still observed in 2019, against the background that Lithuania continued to grow steadily. The reason for the slowdown in economic growth was structural problems, in particular in the case of Estonia - significant shrinkage of the oil shale energy sector as a response to increasing environmental charges, while in Latvia a decrease in transit cargo and anti-money laundering efforts in the banking sector (Foresight Centre, 2020).

The Ways to Overcome Crisis

It should be noted that the Baltic States have been able to successfully manage the challenges posed by the first wave of viral health crises. The main reason for the success was the timely response of the government, as all three countries adopted and implemented a strategy to overcome the crisis and get out of the state of emergency.

The Lithuanian government launched the € 5 billion economic assistance plan in March 2020, which included € 500 million for maintaining business liquidity, speeding up investment and to provide for accelerating investment programmes (Baltic Sea Parliamentary Conference, 2020).

In addition, the Economic and Financial Action Plan included five areas: providing the resources needed for the health and social care system to work effectively, maintaining jobs and incomes, maintaining business liquidity and strengthening the economy (Foresight Centre, 2020).

In the case of Latvia, the government support for “employee downtime” which provided for the payment of 75% of the monthly salary to employees from 14 March to 14 May 2020 if the employer was unable to secure work for the employee because of COVID-19 (Baltic Sea Parliamentary Conference, 2020). The Bank of Latvia has launched an initiative to assist small and medium-sized businesses and Fintech in the Baltic States. National Development Finance Institute provides loans to businesses affected by the Covid-19 crisis with loan guarantees and loans for crisis resolution. Interest rates on business loans in the tourism sector will be reduced by 50% for small and medium-sized enterprises and by 15% for large enterprises in the tourism and related sectors (Baltic Sea Parliamentary Conference, 2020).

Estonia's strategy to overcome the situation caused by the spread of COVID19 was more focused on solving public health problems and mitigating the social consequences of the emergency (Foresight Centre, 2020). Estonia has launched a 2 billion euro financial assistance program, which includes a 1 billion euro loan already issued on bank loans to adjust the repayment schedule. The Estonian Tax and Customs Council (ETCB) has closed its public debt analysis tool and provided mass information on debtors as the current information does not provide an adequate picture of the companies' economic situation. The Estonian Unemployment Insurance Fund has paid subsidies to compensate employees for their salaries during the period March-May 2020.

Conclusion and Recommendation

The pandemic has affected the economies of the Baltic States in the following ways: 1) Restrictions on international supply chains were an important factor in exports and imports which was logically reduced by production; 2) Activities that have been banned and of these 3) have significantly affected the tourism sector, which has played an important role in the GDP of each state;

Consequently, the economic sectors affected by the pandemic in the Baltic States are similar (transportation, entertainment and leisure, accommodation and food services). Also, in none of the three countries did the crisis affect the construction sector.

The measures taken by the government in the field of health as well as in the economic field can be assessed unequivocally positively. However, as a recommendation, it should be noted that it is desirable to develop a strategy during a large-scale epidemic to minimize the damage caused by the pandemic and to speed up the recovery of the affected sectors. Also, it is important to identify the factors influencing the country's economic sectors, determine practical methods and use additional political and economic instruments to solve current crisis.

The aim of the paper was to study the impact of the pandemic on the economies of the Baltic States. Accordingly, we analyzed the leading industrial sectors in each state, as well as the trend of changes in the unemployment rate and GDP before and during the pandemic. The study examined the steps taken by the governments of the Baltic States to combat the crisis.

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ANALYSIS OF THE REPORTS FOR EXPECTED TRENDS IN INFLATION AND ECONOMIC GROWTH IN THE REPUBLIC OF NORTH MACEDONIA AND THE REPUBLIC OF BULGARIA IN THE PERIOD 2021-2023

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Received: 17.02.2022, Accepted: 04.04.2022

Abstract

The situation with the Covid-19 crisis significantly affected all spheres of economic and social life, causing a decline in economic growth, a large increase in prices, in almost all countries in the world, leading to an increase in the cost of living, ie to inflation. The analysis of the expected inflation and economic growth in the Republic of Bulgaria and the Republic of North Macedonia in the period from 2021 to 2023 is the main aim of this research. The research concludes that the initial projections of the National Banks from both countries for the analyzed period have been exceeded. However, the uncertainty of the crisis still persists, so on that basis, it can not be guaranteed with certainty that the economies in the two countries analyzed are safe. Therefore, it is necessary to continuously and carefully monitor the current situations in order to take appropriate measures in management.

Keywords: *inflation; economic growth; prices; q2; corona virus crisis; Republic of North Macedonia; Republic of Bulgaria.*

JEL Codes: E00; E3 ; E5.

Introduction

Inflation is a complex economic problem that manifests itself differently in different countries around the world. In general, inflation means a loss of the real value of money. Symbolically, this means that in normal conditions people go to the market and buy a whole basket of groceries with 30 euros in their pocket, and in conditions of inflation they go to the market with a whole basket of money, and with that money they can store the products they buy. in the pocket. According to the creators of the quantitative theory of inflation, the amount of money in the economy (or the movement of money supply and demand)

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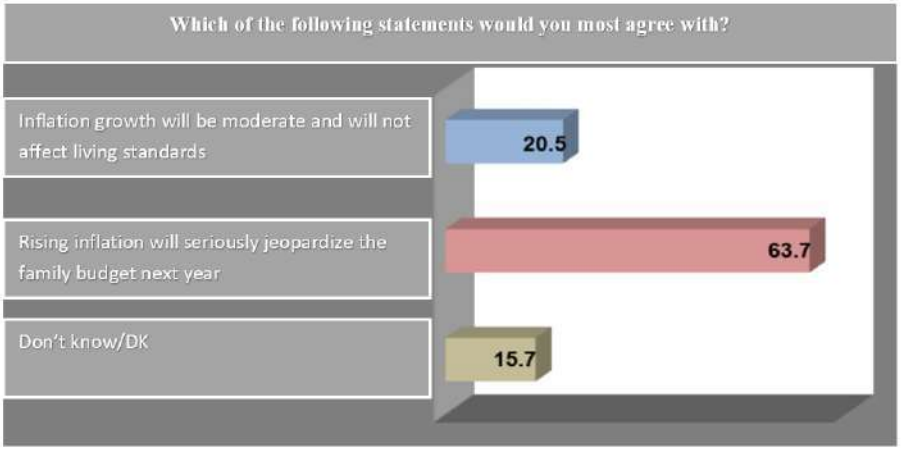
determines the value of money, and the increase in the amount of money is the main cause of inflation.

The main creators of the money supply are the Central Banks. Central Banks do this through the discount rate, required reserves and open market operations (Mankiw, 2007, p.653; Fiti, 2004, p.157), which are in fact their instruments. There are several ways to measure inflation based on different indicators (Eftimovski, 2009, pp. 42-43) such as: GDP deflator (ratio between the price index in the current year and the price index in the base year) and the cost index for life (consumer prices).

Starting from the view of Friedman (1963, p.17) according to which: "inflation is always and everywhere a monetary phenomenon", the implementation of anti-inflationary policy depends on the monetary policy, for which the Central Bank is responsible, and the fiscal policy, for which the state power is responsible. By implementing the monetary policy measures, an effort is made to maintain a stable price level, a certain rate of economic growth, as well as a stable exchange rate. In order to maintain a stable price level, the implementation of monetary policy affects the economic activity of the country in a way that hinders and reduces it.

The impact of the economic and financial crises, especially the one caused by the crisis with the Covid-19 virus, contributes to the increase in the prices of products and services, and hence to the deterioration of the citizens living standard, as a result of the reduction of the consumer basket, so to the disturbance of the national and foreign exchange balance, which leads to a decline in the exchange rate of the national currency and difficult functioning of the national economy.The text below will make a more detailed analysis of the impact of the crisis with the Covid-19 virus on the operations of the National Banks of the two countries that are subject to analysis.The research will prove that the initial projections of the National Banks from both countries for the analyzed period have been exceeded. In addition to the opinion of the experts, the opinion of the citizens of the Republic of Northern Macedonia was also analyzed. They expect an upward trend in inflation, as well, and therefore a significant threat to their family budget in 2022. The results of the telephone survey conducted by the Institute for Political Research from Skopje regarding the opinion of the citizens are shown in Figure no.1.

Figure no. 1 Telephone survey's results of the citizens' opinion about expected inflation trends

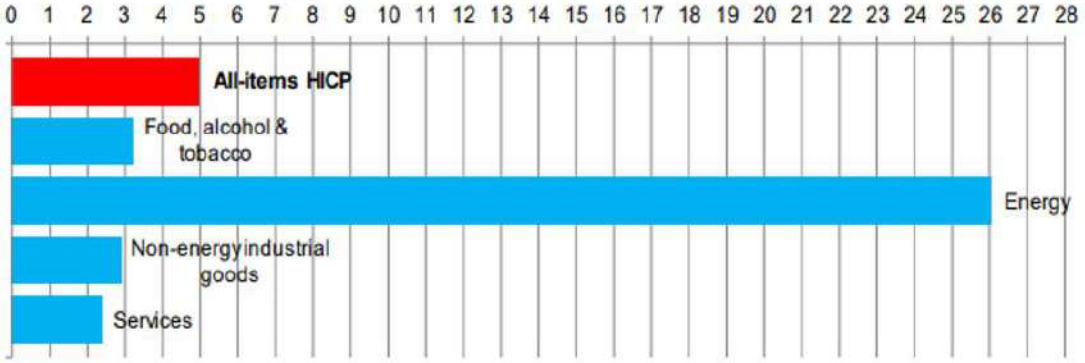


Source: IPIS-Skopje

General overview of the situation related to inflationary movements in European countries

The crisis due to the Covid-19 virus pandemic, rising energy, fuel and food prices are the initial impetus for the emergence and growth of inflation not only in European countries, but in almost all countries around the world. In this context, compared to the previous year of 2021, a record high level of inflation has been reached, which is not decreasing, but on the contrary, it is increasing. According to preliminary estimates and results of EUROSTAT (2021), the rise in prices of energy, cigarettes, alcoholic beverages, services, as well as non-energy industrial products continues to grow. In December 2021, the price of energy reaches an annual growth of 26%; the price of food, alcoholic beverages and cigarettes increased by 3.2%; the price of non-energy industrial products increased by 2.9%; and the increase in the price of services by 2.4% in December decreased by 0.2% compared to November in the same year (Figure no.2 and Figure no. 3 below).

Figure no. 2 Overview of the annual inflation growth rate measured in December 2021 for European countries



	Weights (‰)	Annual rate							Monthly rate
	2021	Dec 20	Jul 21	Aug 21	Sep 21	Oct 21	Nov 21	Dec 21	Dec 21
All-items HICP	1000.0	-0.3	2.2	3.0	3.4	4.1	4.9	**5.0e**	0.4e
All-items excluding:									
> energy	905.0	0.5	0.9	1.7	1.9	2.0	2.5	**2.8e**	0.4e
> energy, unprocessed food	854.5	0.4	0.9	1.6	1.9	2.1	2.6	**2.7e**	0.4e
> energy, food, alcohol & tobacco	687.4	0.2	0.7	1.6	1.9	2.0	2.6	**2.6e**	0.4e
Food, alcohol & tobacco	217.6	1.3	1.6	2.0	2.0	1.9	2.2	**3.2e**	0.6e
> processed food, alcohol & tobacco	167.1	1.1	1.5	1.7	1.9	2.1	2.3	**2.8e**	0.3e
> unprocessed food	50.5	2.1	1.9	3.0	2.6	1.4	1.9	**4.6e**	1.5e
Energy	95.0	-6.9	14.3	15.4	17.6	23.7	27.5	**26.0e**	0.5e
Non-energy industrial goods	269.1	-0.5	0.7	2.6	2.1	2.0	2.4	**2.9e**	0.1e
Services	418.3	0.7	0.9	1.1	1.7	2.1	2.7	**2.4e**	0.6e

Source: EUROSTAT

According to EUROSTAT data (2021), the annual inflation rate in the euro area member states is at a record high in the last 23 years (from the year when it was recorded) and is 5% in December. Barriers in the supply chain of goods and services, due to a series of restrictions related to the health crisis, as well as the recovery from the pandemic are the reason why the stable and large economies in the euro area record the highest level of annual inflation rates. For example, the annual growth rate of inflation in Austria in January 2022 reached a high of 5.1%, with this percentage being taken as the highest in the last 38 years, since 1984, which is very far from the Central Bank projections for growth of 2% in 2022.

The situation is almost the same in Germany, where the rise in consumer goods prices reached 5.3% in December, the seventh consecutive increase since the beginning of 2021. A higher inflation rate in Germany (or 5.8%) was recorded in June 1992, i.e., 29 years ago.

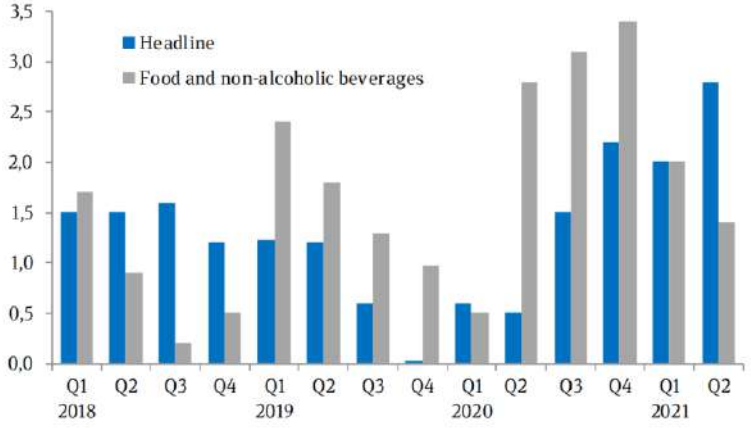
Based on the latest statistics on the inflation rate for all European countries, for the month of January 2022 compared to December 2021, published on the official website of Trading Economics, it can be said that in 4 countries (Liechtenstein, Switzerland, Hungary and Russia), out of a total of 44, the inflation rate remained unchanged until the beginning of 2022. In 7 countries (Denmark, Luxembourg, Germany, Spain, Kosovo, Ukraine and Belarus) the annual inflation rate starts to decline, which is good news, but still such percentages are higher than expected for the same period. Unfortunately, this downward trend is not the case with other countries. Thus, moderate to slight increase in inflation rates compared to the previous year is observed in 26 countries, including the Republic of Bulgaria (with a slight increase of 0.5%) and the Republic of Northern Macedonia (with a slight increase of 0.1%). In the other 4 countries (Belgium, Lithuania, Moldova and Turkey) higher growth of the inflation rate was registered, with the highest growth of all four countries being registered in Turkey (by 12.61% in January 2022, compared to December 2021 year). However, the reality is that the health crisis is still going on, so the claims of some economists that inflation will change for the better by the end of the year remain uncertain.

Research Findings:

The comparative analysis of the research adds up to the data from the national and international reports from both countries that are of interest, ie the Republic of Northern Macedonia during the period between 2021 to 2023, analyzed by quarters or annually.

According to the data of the Ministry of Finance of the Republic of Northern Macedonia on monetary movements and inflation in the second quarter of 2021, the inflation rate has an upward trend (2.8% on an annual basis) and is higher than expected (Figure no. 3).

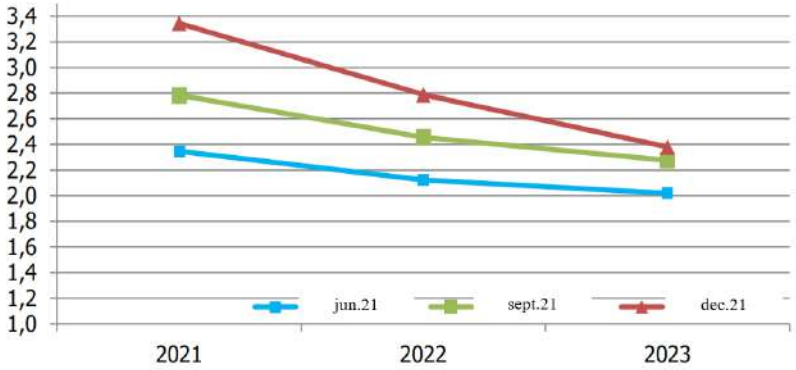
Figure no. 3 Amount of the annual inflation rate analyzed by quarters



Source: Statistical Office of the Republic of North Macedonia

The increase in consumer prices in the Republic of Northern Macedonia is generally conditioned by the increase in energy prices, which is a result of the increase in oil derivative prices globally. An additional impact is the growth of prices of domestic products and services, which occurs as a consequence of the restrictive measures related to the health crisis. In the second quarter of 2021, growth of consumer prices was registered in almost all sectors, with the exception of the communications sector where there is a slight decline of 0.2% more compared to the previous quarter. Considering the above, it is obvious that the average expectations of the experts for the current year will grow, and also the expectations for the next two years will grow, i.e., for 2022 and 2023, whereby in 2022 the inflation rate is expected on an annual basis to be 2.8%, and in 2023 to be 2.4% (Figure no. 4).

Figure no. 4 Overview of the expected inflation rate in the period 2021-2023 expressed as a percentage



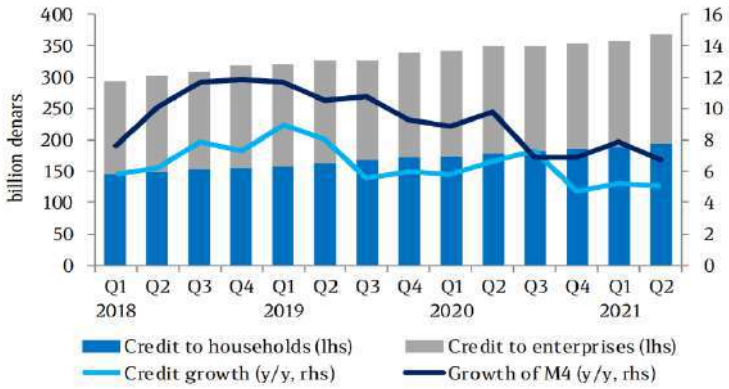
Source: Monetary Policy and Research Directorate of the Republic of North Macedonia

Expectations are generally predetermined by barriers to the distribution of goods and services, rising prices for imported goods, and the consequences of the health crisis. The implementation of fiscal and monetary measures and the increase of wages would encourage higher growth of inflation, while the uncertainty about the Covid-19 crisis increases the uncertainty about the recovery of the economy of the Republic of Northern Macedonia, and hence lower prices of imported goods, ie lower inflation than expected. In order to improve the liquidity of the banking system, support the economy and mitigate the impact of the health crisis, the National Bank decided to maintain the key interest rate, which in the second quarter of the year was reduced to 1.25%.

In the second quarter of the year, there was a decrease in the primary money of the Banks, and an increase in the cash in circulation. There was also an increase in the total

deposit potential by 0.8% more compared to the first quarter of 2021. Deposits of enterprises, households, Denar and foreign currency deposits have increased, as well as the degree of euroization. Additionally, the lending activity of banks conditioned by the increase of loans to businesses and households increased by 1.4% compared to the previous quarter (Figure no. 5).

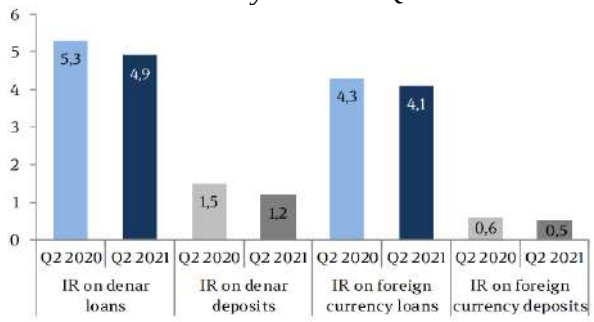
Figure no. 5 Overview of the credit activity of banks in the period from 2018 to 2021 (second quarter)



Source: National Bank of the Republic of North Macedonia

In the same quarter, an increase of Denar credits (by 3.1%) and foreign currency credits (by 1.8%) was registered. Compared to the first quarter of 2021, there is a decrease in the amount of interest rates on Denar and foreign currency loans, i.e., Denar and foreign deposits (Figure no. 6).

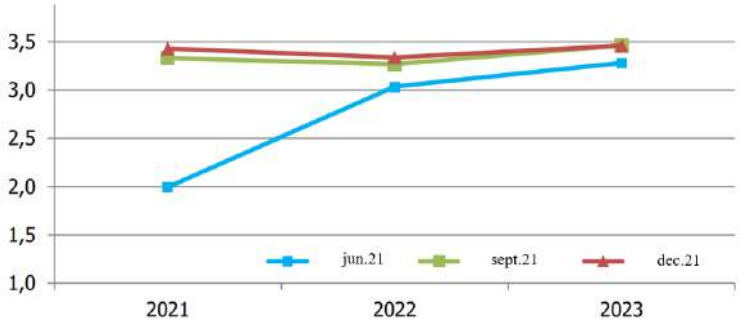
Figure no. 6 Interest rates on deposits banks in the Republic of North Macedonia analysed in the Q2



Source: National Bank of the Republic of North Macedonia

Regarding the economic growth rate in the Republic of Northern Macedonia, a minimum growth of 0.1% per year is expected, which is actually realized, from 3.3% to 3.4% (Figure 7), according to the data obtained for December 2021 published on the official website of Trading Economics for European countries. This means that the expectations for a slight increase in economic activity in 2022 and 2023 would be achievable as planned. Over time, countries, including the Republic of Northern Macedonia, have learned how to easily, best and safely deal with the consequences of a health crisis. It really gives a positive result, especially for the economic entities in the country. However, it should be borne in mind that some internal and external economic factors (such as: decline in domestic and foreign demand, insufficient capital investment, geopolitical developments, uncertainty from the Covid-19 virus crisis, etc.) can significantly affect the movement of economic growth of the country.

Figure no. 7 Overview of the expected economic growth in the period 2021-2023 expressed as a percentage



Source: Monetary Policy and Research Directorate of the Republic of North Macedonia

Compared to the Republic of Northern Macedonia, in the Republic of Bulgaria, inflation increased by 3.5% in the last quarter of 2021 (BNB, 2021), as a result of the same reasons as in other countries in Europe and beyond. In the Republic of Bulgaria there is an increase in core inflation, which is expected to continue to have a weak increase, due to the possible increase in spending on personal consumption and labor. In order to reduce inflation in 2022 to 0.8%, it is necessary to reduce energy and food prices on international markets.

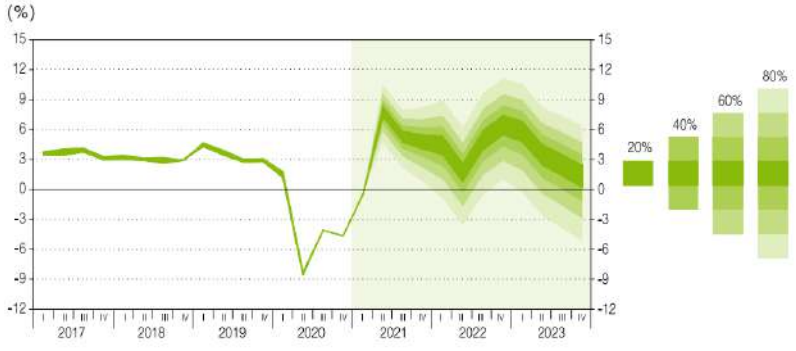
Regarding the credit activity of the banks in the Republic of Bulgaria, the projections stated in the report for the second quarter of 2021 are that the credit activity of the non-governmental sector is expected to increase by about 6% on an annual basis by the end of 2021. There is also an increase in loans to the private sector, as well as non-performing loans. It is believed that the implementation of the new program to support the business sector and overcoming the consequences of the health crisis, called "Recovery", will have positive effects on credit activity.

In conditions of positive market trends, relatively high growth in the deposit potential of banks was registered.

Regarding the economic activity, ie the economic growth, according to the report from the second quarter of 2021, the expectations were exceeded by 0.3% compared to the previous quarter, which is a result of the growth of personal consumption, which also in the second quarter of 2021 year exceeds the initial expectations of experts. In this regard, it should be noted that given the higher national investment, the upward trends in Gross Domestic Product are limited. However, it is expected that in 2022 Gross Domestic Product will grow by 0.7%. In 2023, economic activity is also expected to grow by an additional 0.3% more compared to the initial projections. This is due to the projected stronger growth of household final consumption expenditures, as well as private sector investment expenditures. These trends correspond to the projected dynamics of household income, credit growth for the non-financial sector, as well as the inclusion of funds that Bulgaria is expected to absorb from the implementation of the National Plan for Recovery and Sustainability.

Here, as in any other country in this period, the basic risk that remains a significant factor for the supply and demand of goods and services is the crisis with the Covid-19 virus. Despite the release of a number of restrictive measures in many countries around the world, the virus still persists, and this does not guarantee that greater positive results are expected in the future. Otherwise, it would mean delayed investment projects, higher savings rates and deteriorating market supply and demand. Other risks include political developments in the country, as well as a possible slower pace of tourism recovery in the country. The main risk for a possible larger increase in real GDP stems from the possibility of stronger growth in private consumption in the period 2022-2023, given the relatively low level of household indebtedness in Bulgaria and the accumulated savings in 2020.

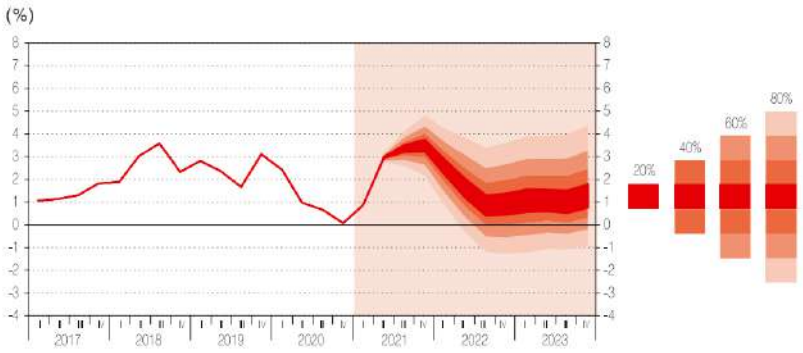
Figure no. 8 Overview of the planned annual growth trends of the Gross Domestic Product for the period 2021-2023



Source: BNB

Figure no. 8 and Figure no. 9 are an illustration of the uncertainty, i.e., the growing uncertainty about the projections for given indicators. According to this view, it can be concluded that as a result of the consequences of the health crisis, the uncertainty in the current and future prognosis is much wider than usual, even in the short term. According to the probability distribution for 2021, the expectations are the annual rate of change of the real Gross Domestic Product to range from 2.8% to 6.1% (shown with the darkest color in the middle band of the Figure no. 8 forecasted horizon), and the annual inflation of consumer prices in the range from 2.6% to 4.4% (shown with the darkest color in the middle band of the Figure no. 9 forecasted horizon).

Figure no. 9 Overview of the planned annual growth trends of the Inflation rate for the period 2021-2023



Source: BNB

Figure no. 10 Amount of the annual inflation rate in the Republic of Bulgaria

Source: Trading Economics

However, according to the data of Trading Economics on the inflation rate in Bulgaria, shown in Figure no. 10, it is evident that in December 2021 it was 7.8%, which is also higher than the initial projections, and additionally is the highest inflation rate in the last 14 years, since 2008. Figure no. 10 also shows that the initial projections for January 2022 have been exceeded.

According to the forecasts of the Ministry of Finance of the Republic of Bulgaria, the inflation rate in the following period is expected to be lower than in 2021, ie to be 3.1% in 2022, or 1.8% in 2023. The contribution of core inflation components is also expected to increase as a result of stronger domestic demand and second-round effects of higher energy prices. In the future, it is expected to balance the risks for realization of the projected inflation rate for 2022 and 2023. However, the inflation rate in almost all sectors may increase more than expected, if energy prices and consumer prices continue to rise in the period 2022-2023. According to the Trading Economics data, in the Republic of Bulgaria, the most important category in the consumer price index is Food and Non-Alcoholic Beverages (31.8 percent of total weight). Housing and Utilities accounts for 17.4 percent; Transport for 9 percent; Health for 6.6 percent; Restaurants and Hotels for 5.4 percent and Recreation and Culture for 5.3 percent. Alcoholic beverages and Tobacco; Communication; Miscellaneous Goods and Services; Furniture, Household Goods and Maintenance; Clothing and Footwear and Education account for the remaining 24.5 percent of total weight.

Conclusion and Recommendations

From the analysis of the reports on the expected trends of inflation and economic growth in the Republic of Northern Macedonia and the Republic of Bulgaria for the period 2021-2023, it can be concluded that they have been exceeded in the second quarter of 2021. The projections for 2022 and 2023 have already been revised, but it is possible that this will happen again due to the upward trends in electricity prices, oil prices and the like. In the Republic of Bulgaria at the beginning of 2022, ie in January 2022, the highest inflation rate in the last 14 years was observed, which really causes panic among the citizens. In the Republic of Northern Macedonia, the inflation growth rate at the beginning of 2022 is moderate, but still above the projections. In any case, experts warn that there is no need to panic about future price increases. It is also considered that these inflationary pressures will be temporary, and that the only threat that should be regularly and vigilantly monitored is the situation with electricity prices. In that regard, it would be good if the countries intervene in a way that will invest in increasing the potential for domestic production of electricity. It is not advisable to take additional measures in both countries as this will again

affect inflation expectations, but the factors that affect wage growth and, consequently, productivity growth should be monitored so that necessary appropriate measures are needed only in that regard. Expectations related to inflation and economic growth have been exceeded in many European countries, not only in the Republic of Bulgaria and the Republic of Macedonia. In some countries they even reach such rates as last seen 38 years ago (Austria). Given that there is still great uncertainty about the duration of the health and financial crisis, as well as the consequences of all this, expectations for economic growth trends and inflation will continue to be revised, let's hope positively.

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A DESCRIPTIVE REVIEW OF STRUCTURAL AND QUALITATIVE CHARACTERISTICS IN GREEK INDUSTRY

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Abstract

According to the majority of the Greek economic researchers, the big recession in Greece as well as other Southern European countries came as a result of the former choice of policies. Following this opinion, governing strategies adopted within the last decades and the historical context led to the deindustrialization of the Greek economy. As a consequence, an unsustainable social development in the future was created. Moreover, factors such as the quantity and the size of businesses, the technology used, and investments are described in correlation to the country's current inferior state. Furthermore, the basic argument that comes from the findings of this review is that new policies and institutional strategies need to be adopted in the Greek industrial sector. Undoubtedly, the demand for the change of these policies in accordance with new planning on productivity will enhance the developing role of the Greek industrial sector.

Keywords: *development of industry; structural and qualitative characteristics; size of business; branch structure; investment*

JEL Codes: *O15; O25; L60*

Introduction

The internal devaluation that was created in Greece and other Eurozone member states brought serious financial and social consequences such as a huge recession (-25%) and unemployment as official data by Elstat, 1st quarter of 2014 demonstrated. Evaluating the results of the search carried out by Elstat, leaves no doubt that the residues of the financial crisis in our country might be incidental. On the contrary, these are the first points that result in the implications of the policies that have the economy's resources regarding the deficit and debt, the depriving investment, and also the development and utilization of the resources (Linardos P. & Robolis S., 2015). Moreover, it clearly emerges that internal devaluation is the major driving force behind contradictions and contraction of the powers of the economy and society (Institute of GSEE, 2014). Simultaneously, the debt crisis of

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2009 (Kovras I. & Loizides N., 2014) occurred in Greece and other Mediterranean countries, representing the outcome of the establishment of an unequal and debt-based model of development in the south over the last decades. The Greek Economy as well as the economy in the other Mediterranean countries was gradually transformed into a tertiary sector economy focused on tourism and service industries (Sotiriadis & Varvaressos, 2015). At the same time, the primary sector such as the sectors of agriculture and manufacturing possess an important but still not remarkable portion of the Greek economy (Linardos P. & Robolis S., 2015).

The conditions developed within the framework of this model that has been organized on behalf of the Greek and Mediterranean economies, fostered the transmission of significant resources from Southern to Northern Europe while handling the elimination of resources which was created through a succession of loans to an extent that their magnitude and also the conditions for serving them led Greece in 2010 to one of worst economic recession in its history (Linardos P. & Robolis S., 2015). According to OECD (OECD, 2015), the financial and political dependence of the countries in crisis was supported further due to loans received by their creditors. Basing the governor's thoughts on these facts, a crucial question that emerged which has to be treated and resolved is how the contraction of the Greek economy and the state industry is to be halted, and by using the best alternative strategy and policy. The answer to this question is that the economic structure, the industrial sector, the welfare state, and social cohesion in Greece need to be reconstituted (Linardos P. & Robolis S., 2015).

Analysis and Discussion of structural and qualitative characteristics of the Greek industry

Undoubtedly, the development of the industrial sector is an issue of major significance in the achievement of social and economic welfare. Its developing role can be concluded from its significant contribution to all the vital economic indicators of a state such as Gross Domestic Product, state income, employment, exports, cross-sectoral relations (Subasat T., 2002) developed with other sectors of the economy but also the achievement of long-term fiscal balance (Subasat T., 2002). In the post-war years and up to the 1970s, economic development of the secondary sector was observed in Greece (Babanasis, 1976). Before the period of transition to democracy, the Greek Industry was a sector in which the state protectionist framework promoted client relations between itself and the businesses (Linardos P. & Robolis S., 2015). Since the 1980s, the key aspect of the changes that appeared in the global economy was technological advances and the absence of restrictions on international transactions. Furthermore, these changes along with those

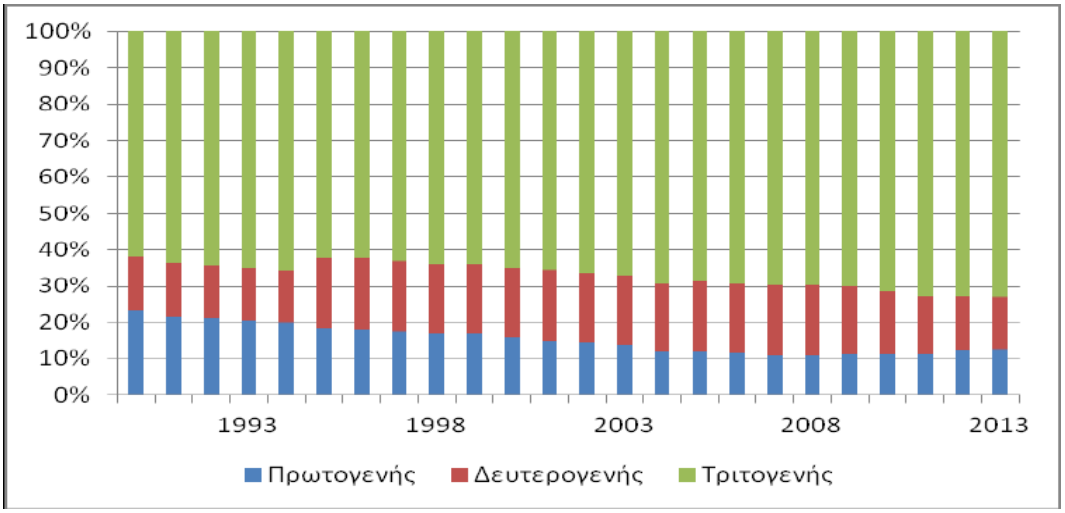
that came from the entry of Greece into the European Union Community resulted in structural transformations in production. This significant development of the tertiary sector led to the restriction of the growth of both the primary and secondary sectors and, consequently, to the contribution share reduction of both sectors in the overall added value of the economy. Nevertheless, simultaneously, the coverage which evolved into pursued over the following many years did not make any actual influence at consumer dating among the country and enterprise leaders; on the other hand, this type of relationship was preserved through the pursuit of an industrial policy. The gradual deindustrialization of the Greek economy that has been taking place over the last three decades rapidly, worsened more abruptly after the deep recession over the last six years (Linardos P. and Robolis S., 2015). Consequently, this deindustrialization deteriorated the structural weaknesses of the Greek economy.

In Figure 1 below, the author illustrates the structure of employment in all the financial sectors of the Greek economy for the period between the 1990s till 2013s. This analysis comes from empirical data from the Ameco Database which is the annual macroeconomic Database of the European Commission and is used by the author as a globally approved evaluative measure of the trend of employment for a period of two decades in correlation with all the financial sectors of the Greek economy. The most remarkable clue that the reader of this figure should notice is that the employment rate decreased in the primary sector contrary to the growth of the employment in the tertiary sector which is concerned with the trades and service industry. This subsequently implies the turn of the Greek Economy in the sector of tourism and trade due to the emergence of increased investor interest. Moreover, another significant clue that can be concluded from the above figure is that overall employment in the secondary sector fluctuates at around 20% of the total overall employment for the greater part of the period between 1990 and 2008 (Ameco Database). Other remarkable clues that come from the analysis of Figure 1 are that employment as a percentage of the secondary sector fell from 62% in 1990 to 55.5% in 2009 regarding the manufacturing sector while over the same period, employment in the construction industry rose from 31% in 1990 to 40% in 2009 (Ameco Database). From this figure, the reader deduces that the reduction in employment in manufacturing has been compensated for by the increase in employment in construction. In this respect, it is concluded that overall employment in the secondary sector remains approximately the same as a percentage of the whole.

Undoubtedly, the contribution of the industry significantly influenced both the overall added value and the overall employment during the period of the financial crisis. In conclusion, the consequences of deindustrialization in Greece must be explored and evaluated in combination with the structural problems and features of the manufacturing

sector of economic activity. These structural features, which prevent the development of the Greek manufacturing sector are going to be analyzed in the following sub-sections.

Figure 1: Employment rate for the overall Greek Economic sectors- (Reference period: 1990-2013)

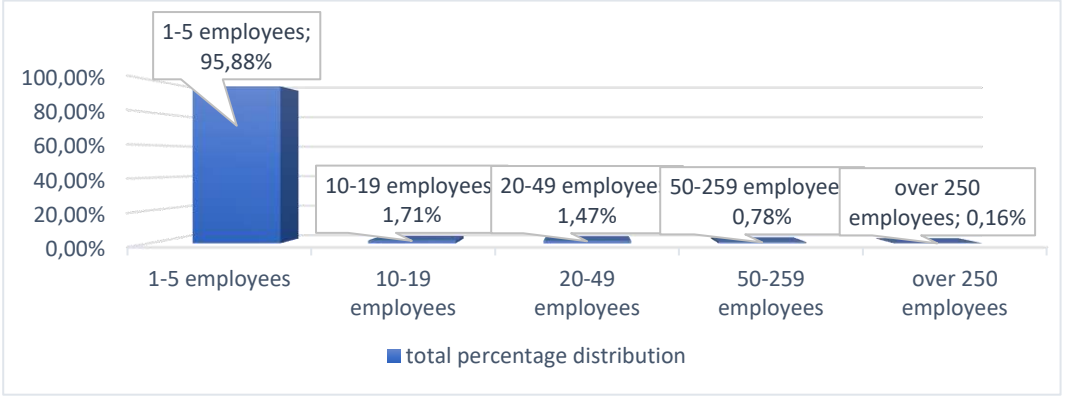


Source: Ameco Database: πρωτογενής = primary sector, δευτερογενής =secondary sector, τριτογενής = tertiary sector)

Size of businesses

The first structural characteristic of the Greek firms that are active in the Greek industrial sector is characterized by their small size compared to the businesses of the same sector in other European countries.

Figure 2. *Total percentage distribution of employment status in the Greek industrial sector (Reference period:2005-2008-2011)*



Source: empirical data from Eurostat

In Figure 2, there are presented empirical data about the employment status in the Greek industrial sector during the time span of three different periods which are not successive and have different characteristics. The year 2005, is a period right after the organization of the Olympic games and before the financial crisis, and for this reason, it is characterized by an increased money supply, large volume of trade, export exchanges, and financial welfare. Secondly, there are presented the corresponding data for the year 2008 which is a year at the beginning of the financial crisis for Greece and other European zone countries but the consequences of the financial crisis haven't appeared in their real value (Eurostat). Finally, there are also presented data about the Greek industrial sector in the year 2011 which is a year that for the Greek economy and especially the industrial sector was devastating. The common characteristic as it is pointed out in Figure 2 is that the majority of the Greek industrialized enterprises (95%) employed fewer than 9 employees throughout this period. Moreover, these firms are classified as very small firms according to European directives. The size of these businesses is considered to act as a deterrent to their economic development because it doesn't promote their technological and product upgrading. In this respect, these firms are faced with a series of handicaps for their development prospects. The businesses face a) the difficulty to gather funding sources, b) the inability to develop, but also import new technologies, c) the inability to attract specialist staff, and d) the inability to get easy access to extensive distribution networks, and markets abroad. Due to these obstacles, these small businesses are considered to be inadequate to follow the modern international competitive environment and additionally they fail to increase their turnover in the overall economy so that they would be able to contribute significantly to an increase in employment. Furthermore, a measure of financial success such as economies of scale is misused by these firms so that they manage to reduce the cost of production without affecting the quality of the produced goods and are unable to evolve their production procedures.

Branch structure in the manufacturing sector

Another significant characteristic is the branch structure in the manufacturing sector. The manufacturing firms are segmented into sectors relative to the criterion of the intensity of technological usage. These sectors are divided into two groups a) those using low technology and those using high. This characteristic is distinctly based on the Research and Development expenditure that is used by manufacturing firms. Concerning the Greek manufacturing sector, the main volume of production and employment derives from low technology products (Argeitis G. and M. Nicolaides, 2014).

The effect of low investment expenditure on Research and Development, especially compared to the significantly higher percentage that is invested in countries that compete

at an equivalent level with the Greek economy, is the production of higher quality goods relative to the rest (OECD Database). Simultaneously, the upgrade of product quality entails importing foreign technology, so that the positive effect which is created by the intersectoral nature of the Greek manufacturing industry has a positive effect on sectors in other countries. Due to the size of Greek industrialized businesses which is considered small, it is not reasonable to have any expectation of expenditure on research and development by the businesses themselves and for the role of the state funding in this field to be correspondingly important. It is a common belief that in instances of clusters where networks, in general, can be observed between relatively small firms and research foundations and universities, research is not conducted by the firms themselves.

Investment

Until the rising of the financial crisis, the gross investment of fixed capital in the manufacturing sector is more or less at the same level as the corresponding investment in the other European countries (Eurostat 2015). The reason that the Greek industrial sector is considered inferior to the other European zone countries is due to the qualitative features of their composition

The most remarkable fact is that the overall investment in manufacturing in the Greek economy appears to be the lowest of the European-zone countries while in the meantime the investment is constantly decreasing, (Institute of Employment General Federation of Greek Workers- Annual Report 2014)

Simultaneously, investors within the manufacturing sector are not always directed toward the fields of high technology (Institute of Employment General Federation of Greek Workers-Annual Report 2014). This unavoidably leads to the fact that sectors that could offer added gross added value and stimulate employment and boost exports are not developed.

Across the Greek industry, its significantly marked inferiority is being observed through the years as the relationship between investment and added value has been higher proportionally. This fact indicates that there has been a waste of resources which comes from a less effective way of organizing the production activity.

A framework for industrial policy

Industrial policy is the set of institutional initiatives and political decisions that affect industrial production at the level of regional or national economies of a country and has in one or another way as its objective a combination of expansion and certain sustainability of the activities (Linardos P. - Robolis S., 2015). This objective is pursued through modifications, through the adoption of innovations that concern not only the operation of

the production units themselves but also the functions of the institutions and the modalities of the pursued policies. The industrial policy comes inside a totality of monetary and social techniques which have an effect on the tendencies and ought to be updated in consideration of the extent of institutional and coverage decisions (Linardos P. - Robolis S., 2015). In this respect, the industrial policy is focused on a series of issues as the following a) the market towards which production is directed b) the characteristics of the products c) the management style that is used by the upper level of the company d) the technology used and e) the workforce that will use the raw material and will bring it to its final form in order to be used by the consumer.

Furthermore, the industrial policy is concerned with the sustainability and expansion of certain activities which definitely means that it supports change at all these levels. In this respect, it creates the necessity for the introduction of new knowledge and new practices related to the above issues. The finding of this research creates the basis for the central role that the concept of innovation possesses in the concept of the firm. Unlike the prevailing aspect that only the necessary innovation can be introduced to the production line which restricts the effective character of the practiced policy, the modern theory is focusing on a new business-centered approach to innovation which is called smart specialization. In these models, the emphasis on corporate profitability coexisted with autonomous policies concerning the market, infrastructure, research, or labor, but also with institutional operations that allowed their combination with objectives beyond the sustainability of individual businesses.

By following the international rules of the global industrial market, the Greek governors permitted the construction of clusters amongst businesses. Although this measure is still in Greece in its initial stage, since it was recently instituted, it was established by the Greek governors to protect the sustainability and the financial needs of the Greek industrialized firms. The international experience of this measure shows that the construction of clusters will enhance the aspirations and the international perspectives of the Greek industrialized firms to be more competitive in the global industrial market. The main advantage of the adoption of this policy on behalf of the firms is that they will get experience and know-how in specific sectors through the co-operation with other more experienced firms with the appropriate equipment and potential. Another advantage that comes from the establishment of the clusters is that new workforce places will be created for employees with particular skills. For this reason, the promotion and the strengthening of clusters are considered extremely significant and the governors should establish a more favorable institutional framework for their development.

Conclusion and Recommendations

The author of the article tried to analyze the significant role of the Greek industrial sector in the Greek economy. For this reason, he used data from the period before and during the economic crisis and recession in order to depict its impact on the economic state. The basic points that came from this analysis were first that the model of the unequal and debt-based development in the framework of the European division of labor was responsible for creating the conditions for the de-industrialization of the Greek economy.

A. Furthermore, the scientific research concluded that there is a need for a transition from the neo-liberal business-centered model to the sustainable model of restructuring the economy and society. From this point, it comes as a consequence that a new framework for the industrial policy should be instituted by means of the tools of restructuring technology and production.

B. Moreover, this review reveals the following basic points about the economic development not only for the Greek industries but also for several big firms in other business sectors in the Greek capital market

C. The contraction of the Greek economy, its one-sided orientation towards tourism and services, and the process of its de-industrialization have not been halted by implementing the policies of interior devaluation, imposed from 2010 onwards (Salazar J, 2014).

D. As far as productivity is concerned, the answer for the Greek economy is not its transformation from an economy of supply (the neoclassical concept) to an economy of demand (the Keynesian concept).

E. The Greek Economy will not be able to escape in the coming years either productively, technologically, or socially from the current recession, the high level of unemployment, and the impoverishment of its population.

These basic points must be taken into great consideration by the firms that they should try to invest more resources in the research and development sector following the reform of a new institutional framework for the Greek industries.

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TOWARDS SPREADING THE ADOPTION OF SIX SIGMA IN THE SMALL AND MEDIUM-SIZED ENTERPRISES SECTOR

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Abstract

Six Sigma is a realistic approach to enhancing a business's performance by reducing the variability of the process outcomes. The techniques of Six Sigma involve the application of the DMAIC phases to existing processes to improve them. However, there is a reticence and fear of implementing the DMAIC method. This is true, especially in the case of small and medium-sized businesses. To fulfil this gap, the paper targets at collecting data and forming a comprehensive, fitted framework to support the implementation of Six Sigma method within SMEs, relying on a documentary research approach, using an adapted interview, a model, and many practical cases. The Framework has valorized the all Six Sigma journey in SMEs and was tested and validated separately through practical studies and by proponents from leading practitioners and specialists.

Keywords: *Six Sigma; Small and Medium-Sized Enterprises; framework; Adapted interview; Review; model*

JEL Codes: *H32, M15, L15, C80*

1. Introduction

Nowadays markets are increasingly becoming quality-conscious to survive in the business environment, companies need to practice some clever techniques that can evaluate and assure an investigative method to convene consumer expectations. In this orientation, the business world has formed the Six Sigma approach that strives to uncover and eliminate from business processes all types of defects and failures, focalizing on those process performance characteristics which are of vital importance according to customer

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vision(Snee, 2004). This matter is undoubtedly among several practical solutions to organizations' problems. This review, if it is applied at the correct time with accurate amplitude, could help nurture the economy of business and the nation.

Six Sigma grants business leaders and executive officers (EOs) with tools boxes, methodologies and the strategy they need to enhance their businesses(Antony et al., 2005). Even though Six Sigma has been recognized and implemented effectively in various major organizations, there is still a lack of recorded proof and much fear that it will be adopted in small enterprises which is committed to play a crucial role in many economic sectors worldwide. Cherrafi et al have reported that small businesses need to upgrade their performance to improve their economic, social, and environmental outcomes. Thus, SMEs need a convincing reply about applying Six Sigma that goes beyond assessing the postures or used separate cases as were done before, since at least SMEs facing continuously two factors (Dale et al., 1997); internal factors like performance improvement; employee satisfaction; Management change…, and external factors such as customers' requirements; market competition. These factors are driving the necessity for SMEs to embrace TQM approach, notably Six Sigma method with the intention of assuring sustainable quality in various aspects of their products and processes.

In this context, the following main question is worth studying:

What does Six Sigma mean, and might SMEs adopt this approach?

The answer to this question conducts us to tackle two issues:

- Discussing the Six Sigma method.
- Illustrating proponent opinions, models and different cases of practicing Six Sigma in SMEs.

Purpose

This article aims to debate the Six Sigma phenomenon, contribute in a deeper understanding related to the topic, increasing the awareness of this powerful business approach and analyzing whether the application of Six Sigma method in SMEs is possible through evaluating and combining the Six Sigma stage journey in SMEs to spread widely.

Importance of the study

The importance of this topic stretches to the vital role that the SMEs can play in economies as a generator of values and jobs, a supplier of different products and goods, and a producer (doing projects), which in return need continuous betterment in quality and cutting costs; so, calling to embark Six Sigma approach could satisfy this requirement, in this respect, discussing embracing Six Sigma by SMEs represents a valuable subject and a new one.

2. Background

In 1980s Robert. G, a highly responsible at Motorola company achieved the importance of systematically reducing variance, as the Japanese had done before. He intensified and coordinated the efforts by cooperating with the experts Smith. B, Harry. M and Schroeder to get the improved Six Sigma new program.

Motorola experienced Six Sigma, the costs and variation in different processes diminished and deserved the first Quality compensation Malcolm Baldrige in 1988. In addition, Antony & Banuelas (2002) have reported a reduction in process defect levels at two hundreds and decreased manufacturing costs by $1.4 billion.

Welsh, the chief executive officer at General Electric, cited in the company's annual report in 2000 that over his work life of four decades at GE, he has never seen something like Six Sigma energizing the organization. Many executives were intrigued by the massive savings announced by GE as a result of Six Sigma contributions.

As a result, hundreds of organizations around the world have embraced Six Sigma as a suitable choice of doing business, among them there were GE, Honeywell, and financial services companies such as American Express (1998), Citicorp, JP Morgan Chase (mid1998), Merrill .L and BOA (2001), Bank One (2000), HSBC (Antony & Fergusson, 2004).

By virtue of financial impact and high levels of customer satisfaction, Six Sigma has got a lot of interest from academics and business disciplines, thus many scholars study this approach from various perspectives.

Basically, it is one of the recent continuous improvement approaches applied in the best-in-class companies. The application of Six Sigma is increasing and expanding from manufacturing into all company activities, including services, transactions, administration, research and development, sales and marketing, and notably into the customer-direct sectors (Ertürk et al., 2016).

Nevertheless, since 1981 White and Welsh have stated SMEs cannot represent little big businesses, the differences exist in structure; policymaking; procedures, culture; and utilization of resources (Ghobadian & Gallear, 1996). Thus, SMEs should investigate the fundamental concepts of QM practices to see how they might benefit in their specific situation (Welsh, 1981). In this orientation, more and more small and medium businesses (SMEs) have discovered the advantages of quality management (QM); An acknowledgment supports small business participation in QM that small companies are not the same as large businesses. Ebrahimi and Sadeghi (2013) have mentioned that QM is a combination of principles, practices, and techniques by which general guidelines are

executed by its deployed principles and reinforced with techniques. It is commonly outlined by "Total Quality Management, TQM " (Stashevsky& Elizur, 2000).

Many literatures primarily emphasize on TQM initiatives or programs (Lean, Six Sigma, TQM, Business Excellence, ISO, Lean Six Sigma, Models such as EFQM and Baldrige, Balanced Scorecard, among others). They were developed initially with large firms in mind (McAdam, 2000) and the strategies used to ensure the effective implementation of quality-related initiatives to meet consumer expectations (Talib et al., 2011).

Although many difficulties undermining small businesses to being involved in QM, multiple signs for embarking QM represent the right choice for small enterprises. For example, Hendricks and Singhal (1999) found that small business category winners of Baldrige outperform benchmark companies by 63% on average, while large company winners outperform benchmark companies by just 22% (Hendricks & Singhal, 1999).

Some studies have revealed that SMEs could adopt TQM with significant success (Herzallah et al., 2014; Maneesh Kumar et al., 2008; O'Neill et al., 2016). Also, Kie and Palmer (1999) concluded that smaller companies were more likely than larger ones to implement ISO 9001 because of external factors rather than internal factors) (Kie & Palmer, 1999); Murphy (2016) conducted an assessment of 55 SME QM publications, published between 1990 and 2014, according researchers, quality management studies on SMEs constitutes a near-universally agreed confirmation of QM's relevance to SMEs. These articles covered the Americas (mainly the USA and Canada also), Europe (firstly the UK, then the others: Portugal, Finland, Spain, Italy, Sweden, Norway), Australia (with many valuable papers), Asia mainland (China country, Singapore, Malaysia, and Turkey), India, and Pakistan, Middle East countries: Qatar and Iran, Africa region (Ghana, Ethiopia).

Nearly all of this work accepts the notion that SMEs can engage in QM, with positive outcomes expected. This matter is valid regardless of whether studies were performed in mature economies or developing markets like China, among many others (Murphy & Leonard, 2016).

But, researchers emphasized the need for more investigation concerning applying QM usages in SMEs, in particular the Six Sigma program (Dora et al., 2013; Timans et al., 2012; Maneesh Kumar, 2010; Thomas et al., 2009)

This tool is one of the most successful innovations in the QM field; it is a problem-solving methodology that involves following a series of phases called DMAIC (whose acronym means Define, Measure, Analyze, Improve, and Control). These steps improve the quality of any process at the project level or throughout the organization (Niñerola et al., 2020). Over the years, Six Sigma has evolved, it gets literal and practical conception; in sum, Six Sigma was viewed briefly by scholars at four different angles:

- Methodology way (DMAIC);
- Metric instruments (with statistical interpretations);
- Business culture;
- Management system.

3. DMAIC method

Typically, a group of Six Sigma experts take in charge to implement the entire DMAIC process. In each stage of the DMAIC method, a compound of both qualitative and quantitative techniques was utilized, as shown in the table.

The team members of Six Sigma have already been trained and got their competencies and responsibilities. SMEs chiefly require Belts with colors in black, Green and Yellow.

3.1 DMAIC content

the Six Sigma chief component is DMAIC, the table below summarizes its stages

Table 1 DMAIC phases, tools, and techniques used

Phases	Activities	Tools
D – Define stage: identify the project objectives (products, consumers), as well as the processes involved	Define the customers and their needs (for CTQs), focus on downside statement, and develop benefits and goals. Determine the champion, the process owner, and the team, Resources should be determined. Examine Critical Organizational Support. Create a project plan with milestones. Construct process map in high-level	- Project charter - diagram of Sipoc - VOC tools (surveys, comment, focus groups) - Voice of the Customer Gathering - flowchart Process - Management by fact, four what's
M – Measure stage: Measure the current system and adopt accurate indicators to aid for goal tracking	Define the terms: opportunity-defect--unit – metrics for the Process Map. Then, adopt an effective strategy to data collection, legitimate the system of measurement, identifying the Y=f(x) Relationship, specify the Process Capability and Sigma bottom line.	- Plan of Data gathering, like benchmarking Customer feedback, is being gathered. - Process flowchart - Calculation of process sigma.
A-Analyze stage: examine and identify the root causes of defects	Define the performance goals. Determine which process steps provide value and which do not. Determine the Sources of Variation and the source of the problem (s) Determine the Y=f(x) Relationship using a few vital (xs).	Histogram, scatter plot, Pareto chart, time series, regression Fishbone diagram, a five why's system training statistical metrics.

I – Improve stage: upgrade the process by removing defects.	Experiments are designed, potential solutions are developed, operate tolerances of possible systems are defined, deficiency modes of promising solutions are assessed, possible improvements are validated through pilot studies, and potential resolution are adjusted/re-evaluated.	Experiment Design; Brainstorming Mistake Proofing Matrix of Pugh Simulation Software for Effects Analysis and Failure Modes by QFD/House of Quality
C – Control stage: supervise the future performance of the process	Monitor and control systems ought to be defined and validated. Establishing Standards and Procedures, Statistical Process of Control should be implemented. Determine the capability of the process, create a Transfer Plan, Transfer to the Process Owner Benefits must be verified. Profit Growth, Cost Savings/Avoidance Finishing the project, Completing the documentation, and informing the business.	Process Sigma Calculation; check Charts (Attribute and Variable) Calculations of Cost Savings, Control Plan, Preventive actions.

Source: Researcher's elaboration, with relying on Llerenaet al (2019). Six Sigma bibliographic review, v8, Indian journal of research, P39; Brue, (2006) Six Sigma for small business, CWL Publishing Enterprises book2006, p104,140,164,190; Deebet al. (2018). A generic framework to support the implementation of Six Sigma approach in SMEs p924

3.2 Belts of Six Sigma

For SMEs, conforming to (Brue, 2006; Kumar et al., 2008; Tekade and Jain, 2008), the Six Sigma belts are:

The Black Belt: A person who has earned a high degree of belt and conducted special projects and has Six Sigma skills, working on activities connected to the new projects identification and providing training to personnel; he has been trained in statistical methods, also on process of quality improvement, and he works in favor of projects with full-time; capable of acting the green belts as an instructor, mentor, and expert. A black belt is also competent in additional Six Sigma tools with accurate statistics and programs.

The Green Belt: A person who acquired a green belt nomination of Six Sigma and assures the team leader or the main responsible for Six Sigma methodology implementation. He or she achieves this title by taking class courses in Six Sigma, demonstrating competency on Six Sigma tests, and applying Six Sigma plans upon Six Sigma tools. In addition, this belt is interested in collecting and analyzing data for helping the Black Belts in their projects.

Yellow Belts: those practitioners trained in Six Sigma's essential tools participate in the project as check process a partner betterment and sustain the project.

4. Benefit of Six Sigma

Many experiences show that Six Sigma practices have proven successful in several organizations where the global activities yield is significantly increased beyond which can be obtained with other instruments. The table shows the Benefit of Six Sigma briefly.

Table 2 Six Sigma Advantages

Authors	Six Sigma advantages
Fursule. B& Fursule. S (2012)	The benefits of applying Six Sigma are the decrease of rework rates and scrap, the enhancement of quality, and the reduction of manufacturing costs.
Anthony (2006)	Reduced failure rates; lower operating expenses; Increased value for both shareholders and customers
Brue (2005)	Define hidden waste and cost, increase profit margin, eliminate defects, improve consumer satisfaction, increase staff satisfaction and level of commitment, develop and expand the business.
Peterka (2005)	Flexible process flows, High visibility of top management, a shorter decision-making process.
McAdam & Evans (2004)	Reduced costs, increased productivity, increased market share, higher customer retention, shorter cycle times, decreasing defects Product/service, and helping culture transformation.
Wilson (2004)	A more substantial, more personal contact with customers; fewer websites In the managerial hierarchy have fewer tiers. They are making Internal communication more efficient and effective and a strong owner influence.
Rucker (2000)	We are improving the timeliness of the procedure, rising customer loyalty and satisfaction, improvement in cash management.

Source: Elaborated by the authors based on authors' studies

5. Methodology - Framework

This study used the adapted interview, academic literature, and practical cases from the Scopus database to construct a suitable framework (exhaustive model) to Six Sigma adoption in SMEs.

The first stage aims to present the extensive viewpoints from several leading practitioners and academics on the possibility of Six Sigma adoption in (SMEs). We are using an adapted interview (as depicted in table 3) to gain more in-depth knowledge concerning the setting for launching the topic in an accurate direction.

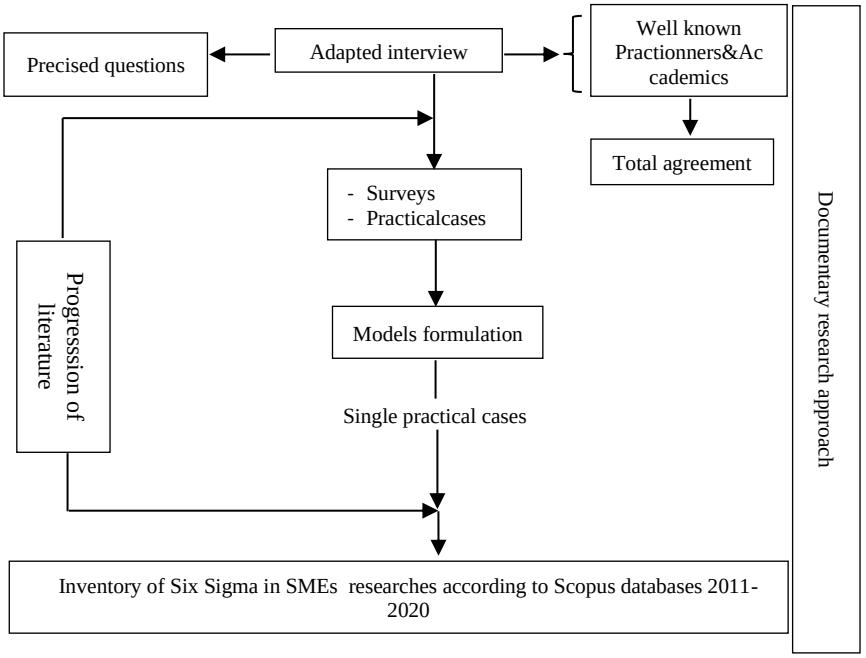
Next, the framework approach depends on the secondary data available through a questionnaire (developed by a committee of academics and experts) used in many studies consisting of sections in response to the requirement related to each survey itself.

In most cases, data were collected from concerned employees (quality directors, managing directors, quality managers, or simple employees) within various departments; the questionnaire survey was the primary form of data collection.

Some studies engaged in methodological triangulation, which encourages the simultaneous use of two or more data gathered quantitatively and qualitatively. The aim was to obtain a holistic view of the setting using multiple methods, a conceptual or practical framework and developed model connected to different studies, on a survey in manufacturing, or no manufacturing firms, utilizing Single case or multiple case-study. The study framework aspires to reveal the other aspects of empirical reality and at the same time help to validate the findings.

Then, an advanced search was done in the SCOPUS database, using the keywords" SMEs AND Six Sigma " then adding "implementation OR case study" and selecting those terms be explicitly stated in the "Article title, Abstract, Key words" with limiting the timeframe in intention to inventory practical cases on the topic related to SMEs sector.

Figure 1 Research Methodology



Source: Elaborated by the authors

6. Discussion and Results

6.1 Supporting opinions

Elite of practitioners and experts were interviewed by the Professor Jiju Antony to collate their opinions and views regarding the possibility of applying Six Sigma in SMEs. Below, the table shows their responses briefly, in addition to high experts' statements referred to Peterka, Brue, and Kullmann that we have tracked from their writing on the subject.

Table 3 Interviewee's viewpoint

Interviewee	Statement content
Dr. Matthew Hu, ASI Consulting Group USA	The Quality problem; Waste; Variation, or an unhappy customer represent the same variables (events) existing in all types of companies; naturally, these facts are unaltered by the firm's size. However, according to the experience of Dr Matthew Hu, "In smaller companies, the results are usually more responsive and obvious." Thus, Smaller businesses might gain from Six Sigma also
Greg.B. CEO &Consultant,Six Sigma	Six Sigma is devoted to solving problems, and problems are everywhere. So, whatever the problem resolving approach that is used in this type or size. You may be a distributor, retailer, service provider, or producer. Six Sigma functions as long as the process is successfully followed, whether 300 employees or ten family businesses. Six Sigma could be applied whenever there is a problem, regardless of the type or size of the company.
Dr. Ronald Snee, President of Snee Associates, LLC and Principal of Tunnell Consulting, USA	Dr. Ronald Snee supports the opinion by concrete arguments; small businesses can achieve up to 2-4% of sales per year by applying Six Sigma, typically for sales less than $ 5 billion. "SMEs can and have implemented Six Sigma properly", has confirmed Dr Snee.
Dr. Lynne Hare, Director of Applied Statistics USA, at Kraft Foods center,	There are many similarities in qualities and difficulties for both organizations, large and small. As a result of a given breakthrough, large businesses can earn a higher financial gain, but this cannot be interpreted as suggesting that small businesses would not profit enormously from Six Sigma's deployment.
Dr Roger Wesley Hoerl, General Electric, USA	Six Sigma does not have anything inherent in making it exclusively dedicated to large companies. Up until now, Six Sigma has faced the most challenge for applying it in small businesses by structuring their services with larger providers of Six Sigma training. Recently the price structures have begun to alter, with more and more accessible training materials and guidelines, so we should not let the difficulties stop us from moving forward.
Prof.Thong N Goh Professor of Industrial and Systems	Thong N Goh has called for making requirements available to embark on Six Sigma in SMEs. First SMEs may ask Six Sigma experts to examine their operations, then identifying possible fields of

Engineering (NUS) Singapore	application before Six Sigma is adopted. In addition, adjusting training programs to meet a particular organization's needs.
Prof. Chair Rick Edgeman, USA Idaho University	the SMEs sectors have to be cautious when they were selecting projects to apply Six Sigma. It is important to ensure that early Six Sigma methodological implementation has a high chance to succeed.
John Kullmann and Thomas Pyzdek, Industry consultants	Six Sigma comprises several instruments and strategies that perform right in small businesses to medium ones. Naturally, SMEs don't decrease their capacity to utilize the collection of instruments and approaches for making advances because they are not large enough to provide black belts.
Peter Peterka, The President of Six Sigma, USA	Six Sigma may operate in any size of company since Six Sigma depends on the nature of the features of any business itself and not on the size of the firm. For example, small firms are characterized by flexible flow processes, a quick decision chain, and more visibility for top management, which increases efficiency in implementing Six Sigma; thus, Sigma may be implemented more effectively than large enterprises.
Mr Thomas Pyzdek, Institute of Pyzdek for Six Sigma	Six Sigma has two sides: the infrastructure and the approach. Leaders may embrace the strategy of leading via Six Sigma in any sized business. However, several small enterprises will justify MBBs or BBs in full-time difficulties and rely mainly on Green Belts (GBs).

Source: Adapted by authors based on (Antony, 2008); plus, our additions efforts.

Result: this situation tends to rightly represent a positive consensus at this stage from leading practitioners and academics regarding the possibility of implementing Six Sigma in the SMEs sector.

6.2 Review on Six Sigma practicing in SMEs

To set our study in the best practical pedestal, we have, under chronological order, attempted to review the available important literature undertaken on studies concerning the performed efforts (thoughts) and models (guidelines and frameworks) related to the topic. This process seeks to improve the implementation of Six Sigma into SMEs (particularly the empirical cases) belonging to various domains at different parts of the world; it makes collecting information successfully and boosts our study.

Jiju Antony (2004) presented the findings of a pilot survey of service firms in the United Kingdom to better understand Six Sigma's status. The study looked at the service industry and reported the essential factors contributing to successful implementation (Antony & Fergusson, 2004). Correspondingly, Wessel and Burcher (2004) investigated the criteria for implementing Six Sigma in German SMEs. They have concluded that the

Six Sigma method needed to be adjusted for use in small businesses (Wessel & Burcher, 2004).

Vandenbrande (2005) has streamlined the outline of Six Sigma founded on the number of employees. The training programs utilizing the existing knowledge have also been simplified due to this Framework (Vandenbrande, 2005). However, through the phases of the DMAIC technique, Antony. J (2006) offered many steps for Six Sigma embracing in SME in favor of service organizations. The author proposed a grid of tools and techniques for the service sector to help select relevant tools for each step (Antony, 2006). Additionally, Kumar et al. (2006) has reported the implementation challenges in SMEs, such as employee opposition to new business strategies and the difficulty in persuading senior management (Mike Kumar et al., 2006). After, Kumar (2007) has conducted a study in the UK –SME sector, and the author identified seven essential success elements for SME implementation. According to his findings, the most significant impediments to applying the Six Sigma program were management engagement and commitment, poor training, and a lack of resources. (Maneesh Kumar, 2007). According to Deruntz and Meier (2010), Six Sigma's application effectiveness depends on top-down involvement, defined strategies, staff motivation, and stakeholder training (Deruntz & Meier, 2010). Moreover, Pulakanam& Voges (2010) have examined seventeen studies that they believed represent most of the published empirical research focused on implementing Six Sigma at level of various world zone. The review includes the extent of Six Sigma adoption in the industry, the advantages and significant obstacles in implementing the program (Pulakanam & Voges, 2010). Furthermore, Chakraborty & Leyer (2013) established the critical need for Six Sigma integration strategically and operationally. Besides, a case study, published by Prabhakar Kaushik, reported that the Indian SMEs have implemented Six Sigma. In addition, the study of Barone et al (2012) has confirmed this case for Swedish industrial SMEs. Furthermore; Taner (2012) found that the most (CSFs) are available to successfully introduce Six Sigma in Turkey (SMEs of textile). In parallel, Chakraborty and Chuan (2013) stressed the importance of the commitment and involvement of senior management in project success and long-term sustainability (Chakraborty & Chuan, 2013).

Chakraborty & Leyer (2013) settled a framework for defining the factors to consider while implementing Six Sigma in a financial services organization. This Framework helps firms integrate Six Sigma components into their operations more thoroughly (Chakraborty & Leyer, 2013), particularly with the emergence of small and medium enterprises and start-ups embracing Fintech (Haddad & Hornuf, 2019). In the healthcare field, Ratnaningtyas & Surendro (2013) attempted to develop a six-sigma-based paradigm for hospital information systems quality improvement by first defining parameters for each DMAIC phase, second,

selecting tools techniques for each DMAIC phase. In the same field, an echo grounded on a lean Six Sigma has motivated (Lin et al., 2014) to formalize Six Sigma's application in the healthcare industry. The stages of DMAIC are used as a thread throughout the problem-solving process, with simulation woven into the enhance phase. According to Jacobs et al (2015); if SMEs adopt early Six Sigma, it gets performance advantages and more benefits.

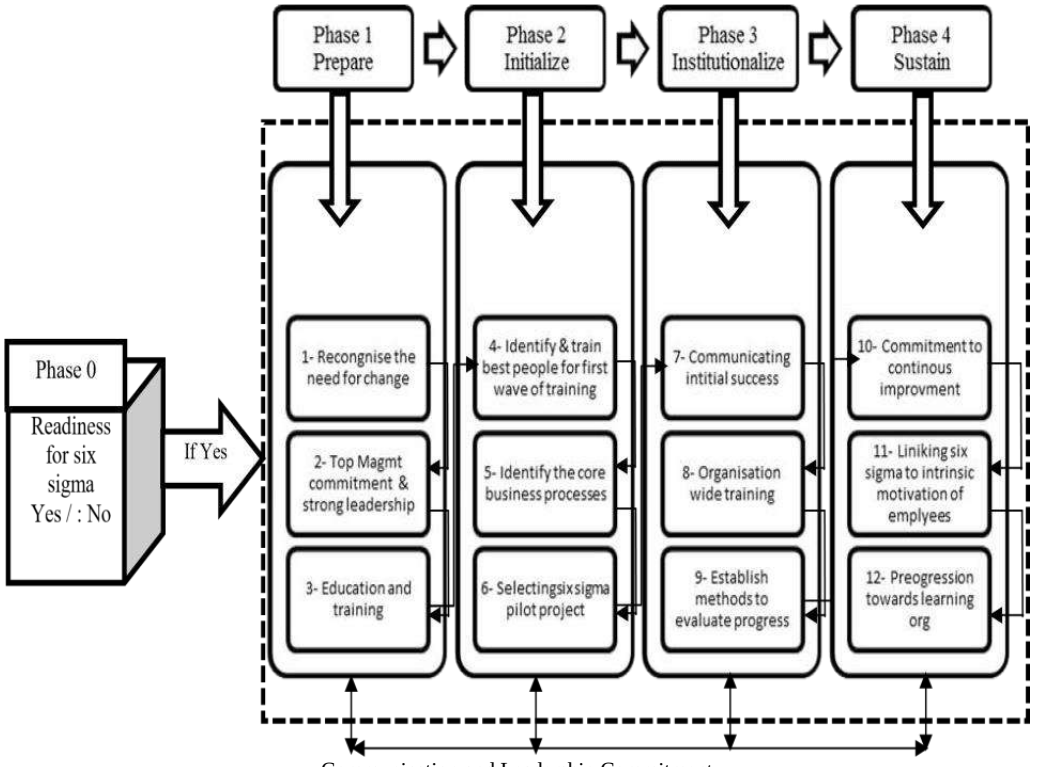
As well to Ergonomics paradigm; Nunes (2015) exposed a framework to aid in the selection and the application process of Six Sigma. In addition, Timans et al. (2016) developed a model in just three phases: Recognize and Prepare, Initialize and institutionalize, and Sustaining (Timans et al., 2016). Moreover, Ben Romdhane, Badreddine, and Sansa (2017) suggested a novel model of Six Sigma implementation in SMEs, which involves upgrading the Six Sigma method to a continuous improvement adaptable model that is consistent with the DMAIC method. (Ben Romdhane et al., 2017).

Fahmy (2017) provides an integrated framework to make Six Sigma program highly formalized and measurable in telecommunications operations. This Framework combines the Cross-Industry Standard Process for Data Mining (CRISPDM), one of the most extensively used frameworks for producing data mining solutions, with (DMAIC) phases, the aim is to galvanize Six Sigma projects using data mining tools during each step, resulting in a significant quality improvement. Finally, in order to develop Six Sigma in SMEs, Deeb et al. (2018) have offered a common basis, and they built a meta-model that is pathed to validate the channel between the DMAIC phases (Deeb et al., 2018).

6.3 Six Sigma Implementation model

The model of Six Sigma implementation customized to the specificity of SMEs was produced by authors through relying on triangulation approach and performing a critique of quality management frameworks for SMEs, and forming conclusion from the empirical cases conducted during three years, as exhibited here.

Figure 2 Model of Six Sigma implementation



Source:(Maneesh Kumar, et al. 2011) Six Sigma implementation framework for SMEs; a roadmap to manage and sustain the change, IJPR, 49:18, 5449-5467

The study has proposed an implementation model such as a guideline for SMEs. This one contains five phases: suitable for Six Sigma, Prepare, Initialize, Institutionalize and Sustain; as shown above, the Framework allows the sustainability of the improvements.

Results: this framework is generic and applicable to all types of enterprises; steps (3,4,5,8,10,12) were explicitly designed for SMEs to consider their characteristics and constraints faced by them.

6.4 Practical cases in SMEs

We have dug for articles that rely upon Six Sigma in the SMEs context at this level. Within the circle of availability, keeping accuracy, and avoiding repetition, an advanced search was used in the SCOPUS database, the largest academic database from over 23,500 peer-reviewed journals, compared to other databases like Web of Science and Google Scholar. Using the key words descriptors: “Six Sigma” and “SMEs”, the search was not restricted to articles that focused on the implementation because we liked at first to get a

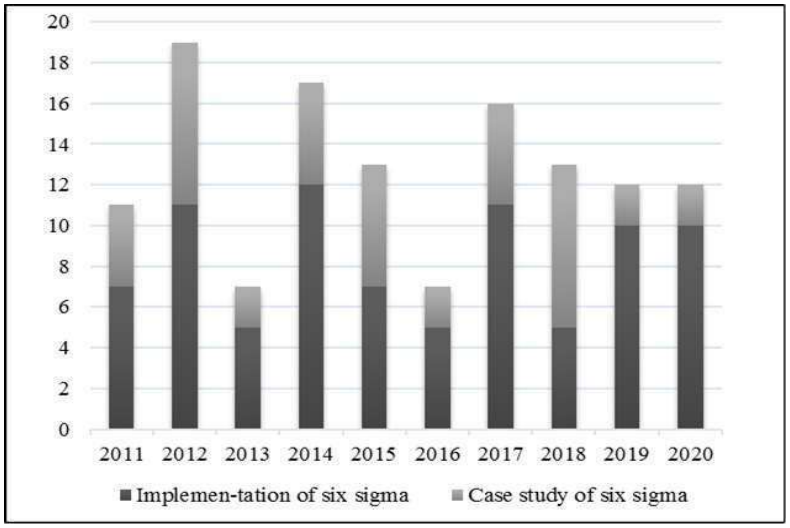
broad picture on the topic. Two lists of 83 and 44 manuscripts have been identified after limiting the checking by adding “implementation” or “case study“ and choosing those words be explicitly mentioned in "title OR abstract" with shortening the timeframe to publications after 2011 (date of chief model formulation), as shown below.

Table 4 Empirical studies - Statistics

Years	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**Total**
Implementation	7	11	5	12	7	5	11	5	10	10	83
Case study	4	8	2	5	6	2	5	8	2	2	44

Source: Elaborated by authors, based on Scopus databases

Figure 3 Status of empirical cases in SMEs



Source: Excel output, based on table 4

Result: this situation points out the state of the subject in practice, which means exhibiting in this stage many cases where Six Sigma is applied in the SMEs sector.

General result: our study effectively covers and validates the positive state of the topic over the suggested framework until exhibiting many cases where SMEs adopt six Sigma.

7. Conclusion and Recommendations

Although Six Sigma has been used successfully by world-class enterprises for several years, its application in the SMEs sector is still ongoing. Properly adopted, Six Sigma leads to generating many vital benefits.

This article has examined Six Sigma, presenting its main characteristics with focusing on main components and designing a comprehensive framework covering positively the journey of six sigma in SMEs to discuss the issue of Six Sigma in SMEs. This research has contributed to the subject of Six Sigma knowledge related to SMEs, through the following:

The Six Sigma approach has demonstrated exceptional potentials for organizations to improve their organizational competitive benefit since it started to develop in the 1980s;

Given the current circumstances, SMEs are under increasing pressure from global competition to raise their competitiveness, decrease costs, enhance productivity, and most importantly, develop sustainably, SMEs ought to benefit from the event based on the Six Sigma method.

Six Sigma depicts in DMAIC methodology to apply for every relevant project and requires belts (green and yellow belts) for SMEs in particular;

Six Sigma has both technical and managerial parts. On the technical level, the focus is on increasing process performance (improving the average level of performance and reducing variation); on the management side, the focus is on getting the proper process measurements and goals, the suitable projects, and the right people;

Both interviewees and experts are convinced that Six Sigma should be used in SMEs, but they emphasize on two essential requirements for success: mastering methodological factors (performing DMAIC approach) and obtaining active human factors (mobilizing belts);

The implementation Model of Six Sigma represents an important initiative to generalize the practice of this method and to tackle wisely against challenges;

Introducing the Six Sigma (problem-resolving) model with taking into account the key differences in characteristics of organizations and environment grants team businesses with strategies, methods, and techniques to improve their organizations and create opportunities for any enterprise, whatever its size, to become efficient and competitive;

Academic institutions could help SMEs meet their stakeholder or customer needs and assist them in creating value for their key customers. Then, SMEs can get the best-fitted training for Six Sigma by collaborating with local universities and teaching institutions.

7.1 The Study Implications

This study could have value for entrepreneurs, investors, workers, and other stakeholders who need to know a broad and deep view about Six Sigma phenomenon adoption that affects positively a firm's performance in the SMEs sector in all contexts, which is highly required for developing countries.

7.2 Methodological Contribution

Still, little research has been carried out relating to the positive status of Six Sigma in a small organization. This paper will provide value to scholars, practitioners, academics, and those researchers interested in Six Sigma research associated with SMEs through presenting a positive complete examination for the phenomenon with combined evidence from an interview, a successful model, and census of many practical cases (extensive and developed methodology) to support and propel the practice of Six Sigma in SMEs.

7.3 Limitations and future research

This research has brought evidence to implement Six Sigma in SMEs using one reliable database belonging to Scopus. This can be enlarged with other database sources for assessing all status. Future perspectives will be helpful for the lasting feasibility of our work to adapt and update our proposition -in different stages and levels- according to business and environment changes or development, with supporting success factors to embark on Six Sigma by SMEs.

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DEVELOPING STRATEGIC FRAMEWORK FOR COMPETITIVENESS IN THE GLOBAL MARKET

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Abstract

The aim of this paper is to provide an understanding of the impact of the process of developing unique business strategy. The complexity of strategy designing process for the global business is emphasized. Key structural elements of the global business strategy are analyzed. Furthermore, the paper highlights the competitiveness approach in designing strategies for increasing sustainability in the global market.

The empirical research is based on a survey that focuses on the strategic planning process and achieving sustainable competitive advantage. Global enterprises operating in the Republic of North Macedonia are subjects of the research. The research results confirm the importance of designing specific goals and competitive strategies for enterprises to enter the global market, provide an understanding of key structural aspects of global business planning and emphasize the challenges that global enterprises are facing in rapidly changing business environment.

Keywords: *strategic planning; global strategy; competitive advantage; sustainability*
JEL Codes: *M21; M16*

Introduction

Planning is future-oriented, but sensitive to the past. The planning process allows enterprises to adapt to the changing markets. Strategic planning begins with strategic analysis of external factors (threats and opportunities) and internal factors (strengths and weaknesses). The next step refers to the process of creating strategy that will be focused on exploiting potential business opportunities. It can be considered as a formal process that allows the enterprise to strive for more proactive rather than reactive strategies.

The strategy formulation phase is important because it encompasses key decisions for global enterprises, such as which new businesses to enter, which businesses to leave, how to optimally allocate resources, whether to expand activities or introduce diversity,

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whether to enter in the global market, whether to integrate or set up a joint venture and how to avoid a takeover.

Successful global enterprises adapt quickly to the market changes. These strategic decisions require awareness of the multicultural global business environment. The competitive spirit is a global fact, therefore enterprises need to think and plan globally.

The ability of the enterprise for survival and prosperity depends especially on the selection and implementation of an appropriate strategy. The competitive advantage represents a set of assumptions and hypotheses about how the competition in the industry will develop, and how that evolution can be used to make a profit. Depending on the extent to which assumptions and hypotheses accurately reflect the evolution in a particular industry, enterprises can achieve a competitive advantage by implementing their strategies. If the assumptions and hypotheses are not correct, then their strategies will not present an effective source of competitive advantage. Often, the assumptions on which the enterprise has been built and is being run no longer fit reality (Drucker, 1994, pp. 95-105). Global enterprises are facing these challenges with integrated global strategic management approach. The best outcome is to be flexible to the changes and systematically develop a competitive business strategy that differentiates the enterprise on the global market based on core competencies (knowledge, innovations, technology) or costs.

Globalization of business activities

In the process of formulating appropriate global strategies, managers need to consider the pros and cons of the globalization, specific national circumstances, and current developments. Global strategies are continuous and comprehensive top management tasks that enable businesses to operate and compete effectively across national borders. Efficiency and knowledge as goals of global enterprises are often linked and combined into a single dimension called global integration. It refers to the coordination of value chain activities across countries in order to achieve global efficiency, synergy and profit by maximizing the similarities between countries. On the other hand, flexibility as a goal presents the local adaptability, which means meeting the specific consumer needs in particular countries. The global integration-local responsiveness framework presents the dual goals pressure for enterprises and the balance they try to achieve. This framework identifies four different strategies for enterprise globalization (Barlett and Ghoshal, 2000, p. 203). In general, multi-domestic industries prefer an international or multi-domestic strategy, while global industries prefer a global or transnational strategy.

Enterprises that apply the international strategy or the export strategy consider the global business as secondary in relation to the domestic business. The products are designed

for domestic consumers, and global business is seen as a way to extend the product life cycle and to replicate domestic market success.

Enterprises with multi-domestic strategy delegate considerable autonomy to managers in individual countries, allowing them to work independently and be locally accountable. With this strategy, enterprise recognize and emphasize the differences between national markets. Products and services are carefully adapted to meet the specific local customers' needs in each country (Moran and Riesenberger, 1994, p. 91). However, the multi-domestic strategy leads to inefficient production, unnecessary activities, and large number of products designed to meet local needs, and generally high costs for global operations (Cavusgil, Knight, and Riesenberger, 2008, p. 319).

Enterprises that apply global strategy have significant control over global business activities in order to reduce redundancy and maximize efficiency, knowledge and integration globally (Levitt, 1983, pp. 92-102). In this way, the global strategy emphasizes greater central coordination and control. Research and development, as well as manufacturing, are centralized at headquarters, and the world is seen as one big market. The global strategy provides greater ability for response to global opportunities, increases global learning, and expands the knowledge base among the subsidies and organizational units, and creates large-scale economy that results in reduced operational costs. Global strategy can also improve the quality of products and processes, and thus, affect the global brand recognition and reputation, influence consumer decision making and increase the efficiency of global marketing programs.

The ability of enterprises to implement global strategy is facilitated by many factors, including similar needs and tastes of consumers around the world, increased acceptance of global brands, increased spread of technology (especially in industrial markets), increased effect of the Internet and e-trade, market globalization, as well as the expansion of global joint ventures. The main challenge for executing global strategy is the coordination of widely dispersed global activities.

The transnational strategy is a coordinated approach to global expansion, in which the enterprise strives to respond to local demands while retaining some central control of activities to ensure efficiency and knowledge. Transnational strategy combines the main advantages of multi-domestic and global strategy, while minimizing their disadvantages (Barlett and Ghoshal, 2000, p. 207). This strategy is based on flexibility, standardization where possible and adjusting where appropriate. Due to the challenge to maintain balance between central control and local responsibility, many enterprises find the transnational strategy difficult to implement (Zou and Cavusgil, 2002, pp. 1-21).

Global strategic goals

The strategy in a global context provides configuration of the value-added business activities on a global scale and market positioning in relation to competitors (Cavusgil, Yeniyurt, and Townsend, 2004, pp. 711-716). It leads the enterprise to selected customers, markets, products and services in the global market. The strategy presents a plan of activities that channels enterprise resources effectively in order to differentiate from competitors and achieve unique and sustainable goals. The strategy should enable enterprises to achieve their desired results in an unpredictable environment. The global strategy includes determination of strong global vision, global allocation of resources, entering major markets, joining global partnerships, and taking first move steps in response to global rivals (Yip, 2003, p.116).

Concerning the role of strategy in creating competitive advantage in global business, Levitt (1983, pp. 92-102) elaborates that an effective international strategy begins with the development of a standardized product that can be produced and sold in the same way in many countries. According to Kenichi Ohmae (1989, pp. 136-145) the most important goal is to deliver the product or the created value all over the world, while other researchers emphasize the importance of achieving strategic flexibility. The idea of utilizing economies of scale by creating a global production and synergy of various enterprise's activities is also important. Managers need to create a solid global distribution system and use the profits to subsidize the development of new products and markets. The most accepted approach for gaining sustainable competitive advantage in global business is that of Barlett and Gloshal (2000, p. 203), who consider that managers should strive to develop simultaneously global efficiency and flexibility, and ability to enhance innovation and knowledge advancement on a global level. According to Barlett and Gloshal (2000, p. 203), enterprises that intend to become globally competitive must simultaneously strive for the three strategic goals - efficiency, flexibility and knowledge

Efficiency - The enterprise must build efficient global supply chain or network. Efficiency refers to reducing the cost of global business operations. Global enterprises with multiple value chains around the world should pay particular attention to research and development, production, supply, marketing and customer service.

Flexibility – The enterprise must develop global flexibility in order to deal with country-specific risks and opportunities. The diversity of the global environment is key challenge for top managers. Therefore, the ability of the enterprise to use local resources and opportunities is important.

Knowledge – The enterprise must be able to learn from its global presence and use that knowledge globally. The diversity of the global environment provides the global

enterprise with unique opportunities to upgrade its knowledge that can be shared between subsidies through the corporate network. This can include gaining new technological and managerial knowledge or know-how, new product ideas, improved research and development skills, partnership skills, and survival skills in an unfamiliar environment.

The success of a global business is largely determined by the extent to which it achieves efficiency, flexibility and knowledge. However, global enterprises face great challenge to simultaneously develop in all three directions.

Global strategy components

The business strategy is a set of fundamental choices that define the long-term goals of the enterprise, the values that will be offered on the market, and the way the enterprise intends to build and maintain a competitive business system and an appropriate organizational structure.

The enterprise has a need for designing a global business strategy when it operates in key markets around the world and when the business system is constructed from integrated and co-integrated cross-border activities. Accordingly, the global strategy should be composed of four main components (Lasserre, 2003, p. 37):

- Global ambition: Selection of long-term goals for the business, defining the relative importance of regions and countries;
- Global positioning: Selection of countries, consumers' segments and value propositions;
- Global business system: Selection of investments and resources, assets and competencies to create a global value chain, business system that will be able to offer higher value to consumers and global capabilities through alliances and acquisitions;
- Global organization: Selection of global structure, processes, systems, coordination and human resource management.

Developing sustainable competitive advantage

The enterprise ability to do something that competitors cannot, or own something that competitors want, it can be a competitive advantage. Achieving and maintaining a competitive advantage is essential for long-term business success.

The competitive advantage is related to several concepts (Stonehouse, Campbell, Hamill, and Purdie, 2004, p. 158):

- Superior performances, that cannot be accurately measured and are often expressed as above-average profit from sales or investments, higher revenue per unit, lower costs per unit, higher market share, etc.;

- Strategy or action plan, based on which the business intends to achieve a competitive advantage;
- Key competencies, that include special knowledge, skills and organization of activities in which the enterprise differs from and is superior to competitors;
- Innovation, which means that enterprises in the global business environment must constantly develop new knowledge and key capabilities, or innovate faster than competitors;
- Configuration, meaning the way in which the business activities are configured globally (geographically concentrated or dispersed);
- Coordination or integration, which means how business activities are coordinated globally; and
- Responsibility, which refers to the enterprise's ability to respond to local needs, or indicates its ability to respond quickly to the changing environment.

The competitive advantage encompasses the enterprise' abilities that are difficult to be imitated and are interchangeable. There are generally two types of competitive advantage:

- Advantages that lead to increased value for the consumer through performance, quality and brand services, and finally to the creation of differentiated value; and
- Advantages that lead to a low cost base (low labor costs, low supply costs, economies of scale in production, efficiency) and finally to cost leadership.

The differentiation of enterprises and their products can be obtained due to quality, design, or image, while cost leadership can be reached based on cheap raw materials, cheap labor, economies of scale, or efficient technological processes. The sources of these competitive advantages are in the ownership of the enterprise (built competencies, reputation and image) or access to scarce resources and assets.

Central issue for global enterprises is the ability to use the existing advantages in multiple countries in order to successfully compete with local players and other global competitors. This can be done in two ways:

- First mover advantage - being first among competitors to enter a certain market; and
- Expand already gained advantage - using developed capabilities in order to eliminate existing competitors in certain market and achieve dominance over them.

One of the key goals of any business strategy is to achieve a sustainable competitive advantage. This means that the strategy should firstly lead to superior performance in the industry; and secondly, to maintenance this superior performance over time. Global

enterprises are aware that more importantly is to maintain the competitive advantage due to the dynamic and unpredictable business environment and competition.

Sustainability is best determined by the time period during which the enterprise succeeds to maintain its superior performance. The extent to which competitive advantage is sustainable depends on several organizational characteristics (Stonehouse, Campbell, Hamill, and Purdie, 2004, p. 159):

- Ability to create key skills and knowledge, as well as to develop strategies that are superior to competitors and difficult to imitate;
- Ability to coordinate and integrate global business activities more effectively than competitors;
- Ability to continuously modify and improve strategies, knowledge, and skills.

Sustainability of competitive advantage also depends on the competitors' ability to imitate or surpass the leader that has achieved a superior level of performance in the industry. Furthermore, it depends on changes in the business environment, such as technological changes that cannot be controlled and may increase or decrease the competitive advantage of the leading competitor.

According to Lasserre (2003, p. 48), there are three ways to achieve sustainable competitive advantage: consumer loyalty; positive feedback; and first on the move strategy. Also, global corporate leaders need to accept and understand the importance of "soft" factors for the success of the enterprise and advance their skills in order to successfully lead global enterprises in the changing business environment (Dimitrova, 2017, p. 212).

In order to sustain on the global market, the competitive advantage must be long-lasting. From an economic point of view, the competitive advantage is similar to the monopoly position which provides a profitable advantage for the enterprises. This only happens if the monopoly position is not immediately threatened by imitation.

Research methodology

The research methodology included literature review, secondary data analysis and an empirical research based on collection and analysis of primary data. In order to provide a direct insight in the processes of designing and implementing competitive global strategies, a survey was conducted in a representative sample of top five global enterprises that are operating in the Republic of North Macedonia in different industries. The questionnaire was distributed in February 2020 and was answered by top, middle or low level managers.

Research results

The analysis of survey results is presented hereafter. The questionnaire was answered by five global enterprises, 40% of which operate in the service sector and 60% operate in the manufacturing sector. Most of the enterprises covered by the survey or 60% are operating in the automotive industry, while the rest are operating in the field of telecommunications, banking and metallurgy. Regarding the ownership of the majority capital in these enterprises, 100% of them are foreign-owned.

In terms of the enterprises' presence in the global market, 100% are present in the European market, 60% of them operate in Asia, and 40% are present in the North and South America markets, which means that these enterprises have globalized business activities.

These global enterprises entered the Macedonian market in the period from 2001 to 2008, and 40% of them made an investment during 2007. These enterprises are global leaders in their fields, with many years of experience in international operations. In terms of strategies and methods for entering new markets, 60% applied a strategy of mergers and acquisitions, while the remaining 40% applied a strategy of Greenfield investment, when entered the Macedonian market.

Regarding the level of management that the examinees represent, 60% of the managers belong to the middle level of management in the enterprises from the manufacturing sector, while 40% of the managers who filled in the questionnaire are from the low level of management in the enterprises from the service sector.

Regarding the issues related to the strategy, the global enterprises in the Republic of North Macedonia operating in the manufacturing sector produce final products or components that are mostly exported and intended for the global market, while the enterprises in the service sector most often offer products and services for the Macedonian market.

According to the research, the most important reason for globalization of their corporate activities is market diversification or entering new markets; followed by the strategic reasons for expansion or investing in a potentially profitable relationship with a foreign partner; strengthening the competitive position; and finally, profit increase. Less important for these enterprises are the following reasons: improvement of quality of products and services, proximity to sources, access to cheap raw materials and economy of scale.

On the contrary, as the most important reason for entering the Macedonian market, global enterprises indicate the tax benefits, followed by the need to expand into new markets and the strategy to move first due to low competition in the industry or region, and finally, as less significant reason is the cheap labor force.

The answers from the survey show that 60% of the global enterprises apply a global strategy, while 40% of the enterprises apply a transnational strategy, while as the international and multi-domestic strategy are not used in the process of globalization of business activities. Their general business strategies are aimed at developing new products or improving existing ones, and expanding the operations into new fields.

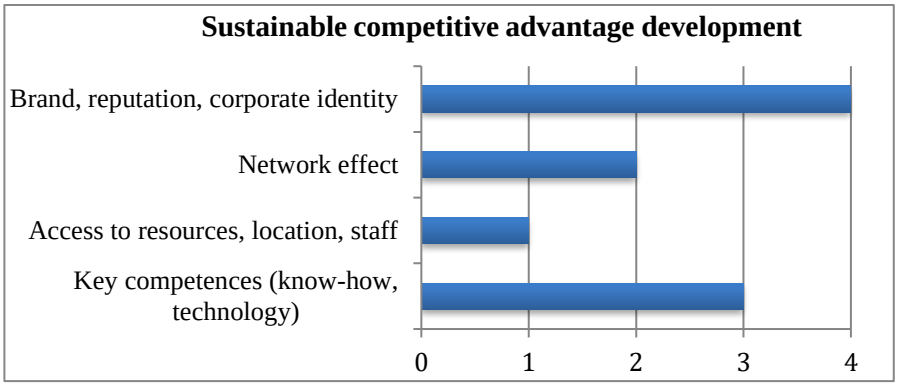
In the context of competitive generic strategies applied by global enterprises in North Macedonia, the data from the analysis show that 40% of enterprises opt for differentiation strategies or offer products and services that differ from the rest in the industry, but the remaining 40% of enterprises choose the focusing strategy where they concentrate on a particular regional market or consumer group, and 20% of the enterprises opt for another type of strategy, such as the strategy for production of high quality products with low costs.

Regarding the changes or adaptation of the strategy from the moment of its formulation to the implementation, the analysis of the research results shows that the enterprises make small rare strategy changes in 60% of the cases and small frequent strategy changes in 40% of the cases. As the most common reason for changing the strategy, the enterprises indicate the market conditions and the consumer needs, as well as the changes in the overall environment and competition.

Global enterprises generally rate competition in the industry they operate as moderate, with the exception of the banking sector where it is rated as high.

In the context of the ways to maintain a competitive advantage, global enterprises indicate as most relevant, the image, brand or reputation of the enterprise, followed by the core competencies (know-how and technology) that cannot be imitated or copied; the network effect, experience, cooperation, information network, critical mass; while the last important way to maintain a competitive advantage is access to scarce resources, location and staff (Figure 1).

Figure no. 1 Developing sustainable competitive advantage

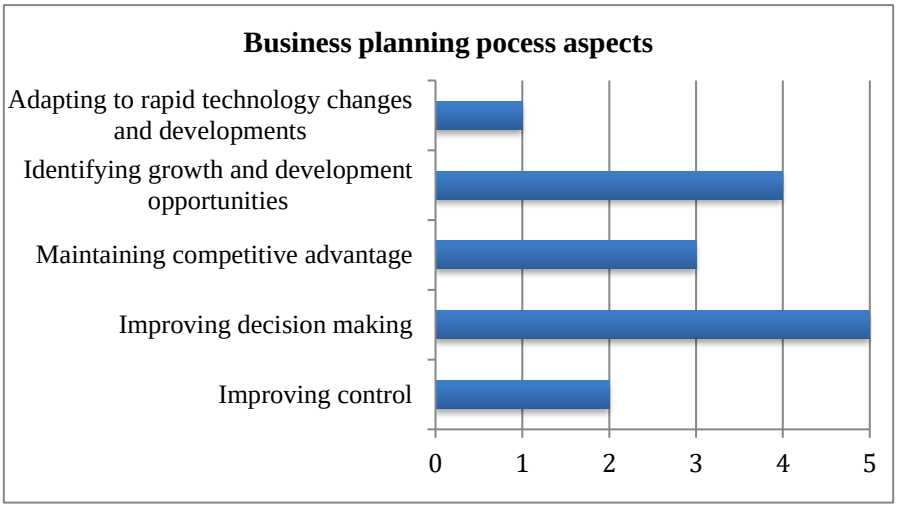


Source: Author's survey, 2020

Changes in the business environment (ex. economic crisis) according to 60% of global enterprises, can be partially predicted and included in the plans to avoid their negative effects, while 40% of enterprises believe that such changes cannot be predicted at all and included in the plans. Accordingly, only 20% of global enterprises make complete adjustments to goals, plans and strategies as a result of changes in the business environment, while 80% of enterprises make only partial adjustments and modifications.

Based on data from the empirical research, the main reasons for applying business planning global enterprises operations are ranked as follows (Figure 2): improving decision-making; evaluating alternatives; second, discovering opportunities for growth and development; increasing and maintaining the competitive advantage; improving control; and adapting to technological changes.

Figure no. 2 Benefits of business planning

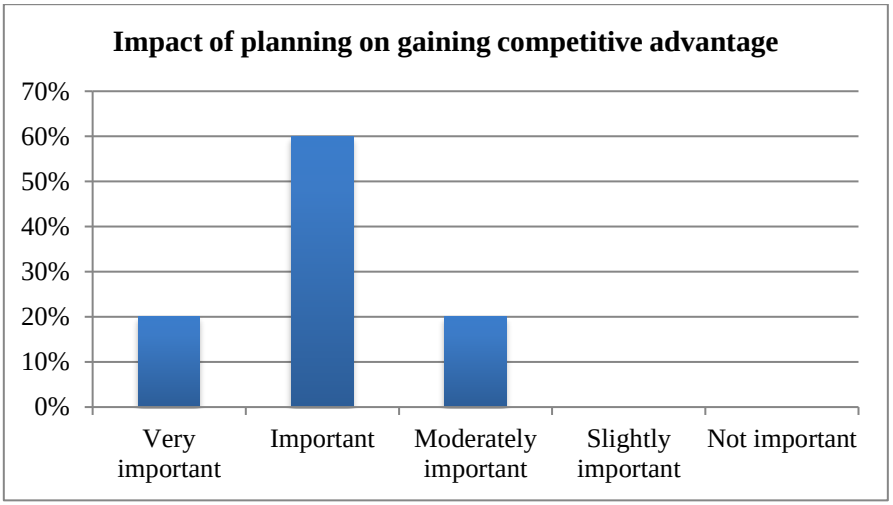


Source: Author's survey, 2020

Regarding the factors that influence the planning of global enterprises, the most important external factors are economic factors and competition, followed by technological factors, standards and regulations, political and cultural factors. On the other side, global enterprises as most important internal factors indicate the market, consumers and competition data analysis; and financial resources, followed by technology and innovations, organizational structure, human resources, and organizational culture.

Based on the research, it can be concluded that in 60% of the enterprises the impact of planning on achieving strategic goals and gaining competitive advantage is high, in 20% is extremely high, and in 20% is moderate (Figure 3).

Figure no. 3 Planning and competitive advantage



Source: Author's survey, 2020

The comprehensive analysis of the planning process and practices in the representative sample of global enterprises in the Republic of North Macedonia indicates that they pay significant attention and effort in planning processes on various levels, and the most common problem they face in this regard is the complexity of the global environment (differences in legal, economic, market, technological, cultural and political conditions across different countries).

Conclusion

Global strategic planning is a comprehensive and ongoing planning process aimed at formulating strategies that enable the enterprise to compete effectively on the global market. Top-level managers are usually responsible for the strategic planning process. Within the strategy formulation phase, the enterprise sets its goals and the strategic plan that will lead to the achievement of those goals.

The competitive advantage sets the enterprise apart from others in the process of meeting consumer's needs. The basis of global competitive business strategy formulation is choosing how the enterprise will differ from others. Managers decide whether the enterprise will perform different activities from the competition, or will perform similar activities in different ways. Over time, the strategy changes to suit the dynamic business

environment. In order to sustain competitiveness, enterprises develop strategies that focus on core competencies, synergies and higher value for consumers.

The most accepted approach to create a sustainable competitive advantage in global business is striving to simultaneously achieve the three strategic goals: efficiency, flexibility and knowledge. The competitive advantage strategies are generally based on creating differentiated value or building cost leadership.

Regarding the results of the conducted research, the most important reason for the globalization of enterprises' activities is market diversification or conquering new markets. The main reason for global enterprises to enter the Macedonian market are the tax benefits. The analysis confirms that most of the global enterprises operating in the Republic of North Macedonia apply a global strategy, while their general business strategies are aimed at developing new products or improving existing ones, and expanding the enterprise's operations in new fields. In the context of competitiveness, research shows that global enterprises in North Macedonia are mainly focused on differentiation strategies.

Furthermore, managers agree that the strategic planning process is complex and time consuming but it is significant asset in fighting the global competition and making key strategic decisions. Finally, the research indicates that global enterprises are generally open to the opportunities for expanding to new markets besides the different challenges in the global business environment (differences in social, technological, legal, economic, cultural and political factors). Global enterprises are dedicated to create and implement unique and innovative competitive strategies in order to increase their market share, achieve positive financial results and higher performances.

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VALUE-ADDED CHAIN OF A NEW PHARMACEUTICAL PRODUCT

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Abstract

The aim of our study is to present the value-added chain for a new pharmaceutical product. Shifts in society are setting new expectations to pharmaceutical products. By critically using the results of leading researchers, we form the modern value-added chain.

The results of our study determine the most complex value-added chain for a new pharmaceutical product. The requirements by competent authorities for safe, efficient and quality pharmaceutical products determine the dynamics of value-added chain steps. The safety and efficacy of a new pharmaceutical product reduce the importance of other factors such as innovative and affordable product.

Keywords: *pharmaceutical industry; step-by-step production*
JEL Codes: *I11, L23, L65*

Introduction

The pharmaceutical industry has the most complex value-added chain. Each pharmaceutical product starts with R&D in the field of chemistry and biology, goes through a number of stages of development for added value and has been launched after a decision of a competent authority for the effectiveness and safety of the product. Each of the value-added stages has a characteristic term, a certain limit of financial resources and a separate risk of success for a pharmaceutical product.

The pharmaceutical industry is the crossroads of a number of sciences: chemistry, biology, medicine, economics, statistics, state regulation, and intellectual property. The

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interdisciplinary of creating a new pharmaceutical product determines both the interest in many sciences and the complexity of analyzing the pharmaceutical industry. The interface of the individual sciences in the pharmaceutical industry is the creation of an effective, safe and affordable product.

Pharmaceutical industry dynamics

The pharmaceutical industry is a phenomenon in modern society (Ilieva-Tonova, Stoimenova, & Pencheva, 2016, 366). Until 1925, the pharmaceutical industry was not present as an independent industry in Moody's first annual analysis and was reported as part of the chemical industry and cosmetics companies (Younkin, 2015, 14). Just three years later, the pharmaceutical industry was already ranked 16th as a profitable industry (Epstein, 1934, 2).

The meteoric rise of pharmaceutical industry queries its dynamic (Borisova, 2017, 67). The modern pharmaceutical industry was formed in the 1960s when it went beyond the field of production and fell into the focus of analysts (Ilieva-Tonova, Pencheva, & Serbezova, 2022, 18). In 1963, Kenneth Arrow found the emergence of a new economics – the one of medical-care economics as opposed to health economics (Arrow, 1963, 943). Pharmaceutical industry is entering the public agenda through foundation-sponsored scientific publications for sectors with rising costs (Yuleva, 2019, 25).

The social, demographic and economic context in which the pharmaceutical industry operates is changing dramatically (PricewaterhouseCoopers, 2009, 7). A series of new moments in the 1980s changed the landscape in pharmacy (Madgerova & Kyurova, 2014, 97). Patents and protection of intellectual property, new functions of competent authorities for safety, launch of over-the-counter pharmaceutical products, generics sale without clinical trials determine the basis of modern pharmacy (Gergova, Stoimenova, & Sidjimova, 2019, 53).

Value-added chain in pharmaceutical industry

In our discussion, the concept of "value" is distinct from other economic terms as "quality" and "cost" (Armstrong & Mullins, 2017, 292). The value in pharmaceutical industry is defined as "…quality divided by costs, where quality reflects patient outcomes and costs represent the total costs for providing care, whether these be costs related to an episode, a diagnosis, or per capita" (Lee, Austin, & Pronovost, 2016, 323).

Hence, there are two types of value in pharmacy (Toumi & Rémuzat, 2017, 9):

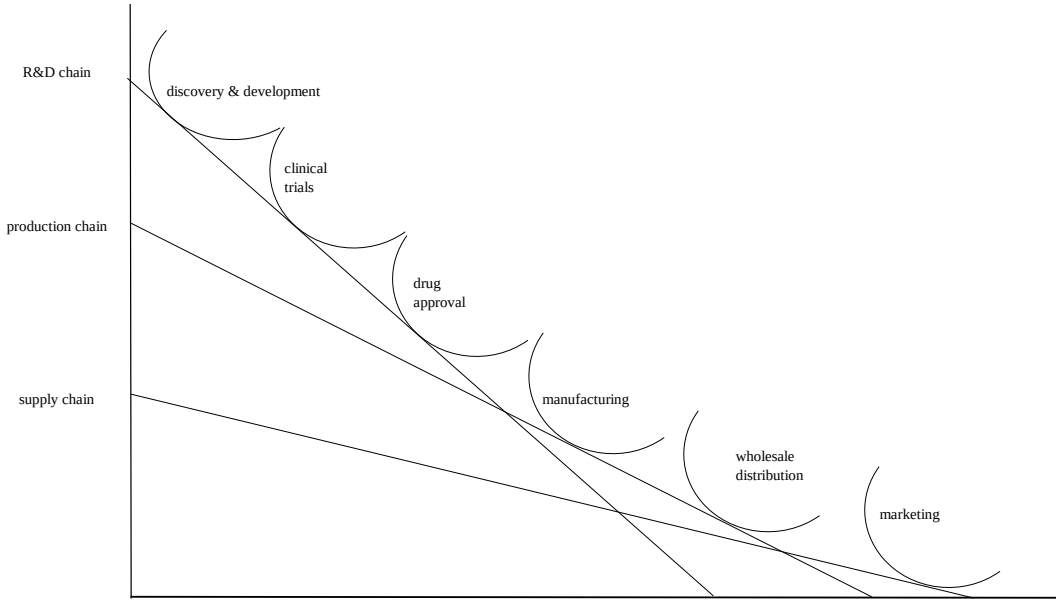
– value for patients (better efficacy, safety and/or tolerability profile; optimised route of administration and/or convenience of use; access to new therapeutic uses of already existing products covering unmet needs);

– value for society (addressing a number of medicine-related healthcare inefficiencies; enhancing healthcare system efficiency by improving healthcare provision and organization; contributing to sustainability of healthcare systems through economic advantages).

In the field of pharmacy, value is not a subjective concept and reflects the opinion of a wide range of stakeholders and competent authorities (Petrova, 2018, 29). Different stakeholders have different perceptions of value in healthcare and different authorities encourage generating different data about value in pharmacy (Antoñanzas, Terkola, & Postma, 2016, 1227). All costs in creating value of a new pharmaceutical product are directed to obtain approval by competent authority to launch instead of pricing and reimbursement decisions (Keremidchiev & Nedelchev, 2020, 63).

The value-added chain is an industry analysis for step-by-step manufacturing in creation of value. For our discussion, we will be focusing on R&D chain (Chart 1).

Chart no. 1 Value-added chains for pharmaceutical products



Source: adapted to Agrawal, 1999, 43.

The value-added chain of a new pharmaceutical product has the following features:

– research, unlike other industries, is at the first step and can be considered as input material for the chain;

– experts, certified by a state entity, are required at each step;
– a competent authority carries out quality control at each step;
– mandatory good practices are applied at each step.

New steps have been inserted between the traditional first and last step due to non-traditional chemical extraction and absence of history of effects of a new pharmaceutical product. Each new pharmaceutical product has complex value-added chain – it includes four steps from pharmaceutical product discovery to it launch:

– Discovery. The discovery is the start step for each new pharmaceutical product. In most cases, the discovery is a result of new insights into the disease process, consequence of a molecular testing, outcome of application of advanced technology, and unpredictable effects of existing treatments. The core scientific approaches in discovery process are synthesis, research and screening. The discovery methods by ingredient extraction from natural products, lucky accidents, unexpected events and observations become history due to requirements for information disclosure by competent authority in approval of a new pharmaceutical product.

– Development. The second step is the development of a new pharmaceutical product. The step constitutes an optimisation process by testing the initial molecules. The aim is to determine whether the lead compounds have the potential to become a pharmaceutical product.

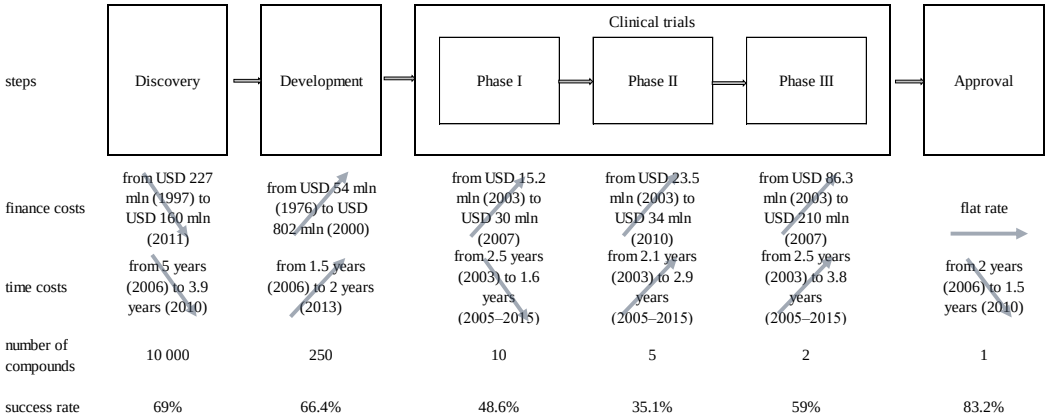
– Clinical trials. The first clinical trials via statistical methods were conducted in the UK, in 1948 (Gittelman, 2016, 1570). Since the 1960s, clinical trials have become mandatory in most national legislations after a number of side effects of one new pharmaceutical product. Estimating the number of clinical trials globally is inexact and the true scope of clinical trials is not known due to their complex global field (Sim & Detmer, 2005, e365).

– Approval. Approval process by a competent authority is an assessment of benefits and potential risks of a new pharmaceutical product. The approval process a balance between benefits and risks of the new pharmaceutical product. At this step, the functions of the competent authority are competitive and contradicting each other.

Dynamics of value-added chain

We will describe the dynamics of a new pharmaceutical product by following the steps of value-added chain (Figure 1).

Figure no. 1 Value-added chain dynamics of a new pharmaceutical product



Source: prepared by the authors

Discovery

The modern discovery of a new pharmaceutical product is a multidisciplinary science including chemistry, biology, biophysics, computer sciences, mathematics, and engineering (Herrling, 2005, 7). The research capacity is of particular importance for discovery of a pharmaceutical product. A major share in discovering new pharmaceutical products belongs to pharmaceutical companies (76%), universities and biotechnology companies (Kneller, 2010, 867).

Discovery of a pharmaceutical product reflects industrial and academic collaboration (Nedeltchev, 2004, 11). In contrast to pharmaceutical products discovered in the 19th century by a randomized trial or a happy chance, the modern pharmaceutical industry is research-based. To link the laboratory knowledge and unmet clinical needs is necessary not only to increase the investment, but also to align the interests of state institutions, corporations and investors (Nedelchev, 2019, 115).

The academic-industrial collaboration in discovery process of a new pharmaceutical product leads to the increase of:

– the success rate in Phase III of clinical trials (Takebe, Imai, & Ono, 2018, 597);

– the number of approvals by a competent authority (Kneller, 2010, 868);

– the number of patents awarded to academic entities (Cohen, 2005, 78).

The discovery of new pharmaceutical products marked a cost decline over time[*]. For example, the discovery of a product in 2006 took 5 years and in 2010 – it decreased to 3.9 years (Mestre-Ferrandiz, Sussex, & Towse, 2012, 7). If the costs of discovering a new pharmaceutical product in 1997 are USD 227 million (Myers & Howe, 1997, 20), then in 2011 the costs decreased to USD 160 million[**]. The greatest impact on decreasing time and costs is the growth of the bio similar industry.

The success rate of discovery step is 69% (2020) (Hardaker, 2020, 2). This step begins with 10,000 compounds of which only one will be approved (Figure 1).

The artificial intelligence is used to increase the success rate in discovering a new pharmaceutical product. This tool is up to 250 times more effective than the traditional method of pharmaceutical product discovery (Bajpai, 2020, 2). Artificial intelligence focus is mainly on screening (40%) and finding new targets (28%) (Deloitte Centre for Health Solutions, 2019, 11). Artificial intelligence increases the accuracy of forecasts for efficiency and safety, and as a result – reduces the cost of time and money. The cost of artificial intelligence in pharmaceutical industry is expected to reach USD 8 billion (Aboshiha, Gallagher, & Gargan, 2019, 11).

Development

The developing of a new pharmaceutical product remains the biggest expense in modern economy. Even with the annual inflation adjustment, the increase in the costs of a new mass-produced pharmaceutical product has made pharmaceutical industry unparalleled in the economy, incl. the costs in banking, aerospace, IT, oil and gas production industries[***].

The financial costs for developing a new pharmaceutical product in 1976 were USD 54 million (Hansen, 1979, 151) and in 2000 the costs rose to USD 802 million (DiMasi, Hansen, & Grabowski, 2003, 151). The time spent for preclinical testing rose from 1.5 years (2006) to 2 years (2013) (Fargen et al., 2013, 269).

The end result of development step are 250 compounds that will be clinically tested and the success rate is 66.4% (2019) (Wong, Siah, & Lo, 2019, 273).

[*] Each study is based on a specific therapy and company, which explains the differences in the published data (Adams & Brantner, 2006, 420). Our discussion presents the dynamics in the value-added chain of each new pharmaceutical product, not to compare data from individual studies.

[**] Most of the evidence focuses on clinical costs (i.e. on the "D" of R&D), rather than on discovery and development (i.e. on the "R" of R&D). This is because little, if any, project-specific evidence for the early research stages is available (Mestre-Ferrandiz, Sussex, & Towse, 2012, 2).

[***] Return on equity for pharmaceutical industry decreased from 21% (1996) to 12.8 % (2004) (Saltzman, 2005, 9).

Clinical trials

The competent authorities limit both the false data and bias business interests in pharmaceutical industry through control over procedures and data of clinical trials (Marks, 1997, 11). Increasing the requirements by the competent authorities for effective and safety pharmaceutical products tends to extend the trialing of a new pharmaceutical product. The problem lies in the number and variety of the requirements, not in the requirements themselves (Zerhouni & Hamburg, 2016, 338ed6).

The clinical trials are research studies for evaluation of safety and effectiveness of new medical treatments, pharmaceutical products, diagnostic tests, and screenings. They include three phases:

Phase I

In Phase I, the new pharmaceutical product shall be tested for evaluation of safety, tolerability, dose selection of the tested pharmaceutical product and identification of the side effects. The results of Phase I respond to whether or not to proceed with further development of the product.

The average costs per pharmaceutical product in Phase I have grown from USD 15.2 million (2003) (DiMasi, Hansen, & Grabowski, 2003, 151) to USD 30 million (2007) (Damodaran, 2007, 14). The necessary time for trials has been reduced from 2.5 years (2003) (DiMasi, Hansen, & Grabowski, 2003, 152) to 1.6 years (2005-2015) (Wong, Siah, & Lo, 2019, 275).

The core of Phase I are 10 compounds (2020) (Kim, 2020, 3). The success rates has decreased from 80.7% (2004) (Abrantes-Metz, Adams, & Metz, 2004, 17) to 66.4% (2019) (Wong, Siah, & Lo, 2019, 275).

Phase II

The clinical trials in Phase II are aimed to verify if the pharmaceutical product is effective and is within the financial framework (Tamimi & Ellis, 2009, c125).

Unlike Phase I, Phase II is particularly vulnerable to volunteer recruitment for trials. There are conflicts of interest by the supply side (manufacturers and distributors) both due to costs and for the protection of intellectual property. Several measures have been introduced for reduction of volunteer recruitment and some research functions related to the clinical trials.

For clinical trials on Phase II, the average costs per investigational pharmaceutical product are USD 23.5 million (2003) (DiMasi, Hansen, & Grabowski, 2003, 151) and have

been raised to USD 34 million (2010) (Adams & Brantner, 2010, 130). The time for completing the trials rose from 2.1 years (2003) (DiMasi, Hansen, & Grabowski, 2003, 153) to 2.9 years (2005-2015) (Wong, Siah, & Lo, 2019, 274).

The success rate in Phase II declines from 57.7% (2004) (Abrantes-Metz, Adams, & Metz, 2004, 8) to 48.6% (2019) (Wong, Siah, & Lo, 2019, 276). Five compounds remain in the pipeline.

The increased costs are due to additional control by the demand side (health insurance system, patient organizations and government authorities). For example, since 2000 the procedure number on each study volunteer has increased annually more than 10% (Mathieu, 2007, 22).

Phase III

The aim of Phase III is effectiveness confirmation and information collection for product safety. The clinical trials are characterized by increasing the number of volunteers in different countries.

The complexity and expense of trials in Phase III determine a strategy for inorganic growth through outsourcing to companies with research experience and capacity to carry out the trials in compliance with the requirements of competent authorities (Gooneratne, 2019, 16). A necessity for harmonization of good clinical practices worldwide arises.

Over the years, the time for clinical trials in Phase III has increased from 2.5 years (2003) (DiMasi, Hansen, & Grabowski, 2003, 152) to 3.8 years (2005-2015) (Wong, Siah, & Lo, 2019, 278). The higher time and extended requirements in turn lead to rising of costs from USD 86.3 million (2003) (DiMasi, Hansen, & Grabowski, 2003, 154) to USD 210 million (2007) (Damodaran, 2007, 15).

The success rate for Phase III increases from 56.7% (2004) (Abrantes-Metz, Adams, & Metz, 2004, 17) to 59.0% (2019) (Wong, Siah, & Lo, 2019, 276). Two compounds continue the race toward launch step. Strategic issues in ~~the~~ Phase III have less impact on failure (14%) than in ~~the~~ Phase II (21%) (Kimmitt & Vieira, 2020, 17).

Approval

The competent authorities have a flat rate for approval costs with the aim of ensuring a fair decision. The time costs for approval of a new pharmaceutical product are reduced from 2 years (2006) to 1.5 years (2010) (Paul et al., 2010, 203). The average time for approval new pharmaceutical product by the European Medicines Agency is 417 days (2015) while by the Food and Drug Administration – 351 days (Bujar & McAuslane, 2014, 5). The authorities' approval increases from 11.8 months to 13 months for companies that

are not in the top 50 (Getz, 2020, 4). The success rate for approval is the highest for entire value-added chain – 83.2% (Wong, Siah, & Lo, 2019, 277).

Discussions

The value-added chain of each new pharmaceutical product has high costs:

– total costs of USD 2.8 billion (Wouters, McKee, & Luyten, 2020, 844);

– time to launch is 15 years (English, Lebovitz, & Giffin, 2010, 47);

– success rate to launch is discouraging – less than 12%;

– return of equity equals to 13% (Saltzman, 2005, 9);

– high degree of artificial intelligence application and other scientific tools;

– volume of approval application is 100,000 pages (Van Norman, 2016, 170).

The dynamics reflects the focus on safe and effective pharmaceutical products. The disproportion of costs and approvals is a "conundrum" (Munos, 2009, 959) that can be resolved by revision of the entire value-added chain and practices used.

The costs have the following dynamics:

– money costs increased from USD 231 million (1987) (Tamimi & Ellis, 2009, c127) to USD 2.8 billion (2014) (Wouters, McKee, & Luyten, 2020, 845);

– time costs increased from 12.8 years (1990) (Dickson, 2009, 172) to 15 years (2010) (English, Lebovitz, & Giffin, 2010, 5);

– approvals decreased from 52 (1996) to 15 (2016) (Ernst&Young, 2017, 14);

– registered clinical trials increased from 2,119 (2000) (Mikulic, 2021, 4) to 89,647 (2018) in 175 countries (Drain, Parker, Robine, Holmes, & Bassett, 2018, e0192413);

– granted patents increased from 2,106 (2007) to 3,089 (2016) (Copenhagen Economics, 2018, 8);

– the staff involved in introduction of a new pharmaceutical product has increased from family level to 1,000 people (Scalable Health, 2017, 8);

– the number of terminated projects due to economic and safety reasons is increasing (Wong, Siah, & Lo, 2019, 18).

Approval fees and patent life are without any dynamics.

Despite the increased costs, the economic effects should be taken into account – a new pharmaceutical product may prevent USD 19 billion in lost wages (Garthwaite, 2012, 116). In case that a new pharmaceutical product has USD 15 billion R&D expenditures, this pharmaceutical product saves 1.6 million life-years per year, whose annual value is about USD 27 billion (Lichtenberg, 1998, 3).

Conclusions

Our analysis outlines a significant increase in financial costs of a new pharmaceutical product. The greatest dynamics were reported in the steps that can be outsourced. While the dynamics of the development step is the result of collaboration between science and laboratories, the dynamics in Phase III of clinical trials is due to increased requirements and expectations for safe and effective pharmaceutical products in more than one country.

While the time for a new pharmaceutical product is dynamic, the patent term remains constant (20 years). As a consequence, the time for reimbursement the costs of a new pharmaceutical product is reduced, which in turn leads to an increase in the product price. The patent life is 20 years and after deducting 12-15 years for research and approval, there are 5-8 years left to sell the pharmaceutical product and recoup the costs.

The data reveal a disproportionate increase in financial costs compared to time costs. Benefactors such as the use of smart solutions, inter-sector collaboration and strategies for inorganic growth have significantly increased the likelihood of approval of new pharmaceutical products, but have also increased the investments. Practice recognizes the achievement of the goal of safe and effective pharmaceutical products, while the achievement of innovative and affordable pharmaceutical products remain questionable.

Our results paved the way for a new type of research to simultaneous consideration of costs and results at all steps according to the shifts in external environment. Data should not be viewed from the perspective of pharmaceutical industry solely. At present time pharmaceutical products that have been started in difficult times – the global financial crisis (2007-2008) are approved. We can expect a similar situation in the next ten years, i.e. after the time it takes to launch a pharmaceutical product from the pipeline.

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DIGITAL ENTREPRENEURSHIP: THEORETICAL AND PRACTICAL ASPECTS

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Abstract

The rapid development of Information and Communication Technologies (ICTs) in the late 20th and early 21st centuries has caused a digital transformation in all spheres of socio-economic life. Digitalization has brought about radical changes in the economy and the way we do business, creating new business models. Expanding the scope of digitalized business activities, the widespread penetration of e-commerce in the marketing tools of companies and the development of digital entrepreneurship are one of the successful formulas for overcoming the crisis caused by the COVID-19 pandemic and rebuilding national economies.

The article aims to reveal some theoretical aspects of digital entrepreneurship and to analyze the process of digitalization of entrepreneurial activity in Bulgaria. To achieve this goal, some theoretical formulations for digital entrepreneurship in the context of the digital transformation of society and the digital economy, respectively, are considered. In practical terms, based on statistical data from various sources, an analysis of the digitalization of entrepreneurship in Bulgaria.

Keywords: *Digital transformation; digital economy; digital entrepreneurship; innovation*

JEL Codes: *L81, L26, O33*

Introduction

The last three decades have been marked by the entry of the world economy into the Fourth Industrial Revolution, influenced by the rapid development of information and communication technologies (ICT), the much stronger and more widespread use of the Internet, artificial intelligence (AI) and machine learning. Socio-economic life has been significantly affected by these innovative changes, which "radically change the way we live, work and we relate to each other" (Schwab, 2016, pp. 13-16).

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According to Schwab (2016, p.13), the new technological revolution is of paramount importance, consisting of the "unlimited possibilities created by the billions of people connected to mobile devices, thus giving birth to unprecedented processing power, storage capacity and access to knowledge". All this leads to "tectonic shifts in all sectors of the economy, marked by the emergence of new business models, the subversive impact on traditional industries and the restructuring of production, consumption, transport and supply systems" (Schwab, 2016, p.14)

Innovative transformations based on the latest digital technologies have a significant impact, especially on the most active part of economic entities - entrepreneurs, who see them as a new opportunity for further business development. In this regard, Kollmann et al. (2022, p. 21) emphasize that “development has, in turn, led to an evolution of the entrepreneurship phenomenon as a whole”. A significant impetus for the introduction of new technological innovations in the daily use of the population and business was the crisis resulting from the pandemic caused by COVID-19. It required compliance with special anti-epidemic measures, in many cases working from home, limiting the activities of some sectors of the economy and even lockdown in a number of countries.

The change management and the improvement of the organizations’ crisis sustainability provide opportunities for long-term development. Kuzmanova and Atanassov (2021, p. 63-64) emphasize that over the recent years “the crisis-related processes have led to” an increasingly “topical issue about the efficiency of decisions organizations make in the field of” the crisis management.

The changes that have taken place as a result of COVID-19 Pandemic and the need to overcome the followed-up crisis have raised the question of better business management. The companies have to preserve businesses and jobs, ensure greater sustainability of the economy and society, create new strategic opportunities for future development after the exit from the crisis and maintain the competitive advantages. In this context, one of the successful formulas was even faster and, in some cases, forced, due to the lack of another solution, the introduction of digitalization in all spheres of life. Businesses expanded the scope of digitalized business activities and those in the public sector made significantly more deep penetration of e-commerce in the marketing tools of companies and increased the development of digital entrepreneurship worldwide. In many cases, the digital transformation in pandemic conditions has proved to be almost the only way for many businesses to survive.

Examining the impact of the COVID-19 Pandemic on accelerating digital transformation in organizations, Soto-Acosta (2020) emphasizes that „especially during the lockdown, digital technologies have made our lives easier and, at the same time, permitted businesses to maintain a certain level of activity“. Under conditions of coronavirus,

scientists observed a “60% increase of the Internet traffic from December 2019 to May 2020” and the video conference traffic also accelerated by “around 120% compared to levels before the outbreak” (Soto-Acosta, 2020, p. 260). These findings are confirmed by the European Center for Digital Competitiveness, which in its Digital Riser Report 2020 states that in the conditions of COVID-19 pandemic the digital businesses have survived and even achieved sustainable growth.

The same report emphasizes that the condition for successful digital transformation is linked to the optimal development of two dimensions: the mindset and the ecosystem of each country. According to the European Center for Digital Competitiveness, "the way governments manage and navigate this transition will significantly determine how competitive and prosperous their countries will be in the coming decades" (Digital Riser Report 2020, p. 4).

The crucial importance of digitalization for the maintenance of economic and social life during the pandemic, and subsequently for a successful transition to a sustainable economy and society, is emphasized in the report presenting the DESI (Digital Economy and Society Index) data. It measures the degree of digital competitiveness in the European Union (EU). The European Commission recognizes the importance of "reforms and investments in digital technologies, infrastructure and processes" because they will have a positive impact on the EU's sustainability and competitiveness worldwide. (Digital Economy and Society Index (DESI) 2021. p. 11)

Given all this, the purpose of this article is to reveal some theoretical aspects of digital entrepreneurship and from a practical point of view to analyze the process of digitalization of entrepreneurship in Bulgaria.

Digital economy and digital entrepreneurship

The problem of digital entrepreneurship is significantly less studied than that of traditional entrepreneurship. A more important place in the scientific literature is the general problem - the digitalization of the economy in all its aspects. In this regard, analyzing the number of publications on digital entrepreneurship, Kraus et al. (2019, p. 356) state: “Research on digital entrepreneurship still seems to be in its infancy” and are still too few. In our opinion, given that the digitalization of the economy is a relatively new phenomenon, the statement of Kraus et al. is straight.

In the scientific literature, digital entrepreneurship is considered in the context of the digital transformation of society and the digital economy, respectively (Boyko et al., 2017; Lobanova, 2019; Richter, Pahomova, 2018; Ustinova, 2019; Dashkov, Repushevskaya, 2019; Dudin, Omarova, 2019; Zaytseva, 2021; Antonizzi, Smuts, 2020, etc.). Lobanova (2019, p. 52) points out that “the digital economy and the digital entrepreneurship are two

intertwined phenomena of modern life conditioned by economic and technological progress, by internal and external factors". According to Dudin and Omarova (2019), the digital transformation of the economy "opens up new opportunities for entrepreneurship". The opinion of Nobanee and Dilshad (2020, p. 4808) is similar, emphasizing: "Digital technologies have contributed to reshaping traditional business structures, processes, and strategies to operate in globally competitive environments. It has also fundamentally reshaped labor markets in major developed economies". The digital transformation of the economy "leads to a restructuring of business processes, transformation of business models, systems for marketing management and change in consumer behaviour" (Dudin and Omarova, 2019).

Special attention is paid to the definitions of digital entrepreneurship. Digital entrepreneurship, based on the increasing penetration of digital technologies in economic life, should be understood as "a subcategory of entrepreneurship in which some or all of what would be physical in a traditional organization has been digitized" (Hull et al., 2007, p. 293).

At the same time, in the scientific literature, it is seen as an innovation created by the development of digital technologies. Based on the foundation defining digital entrepreneurship, we also believe that it is a phenomenon that can be seen as an innovation, entering all the company's activities, adjusts their management and implementation in accordance with the digital transformation of the economy. At the same time, the expansion of its scope contributes to an even deeper penetration of digitalization in the field of economy and business and their digital transformation.

Soltanifar and Smailhodžić (2021, pp. 6-9) launched the idea that the focus of digital entrepreneurship is on the use of high technology in order to establish and implement entrepreneurial opportunities. The digital entrepreneur is faster at discovering, evaluating and exploitation of innovations. Although, he recognizes the need for a deep consideration and business planning and also improving the company's ability to meet customer needs. Soltanifar and Smailhodžić (2021, pp. 6-9) pay very close attention to the digital entrepreneurial mindset (DEM) because they assume this is the ability to adapt faster to the opportunities of digital technologies. The authors connect digital entrepreneurship with the mental attitude for its implementation because the DEM can be defined as a way of thinking about what kind of activities and investments to conduct in order to receive returns. The digital technologies' integration into everyday life enables entrepreneurs to foresee and exploit opportunities accordingly (Soltanifar, Smailhodžić, 2021, pp. 6-9). The authors underline that new business models' configurations add much more customers' value.

Boyko et al. (2017, p. 1128) define enterprises in this field as enterprises with new digital business models. The opinion of other scientists is no different. For example, Dudin

and Omarova, as well as Lobanova, define digital entrepreneurship as entrepreneurship that uses new digital technologies (especially social networks, large volumes of data, mobile solutions or "clouds"), emphasizing that the main goal can be to improve business operations, invent new business models, improve the intellectual resources of the enterprise or communicate with consumers and stakeholders. (Dudin, Omarova, 2019; Lobanova, 2019, pp. 53-54).

The view of Kraus et al. is that "in general, any entrepreneurial activity that transfers an asset, service or major part of the business into digital can be characterized as digital entrepreneurship." In their opinion, "digitalization is not reduced to single new developments in entrepreneurship. Rather, business models face a huge shift towards entire digital environments. In addition to new businesses created out of arising opportunities due to digitalization, existing branches and businesses alter from offline to online business - establishing “digital entrepreneurship” as a novel form of entrepreneurial activities (Kraus et al., 2019, p. 354). The authors link digital entrepreneurship with the sharing economy, which "not only provides digital entrepreneurs with a business model", but its special forms made entrepreneurship possible in the first place.

According to Satalkina and Steiner (2020), digital entrepreneurship is “an essential driver within the innovation system”. This meta-structure provides the entrepreneurial activities’ conditions. “It changes the structure, aims, and networking mechanisms of the overall business system and, ultimately, affects the various levels and dimensions of the innovation system” (Satalkina and Steiner, 2020).

According to Giones and Brem (2017, p. 47), digital entrepreneurship involves entrepreneurial pursuits which occur on a digital platform, the concept of digital technology entrepreneurship necessarily combines elements of technology and digital entrepreneurship. They include in the definition of technology entrepreneurship specific aspects related to this specific form of entrepreneurship: digital technology entrepreneurship is focused on the identification and exploitation of opportunities based on scientific or technological knowledge through the creation of digital artefacts. Digital technology entrepreneurs build firms based on technologies on the one hand, and on services on the other hand. The authors view digital entrepreneurship as a new type of technology entrepreneurship: digital technology entrepreneurship (Giones, Brem, 2017, p. 47).

Opportunity-oriented is also the definition of Davidson and Vaast (2010), who state the following: "We refer to digital entrepreneurship as the pursuit of opportunities based on the use of digital media and other information and communication technologies" and add that "entrepreneurship in the digital economy" entails three distinct, yet interrelated, forms of opportunity discovery and exploitation: business, knowledge, and institutional

entrepreneurship". The same authors draw attention to the numerous and diverse new ventures that provide opportunities for digital entrepreneurship and at the same time are its essential aspects: Internet, World Wide Web, mobile technologies, and new media, such as: dot-com companies, the so-called eBay entrepreneurs who use the digital infrastructure of the electronic auction company, social networks and mobile technologies, weblogs (Davidson and Vaast, 2010).

Given the cited views of various authors on the digitalization of the economy and the implementation of digital technologies in business, we can conclude that today digital entrepreneurship is not only online commerce by using the Internet, social networks, developed electronic systems for relationships between entrepreneurs and consumers of goods and services. It is obvious that it is much more - overall digital business management.

It is gradually, aggressively, and in recent years extremely rapidly moving in its development from the stage of Internet entrepreneurship to the stage of intensive penetration into the breadth and depth of new even more advanced digital technologies, which digitalize all aspects of economy, business and public life. Today, along with traditional entrepreneurial businesses, there are those whose activities are carried out only in the digital environment. In this regard, it should be noted the opinion of Boyko et al., According to which enterprises in the digital economy depending on the degree of digitalization can be differentiated into three categories: 1) traditional enterprises that have physical assets and create physical output, but actively use modern technologies based on the created infrastructure, equipment, communication systems and software products; 2) enterprises selling physical products (goods) exclusively through virtual channels (online sales), and physical assets are mainly storage facilities; 3) fully virtual enterprises that work in an online environment and create virtual products (eg search engines such as Google and their analogues, e-mail, social networks, electronic services (such as Booking.com, etc.), mobile applications, etc.) Boyko et al., 2017, pp. 1131-1132).

It is also worth noting the differentiation of digital entrepreneurship that Hull et al. (2007, p. 9) define three types of digital entrepreneurship as follows: "The first, mild digital entrepreneurship, involves venting into the digital economy as a supplement to more traditional venues. The second, moderate digital entrepreneurship, requires a significant focus on digital products, digital delivery, or other digital components of the business. Moderate digital entrepreneurship could not exist without the digital infrastructure. The third, extreme digital entrepreneurship, means the entire venture is digital, including production, the goods or services themselves, advertising, distribution, and the customers" (Hull et al., 2007, p. 9).

Regarding the cited distinction made by Hull et al., Kraus et al. (2019, p. 361; 362) point out the following: "The differentiation graduates from making use of digital assets to

a business, which is completely conducted online and thereby describes the degree to which those businesses operate in the digital world. Whilst mild digital entrepreneurs focus on digital products, delivery or other major digital parts constituting the business, extreme digital entrepreneurs conduct their entire business model online. Such digital pioneers not only digitize the goods or services themselves but also shift all business operations, such as production, advertising, distribution, transaction and customer relations into digitization." (Kraus et al., 2019, p. 361; 362).

The transition from traditional to virtual entrepreneurship can also be seen in the periodization of the development of digital entrepreneurship made by Kollmann et al. They set out three stages in the development of digital entrepreneurship - the Seed-Era (1990-2000), the Startup-Era (2001-2015) and the Expansion-Era (from 2016, which continues today). Kollmann et al., 2022, pp. 19-21). Each stage is characterized by its own distinctive features, revealing the degree of application of digital technologies in entrepreneurship. For example, according to the cited authors (Kollmann et al., 2022), the first stage (the Seed-Era) "marks the beginning of historical development in the field of digital entrepreneurship" and is primarily characterized by the establishment of internet technology. opportunity to "do business electronically". The start-up era is characterized by "the emergence of many new ways of using Internet technology such as open-source, social media platforms, mobile, LTE, and cloud computing."

Digitization of entrepreneurial activity in Bulgaria

A general characteristic of the digitalization degree in Bulgaria is given by the data of the DESI index (Digital Economy and Society Index) of the European Commission, which is observed in relation to the member states of the European Union. According to them, "Bulgaria ranks 26th (equal to Greece) out of the 27 EU countries in the European Commission's digital economy and society index (DESI) for 2021" with a score of 36.8, while the average for EU countries is 50, 7. (DESI, Bulgaria, 2021, p. 3). After Bulgaria, only Romania has the lowest result. The results of the index for the penetration of digital technologies in the economy and society in Bulgaria for the period from 2016 to 2020 show a significant lag compared to the EU average (Table 1).

Table 1. Results for the introduction of digital technologies in the economy and society of Bulgaria according to DESI for the period 2016-2020

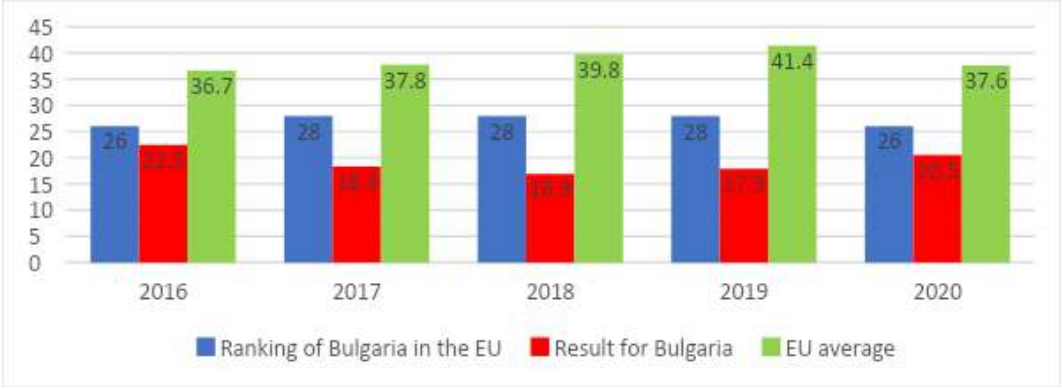
Year	Bulgaria		EU results
	Place among the EU member states	Results	
2016	27	32,4	46,9
2017	27	33,5	46,5
2018	28	33,8	49,4
2019	28	36,4	52,6
2020	26	36,8	50,7

Source: Digital Economy and Society Index (DESI). Thematic chapters, European Commission, 2021; Digital Economy and Society Index 2017 – Bulgaria; Digital Economy and Society Index (DESI) 2018 - Country Report Bulgaria; Digital Economy and Society Index (DESI) 2019 - Country Report Bulgaria; Digital Economy and Society Index (DESI) 2020 - Bulgaria; Digital Economy and Society Index (DESI) - Bulgaria, 2021

Note: Until 2019 inclusive data are reported also for the UK, which leaves the EU in 2020, and that is why Bulgaria is in 28th position

The Integration of digital technology indicator is also important for the digital transformation of the economy and business. According to this indicator of DESI, business digitalization and e-commerce are observed on the basis of the SMEs indicators with a basic level of digital intensity; Artificial Intelligence (AI); Cloud and Big data (Fig. 1).

Fig. 1. Results for Bulgaria according to the Integration of digital technology indicator of DESI for the period 2016-2020.



Source: Digital Economy and Society Index (DESI). Thematic chapters, European Commission, 2021; Digital Economy and Society Index 2017 – Bulgaria; Digital Economy and Society Index (DESI) 2018 - Country Report Bulgaria; Digital Economy and Society Index (DESI) 2019 - Country Report Bulgaria; Digital Economy and Society Index (DESI) 2020 - Bulgaria; Digital Economy and Society Index (DESI) - Bulgaria, 2021

Note: Until 2019 inclusive data are reported also for the UK, which leaves the EU in 2020, and that is why Bulgaria is in 28th position.

According to the indicator "Integration of digital technology" DESI monitors the indicators SMEs with at least a basic level of digital intensity (% SMEs), Electronic information sharing (% enterprises), Social media (% enterprises), Big data (% enterprises), Cloud % enterprises), Artificial Intelligence (% enterprises), ICT for environmental sustainability (% enterprises, having medium / high intensity of green action through ICT), e-Invoices (% enterprises), SMEs selling online (% SMEs), e-Commerce turnover (% SME turnover), Selling online cross-border (% SMEs).

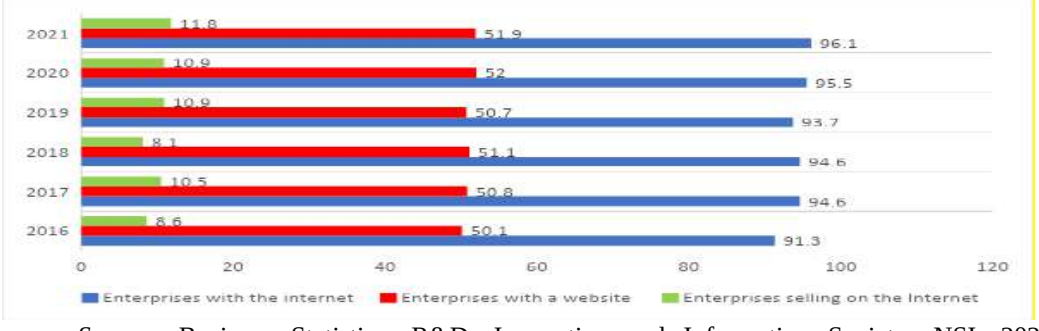
Against the background of the general backwardness of the country, a weak representation of Bulgarian enterprises in terms of digitalization is established. The results of the DESI index for 2020 for Bulgaria reveal that "the country is investing in research and digital infrastructure, but more enterprises" should be encouraged to use them.

It is a positive fact that the "use of artificial intelligence is more widespread than the EU average" - it is used by 31% of enterprises and is well above the EU average (DESI, Bulgaria, 2021, p. 3; 10). At the same time, however, according to data for 2020, there is a significant lag in regard to the integration of digital technology in enterprises. “Bulgaria ranks last among EU countries on this indicator:

- only 33% of SMEs have at least a basic level of digital intensity (while 60% do so in the EU on average);
- only 8% of Bulgarian SMEs sell online (below the EU average of 17%);
- only 3% of SMEs are selling across borders (versus 8% in the EU);
- only 3% of turnover comes from the online segment (against 12% in the EU);
- only 6% of enterprises use big data” (DESI), Bulgaria, 2021, p. 10).

The progress regarding the implementation of digitalization in Bulgarian enterprises, economy and society as a whole is established in detail on the basis of the observations of the National Statistical Institute (NSI) of the Republic of Bulgaria. The results represent the change for both small and medium and large enterprises for the period from 2016 to 2021 (Fig. 2).

Fig. 2. Total enterprises in Bulgaria with internet, website and online sales for the period 2016-2021, in percentages



Source: Business Statistics, R&D, Innovation and Information Society, NSI, 2021, https://nsi.bg

The statistical data of the NSI of Bulgaria show a very slow increase in the number of the three categories of enterprises according to their size (small, medium and large), which use the Internet, have a website and sell online. As can be seen from Table 2 of the indicator "enterprises with internet", the greatest progress is made by enterprises with 10 to 49 employees; while in the indicator “enterprises with a website” the medium-sized companies (with 50 to 249 employees) are significantly ahead of the other two groups, and in the indicator “enterprises with online sales” the largest progress is made by large companies (with 250 and more employees), followed by medium-sized companies.

Table 2. Comparative data on the availability of the Internet, website and Internet sales by categories of enterprises according to their size for 2021 compared to 2016, in percentage

Category: Enterprises by size	**Enterprises with internet by years**			**Enterprises with a website**			**Enterprises selling online**		
	2016	**2021**	**Variation**	**2016**	**2021**	**Variation**	**2016**	**2021**	**Variation**
Totally	91,3	96,1	+4,8	50,7	51,9	+1,2	8,6	11,8	+3,2
10-49 employed	89,7	95,4	+5,7	46,3	47,0	+0,7	7,9	10,7	+2,8
50-249 employed	98,4	99,3	+0,9	68,8	73,0	+4,2	11,2	15,8	+4,6
250 and more employed	99,8	100,0	+0,2	86,4	87,7	+1,3	17,4	23,3	+5,9

Source: Business Statistics, R&D, Innovation and Information Society, NSI, 2021, https://nsi.bg

Cloud services and social media are increasingly included in the tools of Bulgarian companies. Statistics show that the percentage of companies using cloud services and social media is growing much faster. The share of enterprises using cloud services in 2021 compared to 2016 increased by 6.1% (from 6.7% to 12.8%), while for small companies the increase is 4.5% (from 5.5 to 10.0%), for medium-sized companies it is 11.5% (from 11.1% to 22.6%), and for large companies it is most significant - 26.7% (from 17.9% to 44, 6%). The share of enterprises using social media in the same period increased by 7.2%. In terms of the size of enterprises, the situation is as follows: the share of small enterprises has an increase by 6.5% (from 22.8% in 2016 they reached 36.3% in 2021), medium-sized enterprises’ share increased by 9, 6% (from 39.4% to 49.0%), and for the large ones the increase is by 15.1% (respectively from 48.2% to 63.3%) (NSI, 2021).

Important features of the process of digitalization of entrepreneurial activity are also the analysis of big data, the use of electronic invoices, as well as customer information management software (CRM) and resource management software (ERP). Compared to 2016, in 2020 the trend is towards a decrease in enterprises performing big data analysis - in total for all enterprises, the absolute growth is negative (-0.9%). With regard to

enterprises, according to their size, it is also negative. The share of enterprises handling electronic invoices in total and the share by categories according to the size of enterprises also decreases (Table 3) (NSI, 2021).

Table 3. Comparative data for enterprises performing big data analysis and enterprises working with electronic invoices by categories of enterprises according to their size, in percentage

Category: Enterprises by size	Enterprises performing big data analysis by years			Enterprises working with electronic invoices		
	2016	2020	Variation	2018	2020	Variation
Totally	7,2	6,3	-0,9	12,5	10,0	-2,5
10-49 employed	5,8	5,0	-0,8	11,4	8,9	-2,5
50-249 employed	12,5	10,7	-1,8	16,7	13,8	-2,9
250 and more employed	23,1	21,4	-1,7	27,9	24,2	-3,7

Source: Business Statistics, R&D, Innovation and Information Society, NSI, 2021, https://nsi.bg

The digitalization of business processes is also related to the introduction of software for their management. In this regard, the idea of the introduction of digital technologies in enterprises is given by the observation of enterprises that use customer relationship management (CRM) software, as well as the use of resource management software (Enterprise resource planning - ERP). Statistics on both indicators reveal a downward trend for all enterprises after 2016 in the period from 2017 to 2021, which is due to the decrease in relation to small enterprises. Conversely, for medium and large companies during this period the value of these indicators increases (Table 4).

Table 4. Comparative data for enterprises that use information management software for customers and enterprises that use resource management software by categories of enterprises according to their size, in percentages

Category: Enterprises by size	Enterprises using CRM software by years			Enterprises using ERP software		
	2017	2020	Variation	2017	2020	Variation
Totally	18,6	16,9	-1,7	23,3	21,8	-1,5
10-49 employed	16,9	14,3	-2,6	20,0	17,1	-2,9
50-249 employed	25,7	27,9	+2,2	35,5	40,1	+4,6
250 and more employed	32,9	34,8	+1,9	59,2	65,2	+6,0

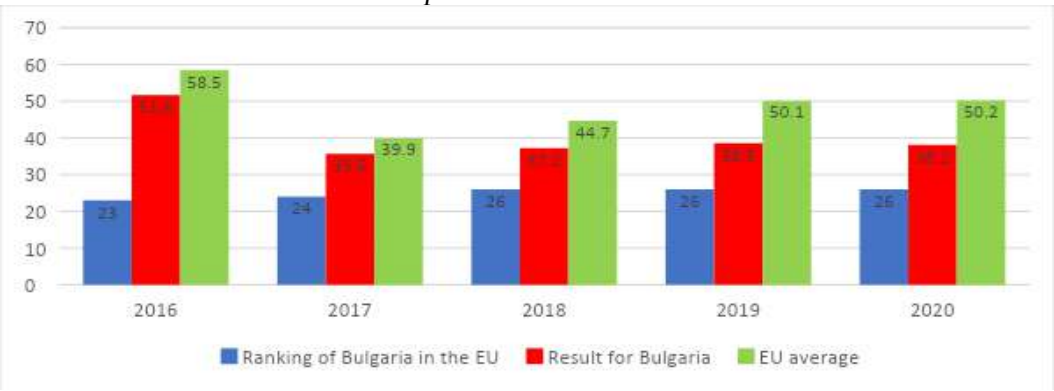
Source: Business Statistics, R&D, Innovation and Information Society, NSI, 2021, https://nsi.bg

Note: The NSI monitors the indicators from 2013. There are no data for 2016, as well as for 2018. For this reason, and in order to have some comparability with the information on the other indicators, we use the data after 2016.

The indicators "Connectivity", "Human capital" and "Digital public services" are of key importance for the successful implementation of digitalization processes.

According to the “Connectivity” indicator according to the Global Connectivity Index (GCI), which annually ranks 79 nations, in 2020 Bulgaria ranks 35th (Global Connectivity Index, 2020, p. 12), and within the EU according to the same indicator 2020, it ranks 26th out of a total of 27 member states (Fig. 2). According to the DESI connectivity index, it is observed in terms of fixed broadband take-up, fixed broadband coverage, mobile broadband and broadband prices using the indicators "gigabit for everyone" (Fixed very high-capacity network coverage) and "5G coverage". For Bulgaria, the “connectivity” indicator for the period from 2016 to 2020 shows the following results (Fig. 3):

Fig. 3. Results for Bulgaria according to the "Connectivity" indicator of DESI for the period 2016-220.



Source: Digital Economy and Society Index (DESI). Thematic chapters, European Commission, 2021; Digital Economy and Society Index 2017 – Bulgaria; Digital Economy and Society Index (DESI) 2018 - Country Report Bulgaria; Digital Economy and Society Index (DESI) 2019 - Country Report Bulgaria; Digital Economy and Society Index (DESI) 2020 - Bulgaria; Digital Economy and Society Index (DESI) - Bulgaria, 2021

With regard to human capital, its training in the specific field of digital technologies and the availability of ICT specialists for the activities of enterprises must be taken into account. Compared to the average levels in the EU, Bulgaria lags behind in this indicator, firmly occupying the last position for the period from 2016 to 2020, except for 2017, when it is penultimate among the member states. Against the background of only 29% of people in Bulgaria aged 16 to 74 with at least basic digital skills (compared to the EU average of 56%), "enterprises still have difficulty finding skilled staff to innovate and grow", as ICT specialists and in 2020 are too few - 3.3% of individuals in employment aged 15-74, while for the EU they are on average 4.3%. Over the years, there has been a very slight increase in this percentage by 0.9% compared to the values in 2016. The reason for this low result

is that there are too few enterprises providing ICT training - for 2020 only 7% against 20% on average EU level. (DESI, Bulgaria, 2021, p. 3; 5)

The data of the NSI of the Republic of Bulgaria confirm and detail the results of DESI. Although the statistical survey shows a certain increase in the number of employees in enterprises that use computers and the Internet, the positive change is still slow. For example, the number of persons using computers for the period 2016-2019 (in this case the last year for which the NSI presents data is 2019) increased by 2.4%. The percentage of people using the Internet is ahead of schedule - for the same period (2016-2019) by 2.9%, and in 2021 its increase is 11% compared to 2016. The increase in this indicator applies equally to small and medium-sized enterprises and large ones while maintaining the leading position of Internet users (Table 5).

Table 5. Employees in enterprises in Bulgaria using computers and the Internet, in percentages

Category: Enterprises by size	**Employees in enterprises in Bulgaria using computers**				**Employees in enterprises in Bulgaria using the Internet**					
	2016	**2017**	**2018**	**2019**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
10-49 employed	30,8	32,0	33,3	32,3	27,7	29,0	30,6	29,9	35,2	38,0
50-249 employed	27,8	27,5	28,0	29,6	25,3	25,3	25,8	27,5	32,3	35,7
250 and more employed	30,3	30,7	32,8	34,2	24,5	25,7	27,6	28,7	33,6	36,8

Source: Business Statistics, R&D, Innovation and Information Society, NSI, https://nsi.bg
Note: The NSI presents data on employees in enterprises using computers until 2019.

The development of digitalized services in the public sector related to business activities is a very important condition for the growth of digitalization in enterprises. In 2020, "Bulgaria ranks 21st in the EU in Digital public services", as the "digital public services for businesses have a score of 87, slightly above the EU average of 84". (DESI, Bulgaria, 2021, p.12)

Conclusion and Recommendations

As it can be seen from the analysis of theoretical formulations and practical results, the digitalization of entrepreneurial business is a new way for its development. Comprehensive digital transformation outlines trends of radical change in business models and strategies, marketing management systems, the relationship between companies and customers, consumer behaviour, etc. and at the same time represents an effective model for crisis management (for example the crisis caused by COVID-19).

The digitalization of entrepreneurial activity can be considered in two ways - on the one hand, the introduction of modern digital technologies is an innovation that on the other hand causes a change in the type of business.

As a result of the wide application of digitalization in entrepreneurship, a number of positive effects are manifested, leading to increased opportunities for innovative business development. In general, in our opinion, some of them are related to: 1) the new digital technologies themselves; 2) the opportunities for increasing connectivity between organizations and between them and customers; 3) the ways of doing business; 4) the advantages for entrepreneurs in connection with the organization and management of business processes; 5) human resources. In particular, they are as follows:

1) The introduction of digitalization in entrepreneurship enriches the arsenal of technological innovations and improves the level of equipment with a new generation of digital technologies, such as cloud technologies, social networks, mobile applications, search engines, etc. which allow the activity to be carried out without its own IT infrastructure, tangible assets and software. It leads to the introduction of new business models (freemium, on-demand, crowdsourcing, crowdfunding). At the same time, it challenges the further development and improvement of digital technologies.

2) The ubiquitous introduction of digital technologies provides an opportunity for connection between entrepreneurs along with the entire value chain and between them and end-users of products and services through various platforms and networks and contributes to the development of a shared economy that facilitates: gathering and providing information; realization of economic relations between them; development of forms of cooperation; development of electronic services; overcoming territorial borders and entering foreign markets through online commerce, electronic trading and stock exchange systems; facilitating and simplifying the financial operations of companies through electronic payment systems, etc.

3) Digitalization creates an opportunity for new ways of doing business, concerning the relationship with the market and consumers, partners, all related organizations and institutions, as well as internal activities, their organization and management, coordination between units and associates. The introduction of new business models based on digitalization along with the traditional ones is essential to increase the competitiveness of companies, their sustainability and increase the potential for growth in a highly changing and unpredictable national, international and global environment. In these market conditions, those companies would remain that manage to completely replace or supplement the traditional ways of doing business with the introduction of digital forms. At the same time, start-ups based entirely on digitalization have a better chance of success.

4) The digitalization of business processes and their organization and management leads to the manifestation of such benefits for entrepreneurs as the creation of new types of products and services, transformation of existing and new industries, change in marketing management, improving business operations, reducing business time to carry out activities, reduce costs and costs, efficient use of resources, including human resources, increase productivity, develop new more effective strategies for future development of companies, increase profits and others and thus increase the useful value of business.

5) Digitalization as a new way of running an entrepreneurial business has an impact on human resources - requires high qualifications in this field, provides an opportunity to attract highly qualified professionals with the necessary skills to work in a digital environment to improve skills in this area and thus improves the intellectual potential of the enterprise. At the same time, it creates new jobs, changes working conditions, and more and more employers and employees prefer to work remotely, which supports the processes of increasing employment.

The presented statistical data and analyzes reveal the degree of penetration of modern digital technologies in the tools of entrepreneurial business in Bulgaria. Its extreme lag behind the average European level of digitalization shows that it is necessary to accelerate the process of digitalization in all indicators, including the preparation of human resources. To achieve this goal, it is important to develop a digital ecosystem, mindset and overall competitiveness, which according to the European Center for Digital Competitiveness are important components of the digital competitiveness of individual countries (Digital Riser Report, 2020, p. 8).

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CUSTOMERS' SATISFACTION FROM E-BANKING THE CASE OF THE NORTH MACEDONIA

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Abstract

Today's humanity lives in an electronic world surrounded by everything that bears a sign "e-". Hence, as consumers we are faced with e-business, e-marketing, e-learning, e-banking, e-commerce, e-procurement. The electronic age began with the Information Revolution and the advent of the Internet in the second half of the 20th century. The Internet has radically changed the way consumers live, communicate and buy goods and services. Concerning the banking industry, consumers are abandoning the traditional way of using banking services, with physical presence in the bank branches. E-banking, as getting all the banking transactions online, has considerably changed consumer behavior. E-banking has become one of the essential banking services that can, if properly implemented, increase customer satisfaction, and give banks a competitive advantage. Hence, the main idea of this paper is to examine the new consumer behavior related to e-banking. How satisfied consumers are with electronic banking services. What consumers think of e-banking. Data was gathered using a questionnaire that was electronically distributed to consumers. Based on the research, consumers' opinion on e-banking services and what they expect in the future should be determined.

Keywords: *e-banking, e-era, customer satisfaction, bank branches, e-banking services*
JEL Codes: *M31, M37, M39*

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Introduction

We live in an electronic era. With the advent of the Internet many activities, products or services that were available exclusively with physical presence in organizations, markets and institutions are now offered and bought online. This revolutionary trend is followed by banks as well. With the Information revolution, but also as a result of the Covid-19 pandemic, banking is becoming more electronic. Almost all banking transactions are available online to customers. Covid-19 has given a significant boost to the digitalization of banking in North Macedonia. The pandemic has changed the entire world economy and it's impacted most of the businesses in an adverse manner. It caused a transformation in the way people live, interact and make purchase decisions. According to Bello (2010), electronic banking is an umbrella term for the process by which a customer may perform banking transactions electronically, without visiting a brick and-mortar institution. E-banking offers multiple benefits both for the financial institutions and for clients. E-bankers offer better customer service, creating opportunities for customers and providing added value. It is an opportunity for banks to leverage their strengths and create an entirely new banking experience. The adoption of E-banking was a necessity that allows banks to improve efficiency and operational effectiveness and to develop stronger and more durable business relationships with customers.

Apart from banks, consumers are also changing. They change their buying habits. 24/7 availability, ease of use, cheaper use, health protection and the like makes e-banking attractive to consumers. The number of consumers that use the E-banking is increasing constantly. The new generation of users has new information habits. (Zlateva, 2020). Today's consumers have technological knowledge. They demand and constantly look for new offers and innovative solutions. (Stavrova et al, 2021).

In this paper, the term electronic banking covers Internet banking (computer, laptop) and mobile banking (mobile phones). Otherwise, according to Maria Anca (2011), "E-banking refers to the use of different types of medium communication, such as the personal computer (PC banking), Internet banking, virtual banking, TV banking, online banking, home banking, remote electronic banking, WAP banking and phone banking".

The purpose of this paper is to examine the degree of consumer satisfaction with the e-banking in North Macedonia. Hence, as important research questions are the following:

- What is the opinion of consumers about the use of electronic banking?

- What are the positive and the negative aspects of electronic banking pointed out by consumers?

- What can consumers expect from electronic banking in future?

Literature Review

E-banking is a new delivery channel of banking services. Lustsik (2004) defines E-banking services as a variety of e-channels for doing banking transactions through Internet, telephone, TV, mobile, and computer. Electronic banking is the application of telecommunication devices to perform banking transactions (Okoro, 2014). E-banking means that the customer is using the Internet to access their bank account and to perform banking transactions (Dixit and Datta, 2010). Recently, E-banking, or the distribution of financial services via electronic systems, has spread among customers due to rapid development of the IT, as well as the increased competition between banks and the pandemic caused by the Covid-19 in 2020. The development of E-banking is a result of an increasing use of personal computers, the refined Internet connections, the wide-spread use of Internet by people at home and work, and the lower prices of services which are offered by the E-banking (Hernando and Nieto, 2007). It is considered to become the favorable, alternative, distribution channel, because it offers financial services with convenience, security, privacy and quality information about financial products, without place or time limits and with better prices (Guerrero at el., 2007).

Customer satisfaction is the major issue for all the businesses that operate in a national economy. Good customer service quality is the main factor that will determine in the future, whether the business will survive or fail (Thompson at el, 2000). Customer satisfaction can be defined as the user's perception which influences their intention to evaluate and use a service. Polatoglu (2001) and other researches, in the banking literature, report that there are two main dimensions affecting customer satisfaction: (a) the quality of services provided by the bank which are "reliability", "security", "functionality", "accuracy" and "speed" (Jamal and Naser, 2003); and (b) the quality of the relationship with the bank. Relationship drivers seem to be even more important and include "responsiveness", "competences", "assurance", "trust", "friendliness", "courtesy", "availability", "commitment", "flexibility", and "communication" (Jamal and Naser, 2003). Contemporary studies on E-banking acknowledge that factors that drive customer satisfaction are security/trust, design, availability, convenience and reliability with availability. Convenience, availability and reliability are the most influential factors of E-banking concerning customer satisfaction. Convenience is a dimension of E-banking that enables customers to access E-banking services anytime and anywhere. Reliability explains the promptness of delivering e-banking service in an accurate way and in line with advertised attributes. E-banking availability is recognized as the ability of users to access banking information and services from the web.

This paper aims to discover whether Macedonian consumers are satisfied with E-banking and what do they most value in the new e-delivery of services.

Methodology

The methodology applied in this paper is descriptive in nature. Research was implemented by gathering secondary and primary data. Secondary data includes the findings of various studies, research papers, reports, journals, expert opinions, blogs and webs. The primary data is gathered with the use of a structured questionnaire as research instrument that contained open and closed questions (Likert scale, semantic differential, multiple choice questions). The questionnaire was electronically distributed to the customers in the period February 15th – March 1st, 2022. 198 customers answered the questions and data was analyzed with Google analytics.

Analysis and discussion

The e-questionnaire consists of two parts. The first part refers to the demographic characteristics of the sample respondents. The demographic characteristics show the respondents profile, from the aspect of their gender, age, education, monthly income and occupation that are important for the usage of e-banking. The second part is research one and it measures the e-banking experience (familiarity) of users. The demographic characteristics of the sample are presented in the Table 1.

Table 1: E-banking users' demographic characteristics

Characteristics		Percentage
Gender	Male	48%
	Female	52%
Age	-25	7%
	26-40	58%
	41+	35%
Education	Elementary	0%
	Secondary	13%
	High	58%
	Master degree	22%
	PhD degree	7%
Monthly income in Euro	-300 €	13%
	300-500€	57%
	500+ €	28%
	No answer	2%
Occupation	Employed	92%
	Unempolyed	3%
	Student	3%
	Retired	2%

Source: Own research

II part: Research data

Table 2: The way of the usage of banking services

How do you use the banking services?					
Internet (computer, laptop)	Mobile banking (phone)	Telephone banking services (SMS)	Personal banker	ATM	Bank branch
53%	90%	19%	3%	45%	27%

Source: Own research

The responses of this question are of particular interest and they show a striking fact that a huge percentage, even 90% of respondents use mobile banking, i.e banking services over the phone. 53% of the respondents use a computer or laptop, and 45% use ATM machines. If we take into account that only 27% of the respondents answered that they use the services of bank branches, it can be concluded that the tendency for consumers is to use e-banking more in future. The development of E-banking is due not only to the information revolution, but also to the 2020 pandemic that put pressure for more intensive use of e-banking. As a consequence of the pandemic, consumers had almost no alternative but to use e-banking.

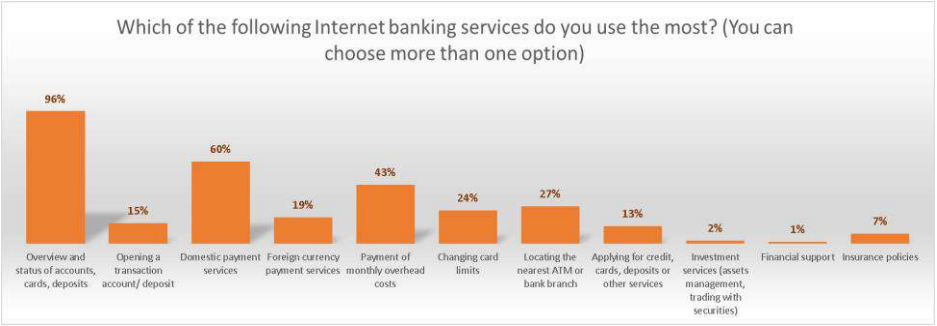
Table 3: Familiarity with E-banking services

How well do you know the E-banking services offered by your bank?				
Don't know enough about e-banking services	Know the basic e-banking services	Familiar with some of the e-banking services	Know almost everything about the e-banking services	Know all the e-banking services
6	91	42	39	20
3%	46%	21%	20%	10%

Source: Own research

Having in mind the answers to the first question, the results of this question for the familiarity with the electronic banking services by the consumers are expected. Namely, 97% of the respondents understand, better or worse, the banking services offered online. Only 3% of respondents are not well acquainted with electronic banking services. This data shows that consumers are technologically educated and savvy and can easily use banks' online services. If this question is compared to the demographic structure of the respondents, it can be concluded that most of the users is a young population of 26-40 years who has completed high education, master or PhD degree.

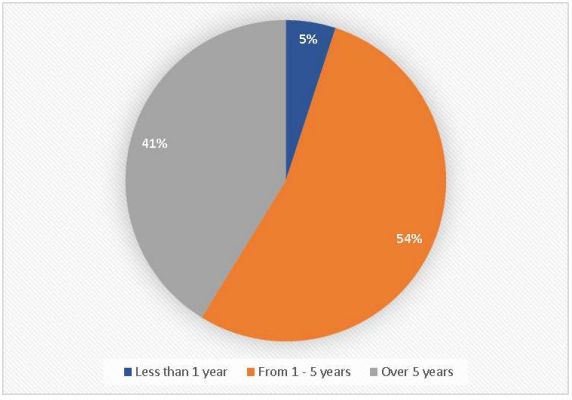
Table 4: Type of E-banking services that is used most



Source: Own research

When asked about the type of E-banking services most used by consumers, 96% answered that they often use e-banking services of informative character such as overview and checking the status of their accounts, cards and deposits. 60% of the respondents use it for domestic payment services, and 43% for payment of overhead costs. Very small, almost insignificant part of the respondents use the e-banking to apply for loans, financial support, insurance policies, investment services. The problem is that not all banks offer these services through mobile banking that is most used by consumers. If banks offer these services, they need to better inform consumers and provide appropriate training.

Chart 1: The period of usage of E-banking



Source: Own research

According to the data in the chart, a large number of respondents (95%) have been using E-banking for a long time, from one to over 5 years. Only 5% of respondents have been using E-banking for less than a year. It seems that consumers not only use E-banking services for a long period of time, but also they use them very often. 80% of the respondents use E-banking services either daily or once/ several times a week. These percentages

indicate the fact that the selected sample pays great attention to electronic banking. The frequency of using E-banking is shown in the following table.

Table 5: The frequency of using E-banking

How often do you use E- banking?			
Daily	Once or more times a week	Once or more times a month	Once or more times a year
75	84	38	1
38%	42%	19%	1%

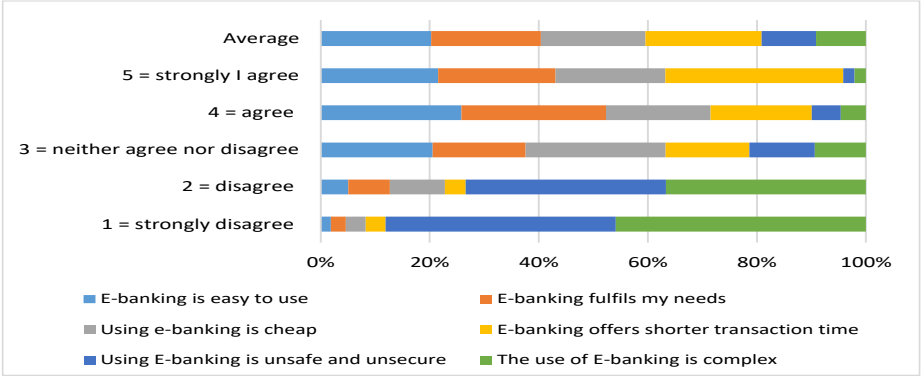
Source: Own research

Table 6: Customer satisfaction of using E-banking

How satisfied are you with the internet banking offered by your bank?				
Extremely dissatisfied	Dissatisfied	Neither dissatisfied nor satisfied	Satisfied	Extremely satisfied
0	6	24	111	57
0%	3%	12%	56%	29%

85% of the respondents are satisfied or extremely satisfied with the use of E-banking services. This percentage should be a signal to banks to invest in E-banking in future. Consumers are satisfied at the moment, but their needs and desires are sophisticated and need to be met in future as well. Only satisfied customers can keep the banks alive.

Chart 2: Customer attitudes on the using of E-banking

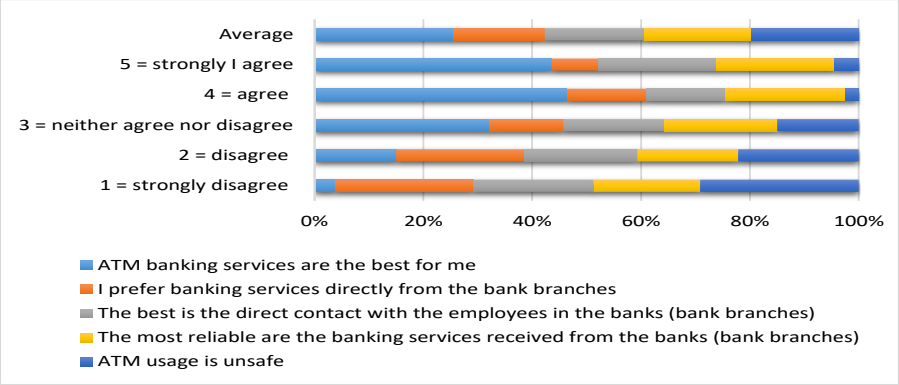


Source: Own research

The summarized answers from this Likert scale show that a large number of respondents (79%) do not consider e-banking to be complex or difficult for use. Almost a same high percentage of respondents (75%) believe that the use of e-banking is safe and secure. This speaks of a great confidence that respondents have in the use of e-banking services. The percentages of respondents are high who think that e-banking is easy to use,

that it requires shorter transaction time, that it is cheap and meets the needs of users. The Likert scale shows a positive attitude of the users for e-banking in Macedonia.

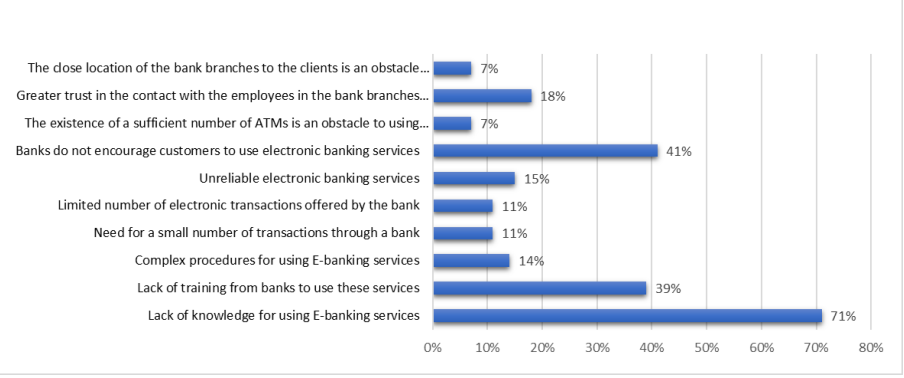
Chart 3: Customer attitudes on the using of banking services



Source: Own research

The summarized answers from the second Likert scale show that a large number of respondents (on average 75%) do not agree that they receive better banking services from personal contacts with bank employees (bank branches), nor from ATMs. Although respondents believe that ATMs are a safe way to use services, they still trust online services more. These data confirm the trend of Macedonian consumers for more intensive use of electronic banking services.

Chart 4: Obstacles for the use of E-banking

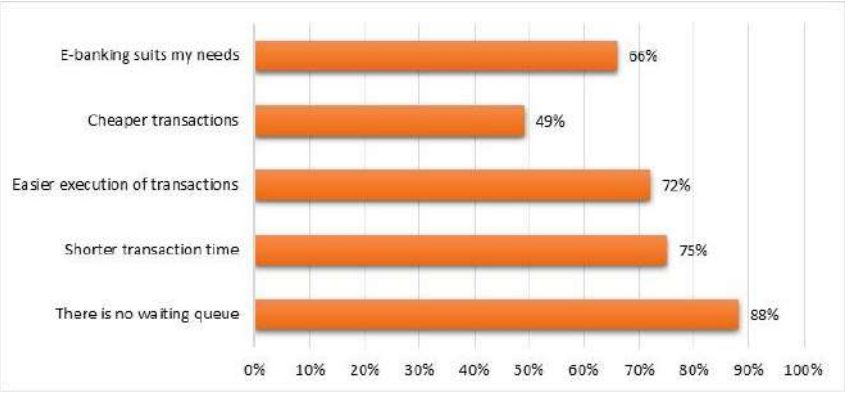


Source: Own research

Regarding the question on the barriers to using e-banking, most respondents (71%) believe that lack of knowledge about e-banking services is the biggest obstacle. Many respondents cited the lack of training by banks as an obstacle, as well as the fact that banks do not encourage users to make greater use of e-banking. Related to this question is the following one about the reasons for using e-banking services. The most important reasons

for using e-banking services are that: there is no waiting queue (88%), shorter transaction time (75%) and easier execution of transactions (72%). Consumers believe that the use of e-banking services is not very cheap, which is probably due to the obligation to pay some fee for the use of mobile banking services.

Chart 5: Reasons for the use of E-banking



Source: Own research

When asked whether they would change anything in e-banking services, the respondents stated the following:

- Expansion of the services offered by the bank through mobile banking,
- Cancellation of the monthly fee for E-banking,
- More information on E-banking services,
- More training for the usage of E-banking,
- Add voice banking for elderly people and
- Shorter and understandable procedures

Also, 88% of respondents believe that the banks must digitalize more in future and offer new technological products.

Conclusion

Macedonian consumers have been using E-banking for a very long time and very often. Especially interesting is the fact that a large number of respondents mostly use mobile banking, i.e., around 90%. Consumers are satisfied with the e-services offered by banks, but expect greater digitalization of banks in the future, and more diverse and wider offer of services. Research data show that consumers are increasingly oriented towards e-banking, which is a stark reality that will expand in the future. Banks are faced with information technology, but also with the Covid 19 pandemic of 2020, as well as fierce

competition from banking and non-banking institutions. That is why they must take care of every consumer. Every client counts. According to Bill Gates, "the world needs banking, but it doesn't need banks". Hence, banks really need to struggle for their place in the global digital financial world.

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TRENDS, FORMS AND PREFERENCES OF BULGARIANS IN THEIR LEISURE ACTIVITIES

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Abstract

The study of time budgets is primarily a study of the every day activities of different layers of society. It is an opportunity to record and analyze the actions of people in the field of work, holiday, education and leisure time with the help of indicators for the distribution of time. These actions are reflected in their set, duration, frequency, periodicity, localization in the area and other characteristics. For the purposes of this study, it will be discussed the results of a research of the forms, preferences and trends of Bulgarians in their leisure time as part of social time.

Keywords: *time; free time; social time; time structure*
JEL Codes: *A14, J17*

Introduction

Time - this concept measures almost every process in the world around us, expressing the duration and the sequence of all things. Time is continuous, inherent in nature as a whole, but at the same time each specific form of matter is limited and transitory in time. Time is also measured by the life of the individual and human society as a whole. (Picha, Bestuzhev-Lada, Dimov et al., 1990. p. 8-9)

Time is the attribute of everything material, including social space and the people who inhabit it. It is described through the movement of the material objects and their condition.

The essence of time from a point of view of dialectical materialism is expressed as "The essential form of every way of life is the essence of space and time." (Marx., Engels. 1969. p. 221)

Defining time, as an universal form of existence of moving matter get the conclusion about the existence of physical, biological and social time.

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Statement of the problem

Social time is structured as using social objects and their states. It is measured with the help of a scale for social practices. Social space is the order of arranging the social positions and the social time is the order of their rotations. Therefore, the social time is the sequence of actions of people, their groups and institutions. The unit of social time is an interval that coincident with a unit of some kind of activity. The rhythm of social life, according to E. Durkheim, is the basis of the category - time (Durkheim, 1915).

The structure of social time is a social structure, as it is determined by the choice of starting points, which on their part depend on perceptions of the importance of the events. The construction of social time happens on the basis of a system of values. Different values lead to the formation of different structures of social time, because it is a product of a certain social practice, perceived through a certain system of values. The main difficulty that a person faces is to mark the content and functional boundaries of the notion in the very concept of the social time of the society.

The term "free time" appeared for first time in the early 20th century, when the initial scientific and applied social-statistics study of time budgets began to develop.

Free time is one of the forms of social time or in other words, a unit for a social time. It is associated with activities such as personal self-development, mastering cultural achievements and creating cultural values. Therefore, "Free time" is a set of different activities act by people in a certain period of time.

There is no consensus among researchers on key issues related to the study of leisure time yet. There are various research approaches to this problem, whose representatives are economists, philosophers, sociologists, who consider Leisure time as a part of non-working time, but from a different point of view of its purpose.

Based on all researches, the importance of free time can be determined in the lives of individuals and the society as a whole. In this regard, free time is defined as a valuable resource for the restoration and development of human personality. Free time, on its part is a structural element of human life.

Unlike working hours, the duration of which is determined by the development of technology and the nature of public relations, overtime is the time that serves employees to meet many of their non-work, family and social obligations. Leisure, as defined by the French sociologist Geoffroy Dumasier, is “an activity free from work, family and public obligations, to which the individual give in at his own will, whether for holiday, entertainment or broaden his knowledge, due to its voluntary social participation and free development of its abilities” (Kicheva-Kirova, 2005, p. 108).

Some researchers, such as A.B. Mickiewicz noted that free time is the part of non-working time that remains after doing housework and is both free time and time for other activities. Namely in free time, with its proper organization, a person regains his physical strength, prepares for productive work, realizes his creative abilities, satisfies his needs, does beauty procedures, practices sport activities. (Mickiewicz, 1989. p. 9-13)

The field of free time in research differs not only in content but also functional. The functional significance of the entertainment activity is expressed primarily in its effect, which can be shown in both material and communicative forms. The main quality that characterizes the effectiveness of free time is the level of self-consciousness and the degree of self-realization of the individual. The effect is not only a qualitative but also a quantitative characteristic of the individual's behavior and it means the emotional, cognitive and theoretical depth of the activity.

J. Dumazedier is the author of a number of works dedicated to the changes taking place in modern society, revealing the problems of leisure time among many other things. He looks at the leisure time as “a set of activities to which one can devote oneself in good faith to rest, have fun, develop one's knowledge or education, ... free from professional, family and social obligations." (Dumazedier, 1982, p. 29)

This view is shared by M. Kaplan, who, defining the essence of free time, also speaks of "dedication to the values of culture" (Kaplan, 1960. p. 24). A. Schopenhauer, called free time the crown of human existence, because only this position makes man a full owner of his "I" (Schopenhauer, 1990, p. 195)

For example, B.A. Grushin believes that free time is only "part of the extra time that a person has left for various types of fixed duties" (A short dictionary of sociology: a reference edition, 1989, p. 299).

In short sociological dictionary writes that an essential feature that indicates the availability of free time is its "cleansing" of all fixed, necessary duties (A short dictionary of sociology: a reference edition, 1989, p. 299).

In order to identify the nature and the structure of the free time, it is necessary to consider it as one of the forms of human life. In this case, it is necessary to analyze all forms of human activity, as they interact with each other.

There are many changes in the content of leisure time under the influence of the rapid development of social infrastructure and mass media. The new technologies determine both stability and mobility, variability of the content and forms of activity in modern leisure time.

The variety of forms of leisure time, their mutual interaction are the most important characteristics of how wide is the range of interests in the field of leisure time for the population.

The modern entertainment activity from the content point of view is represented by various forms of entertainment activities, which are units of the logical typology of leisure time. They are understood as a set of actions from one and the same type that have a certain functional load.

All these forms of leisure activities are used in different ways by different social participants. A specific way of interconnection of these forms form the basis for distinguishing the types of recreational activities. The choice of this or that behavior in leisure time is determined by various factors. Each person is characterized by some personal preferences in leisure activities.

As in public life in general, there is no absolute freedom in the behavior of the individual in his free time too. "Free time ... contains the dualism of freedom and control, personal will and constraints", because both its qualitative and quantitative-temporal characteristics are strongly determined by the existing social conditions. Among them, at forefront come the technological characteristics of society.

They are the ones who determine, firstly, the real scale of free time available to society and its specific social groups: the more advanced is the technology, the lower is the time spent on production and domestic activities and therefore the public leisure resources are higher, and secondly, the real content (composition of types) of leisure time typical for a certain society.

The technological basis of mass reading, tourism, sports, watching movies and televisions, listening to radio, computer leisure time is quite obvious. The leisure time in developed countries at the beginning of the 21st century reminds insignificantly, both in its specific content and in its time opportunities to the entertainment of the population of those countries, at least a century ago or more than a thousand years ago.

At a personal level, the determining role in defining the leisure time play the social conditions, the social status of the individual, his gender, age, nationality, marital, professional, property, educational status. These status characteristics of the person to great extent determine both its content preferences, leisure time orientations, and its real leisure time resources.

As a result of survey, after processing the data in the tables, the following summaries can be made:

The empirical basis for the analysis of trends, forms and preferences of Bulgarians in their leisure time (including youth) are the data from a study conducted in two stages, in 2019 and 2022. Two age groups were studied: young people aged 16-30 and representatives of the generation of their parents aged 41-55 years (control group). The study was used to collect data on the dynamics of changes in the use of leisure time and life goals of

Bulgarians. The survey was conducted online on a quota sample in 10 settlements from different types in propotion to their population.

There has been a certain dynamics of different types of preferences for leisure time recently. Leisure preferences mean a set of certain types of leisure activities. Some types of leisure time become practically inaccessible to certain segments of the population.

An illustration of this can be the data presented in Table 1

Table 1. Forms of spending free time among the main layers of Bulgarian society, %

Leisure time	**Social layers**					
	Above-average level		**Average level**		**Under average level**	
	2019	**2022**	**2019**	**2022**	**2019**	**2022**
Watching TV	71,7	89,7	77,0	84,0	75,4	81,4
Reading books, magazines, newspapers	57,7	60,7	55,7	58,0	50,9	52,3
Communications with friends	52,4	65,5	44,8	55,0	39,7	50,1
Listening to music	47,6	61,2	47,7	54,6	39,4	44,0
Sport activities	21,1	20,0	9,9	11,2	2,7	3,5
Hobby and domestic activities	14,5	16,8	13,5	19,2	10,8	12,4
Self - education activities	18,7	24,5	13,9	17,2	7,3	9,6
Computer games and surf in Internet	40,5	53,1	23,3	36,3	14,8	17,9
Attend concerts, cinemas, theatres	26,5	32,9	16,8	20,0	8,8	9,2
Attend museums, exhibitions, cultural events	12,7	18,9	9,5	9,7	4,2	4,4
Visit night clubs	22,9	21,7	12,1	12,2	3,1	3,1
Visit bars and restaurants	24,7	34,3	10,0	13,5	2,9	3,3
Public and poitical activities	3,6	10,5	3,8	5,5	2,7	3,4
Activities outside home	28,2	19,0	20,6	15,3	3,1	2,5

Source: The data is from own research

As it can be seen from the table, some forms of leisure are accessible to almost all layers of the population (television, reading, domestic games and hobbies). The use of others (opportunities to communicate with friends, self-education, a full value cultural and social-political life) gradually decreases as they descend to the social ladder. Others are virtually inaccessible to the majority of the population. First of all, this applies to various forms of outdoor activities. The data in the table clearly show that those who are at the lower steps of the social ladder have significantly narrowed the opportunities for the use of entertainment, recreational and developmental components of recreation and leisure time.

The age factor also has a big influence on leisure time preferences. Youth activity, its unofficial status as a "moderator of trends" in the field of leisure time is indisputable and exhibit itself in clothing fashion, tourism, and music preferences. No less enthusiasm is observed in the movements for the protection of cultural and natural monuments, public initiatives and social projects, which have a huge impact on change of various aspects of public life.

It is obvious that the leisure time and social life of the younger generation are different from the leisure time and social life of the "parents" generation. The empirical basis for the analysis of trends, forms and preferences of entertainment activities of Bulgarians (including young people) are the data from a study conducted in two stages, in 2019 and 2022. Two age groups were studied: young people aged 16-30 and representatives of the generation of their parents aged 41-55 years (control group).

The study was used to collect data on the dynamics of changes in the use of leisure time and life goals of Bulgarians. The survey was conducted online on a quota sample in 10 settlements of different types, in proportion to their population.

According to the results of the study, the older generation attends theatres, museums, concerts, but less often allows themselves to go to restaurants, discos, nightclubs, unlike the younger generation who share fashion hobbies, modern music or the usage of computer. The data from an own comparative online survey conducted for the period 2019-2022 are presented in Table 2.

As the table shows, many intellectual interests are equally inherent by young people and their parents. It is especially important that active social life (interest in theatre, art exhibitions, travel, sports) is equally attractive to many Bulgarians, regardless of the age.

Table 2

Comparison of leisure preferences in the field of intellectual life of generations: young people group 16-30 years old and the generation of "parents" aged 40-55 in %

Types of entertainment activities	**Position "LIKE" in %**		**Ranking**	
	Youth 16-30 years old	**Generation "parents" 40-55 years old**	**Youth 16-30 years old**	**Generation "parents" 40-55 years old**
Tourism, travel	88,7	73,7	1	1
TV	78,1	35,9	2	11
Reading books Communications, magazines, newspapers	64,9	67,5	3	2
Communication with friends	62,3	17,3	4	14
Listening to music	57,8	56,8	7	5

Sport activities	55,6	42,1	9	9
Hobby and domestic activities	50,5	54,6	12	6
Self-education activities	51,3	57,9	11	4
Computer games and surfing in the Internet	53,1	36,5	10	10
Visit concerts, cinemas, theatres	57,0	60,7	8	3
Visit Museums, exhibitions, and cultural events	45,6	25,5	13	13
Night clubs	58,3	16,3	6	15
Bars, restaurants	60,0	27,6	5	12
Domestic activities	23,2	50,4	15	7
Public and political activities	19,5	44,6	14	8

Source: The data is from own research

Changes are happening in the availability of free time, and therefore in the forms of its use. The percentage of the old types of leisure time is changing and new types of leisure time are emerging, related to technological progress (for example, the widespread use of Internet technologies). Some types of free time differ not so much in form but in content (composition of read literature, addiction to television, movies, music), which is also associated with a change in the mentality of the society.

Performing a typology of entertainment activities of the population of the modern Bulgarian society, it can be built according to the principle of "pyramid", ie. expanding the types and forms of practiced recreational activities from type to type. The simplest type of leisure activity can be conditionally called "home, but recently it is expanding, including computer activities, self-education, other activities or hobbies that have a strong component of development. This allows this type of leisure activity to be called" developing ".

However, the free time of both types is limited by the purely "home" orientation of leisure activities. The social contacts of people who prefer free time at home can only be expanded through more or less regular meetings with friends or relatives, and this is becoming almost the only form of their social life outside the home. Social participation begins only when the range of leisure preferences expands through types of recreation, entertainment, political or other activities outside the home. But this is what gives people's social life the greatest completeness.

Therefore, the "active" type of leisure time, crowning the hierarchical ladder of the typology of leisure activities, is the richest, most diverse and socially attractive.

The types of free time in general between the generation of "parents" and "children" are presented in Table 3.

Table 3 Type of free time for representatives of different age groups, %

	Type of free time		
Age	**Domestic orientation**	**Developed orientation**	**Social orientation**
Up to 21 years	11,9	11,3	76,8
22-26 years	13,8	22,8	63,4
27-30 years	24,1	42,1	33,8
41-55 years	44,3	38,5	17,2

Source: The data is from own research

The analysis shows the change of intellectual orientations over time. The less young people are burdened with various secular cares, the richer and fuller their free time is. Not surprisingly, the younger generation's satisfaction of the quality of their leisure time, leisure and communication opportunities is significantly higher than that of their "parents". Not satisfied with the full use of their own free time with home orientations are 40.6% of the respondents aged 41-55 and only 24.1 of the respondents young people under 30.

Conclusion:

Every free time is not free for the authentic act of man's inner strength. The part of free time which remains under the control of human needs arising from the repressive social organization and culture of duties is not the real free time for the human being. In this sense, the German author Erich Weber, when it comes to free time, distinguishes between "negative" and "positive" prescriptions of free time "free from" and "free for", free from obligatory activities and free for activities that a person freely chooses, enriching in a certain way his personality. Leisure activity is the result of free choice, although it is no different from the obligatory, necessary activity. As a result, it can be stated that the essence of leisure activities in leisure time is the freedom of choice. There is a wide range of leisure concepts in modern science that need to be further developed.

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DIGITAL DETOX – STRATEGIC TOOL FOR TOURISM DEVELOPMENT IN BULGARIA

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Abstract

The tourism industry has a significant importance on the economy and up until 2020, it generated huge cash flows. In the last years, we have been witnessing a massive implementation of technology solutions into tourism. Despite the amazing importance of digitalization into tourism that can be partially viewed as a boosting engine, the practice of overuse is disturbing and getting our attention. Since the COVID-19 pandemic necessitates the accelerated use of digital tools, numerous studies highlighted the various psychological challenges that come along with digitalization and the overload associated with it. The idea of digital detox can help us eliminate all the exceeding stress and improve our wellness and well-being levels. This topic is highly attractive to Bulgaria as a potential wellness destination, so this publication has the intention to explore in depths the concepts of digital detox and its effect on users, to presents the negative aspects of digitalization, to examine the current state of digitalization in Bulgaria and to try to position the country as a digital detox destination. The methodology of the research is based on systematic and holistic approaches, and it covers: analysis and synthesis, deduction and induction, and descriptive methods. The main results of the article are related to the affirmation of the main thesis – identifying the potential of Bulgaria as a digital detox destination that can strengthen its positions on the global tourism market while boosting tourists' wellbeing.

Keywords: *digital detox; digitalization; development; repositioning;*
JEL Codes: *Z32, I31, Z33*

Introduction

The massive adoption and application of IT technologies is a prerequisite for a successful positioning in the tourism international market. Consumers are increasingly connected to the Internet and social media nowadays, which requires advanced connectivity provided to tourists. Innovative economic models and digital business are among the leading factors for the future development of tourism. The hurried lifestyle, the constant

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staring at the screens and monitors pushes the hotels to offer the opportunity of escaping from reality and the constant flood of information around us. In the past years we have seen unprecedented growth in the Information and Communication Technologies (ICT) economy that has fundamentally altered tourism. Technology innovations, in particular ICT, have changed tourism in many essential ways. The magnitude of these changes is not only evident in their degree of disruptiveness, upsetting long-established economic models, it is also unprecedented in terms of the speed at which it pushes forward tourism and hospitality innovations that influence the entire consumers' behaviour. ICTs predict their own complexities and conflicts, from "fear of missing out" to other fears such as mobile phone loss, digital dead zones, or low battery status, and conditions fluctuating from anxieties to depressions, all leading to technostress (Gossling, 2021, p. 849). Due to this reason the **object** of this article is the digital detox accommodations, and the **subject** of the research is how they can use this type of supply as a strategic advantage in their development. The set **aim** is to investigate the opportunities for Bulgaria to position itself as a destination escaping digitalization in the view of its wide-ranging entrance in our lives, especially after the Covid-19 crisis.

Negative aspects of digitalization

The **relevance and importance of the topic** is ascertained by the widespread negative aspects of digitalization that vast variety of users experience nowadays. Technology has become an integral part of our day to day life, thus we can say we live in a condition of digital revolution. Although digital developments offer many advantages to their users, researches show that the application of smart devices is swiftly turning towards an addiction, the so-called digital addiction, in every possible field. The daily use of technology creates pressure that can turn into stress and eventually lead to burnout syndrome (Haber, 2013). The main aim of technology is to improve and facilitate our lives, but the balance seems to be the key, as all escalations or deviations can cause difficulties. The excessive use of the Internet, smartphones, and all other gadgets have both **positive and negative impacts** on humans' life. Smartphones' use may become problematic if individuals constantly check and scroll the device for no reason. This behaviour can be considered as a sign of a new psychological disorder or fear of being deprived of smartphone and mobile Internet access (Ozdemir & Goktas, 2021, p. 21). Smartphone use can affect humans' wellbeing and is often related to depression and other clinical symptoms. Digital detox interventions have been suggested by the business and scientific society as a successful solution to reduce the negative impacts from smartphone use, improving well-being and/or social relationships (Radtke et al., 2021).

Over the years, the overuse of ICTs has been associated with technostress, anxiety, depression, sleeping disorders, and many other clinical symptoms. To reduce and even eliminate these problems, triggered by ICTs and digitalization overall, the concept of digital detox has emerged. Although digitalization can facilitate our daily life and tasks, it also may cause a feeling of being overloaded. From a psychological perspective, this perception can be defined as a state in which the informational input exceeds cognitive capacities (Eppler & Mengis, 2004). Some authors also use the term information overload to describe the psychological consequences of being confronted with a massive and heterogeneous set of online news sources (Schmitt, Debbelt & Schneider, 2017), or being overloaded by functions and content on e-learning platforms (Chen, Pedersen & Murphy, 2011). Conversely, smartphone use can diminish well-being, a trend that has become extremely evident. For instance, analysis has shown that smartphone use affects health and well-being, performance, and even social interactions. Regarding health-related problems, studies have found that smartphone use is related to higher depression rates and anxiety, sleep difficulties, and musculoskeletal problems in case of smartphone overuse (Radtke et al., 2021). Furthermore, smartphone use also escalates in a negative way the stress and reduces the quality of interactions when individuals neglect the social face-to-face interactions and focus on their device instead. **Everything said so far, raise concerns about the smartphone overuse and hint on rebalancing and detox**. Digital detox emphasizes on the effort of raising awareness, alerts the excessive digital use and boost self-optimization process to reduce stress. In 2015 was conducted a study by Paw Research Center that explains in depths the disadvantages of new technologies. According to it, 89% of the participants stated that they use phones while socializing, and 82% stated that the phone usage harms their current social communication (Rainie & Zizkuhr, 2015). With the increased levels of virtual activities, the rate of using technological devices has naturally elevated.

Although the term digital detox has gained popularity in the recent years, until now it has been unclear whether its approaches are effective at promoting a healthy and conscious way of life in the digital era. A massive systematic literature review, conducted in 2021, aimed to answer this disputable question. In details, systematic searches of seven databases were carried out and all studies related to this topic were extracted. The results showed that the effects of digital detox interventions are controversial and varied across on health and well-being, social relationships, self-control, or performance aspects. *Thus, some studies found and evaluated the intervention effect as positive, whereas others found no impact or even negative consequences for well-being*. To summarize, all examined studies reported a significant drop in smartphone/app use with medium effect sizes during trial days or right after that compared to pre-intervention period (Radtke et al., 2021).

According to Dunican et al (2017) and Turel et al (2018) no significant effect was found on a cognitive and physical level. Nevertheless, Turel and Cavagnaro (2019) reported that participants who refrained from using Facebook platform for over a week had improved performance and needed less time to complete a survey or another task. In the similar vein, some studies examined self-regulation and found positive or no impact (Liao, 2019; Ko et al., 2015). Sleep was assessed in two other studies (Dunican et al., 2017; Liao, 2019) where both reported mixed findings on the topic. Continuing in this manner, the research shows all investigated fields, where digital detox can benefit on human's health such as: life satisfaction, affect, mood, mental and psychological well-being, boredom, anxiety, stress, depression, addiction, and social relationships. Generally, the review proves that the outcomes are diverse. Even though a few more studies revealed positive rather than negative consequences, bigger portion of all stated for no effect or mixed findings regarding the efficiency of digital detox approaches. All this led to difficulties in providing a clear answer or conclusion whether those timeouts are efficient or no. However, based on the same study, it is apparent and undeniable that digital detox interventions have positive effect on the following: decreasing the smartphone usage during the trial period and reducing the depression symptoms after a digital detox intervention (Radtke et al., 2021).

Considering all the listed reasons, our future forecast is that the number of accommodation businesses implementing digital detox as main startegy will increase, so does the demand, mainly because of the huge technostress that modern people experience. We expect a boom in digital detox sales, so the inventive entrepreneurs who have already implemented it as an option shall return a nice value. We expect to observe a growing number of digital detox locations, accommodations, and activities to flourish in the new marketplace.

Digital detox term

In general, digital detox is seen as a tool of awareness and self-regulation, helping to reduce stress. Both the public and scientific community use different terms to describe the break from electronical devices. Terms like abstinence, disconnection, detox, timeout, or unplugging are commonly used and we consider them all equivalent to digital detox (e.g., Brown & Kuss, 2020; Fioravanti et el., 2019). Etymologically, the word 'detox' refers to a process of minimizing or eliminating levels of hazardous substances. Even though, this term has lasted for more than ten years, it was first introduced in the Oxford Dictionary in 2013, which defines it as "a period during which a person refrains from using electronic devices such as smartphones or computers, regarded as an opportunity to reduce stress or focus on social interaction in the physical world" (Oxford Dictionary, 2013). Likewise, the Technology Dictionary describes it as a period when an individual stops or suspends using

digital tools for a certain time to practise social activities and interactions. This allows the individual to relieve all negative consecquences caused by the overuse of ICTs (Techopedia, n.d.a). The common assumption that lays at the bottom of this term and the urgent need for it is related to the current enormous use of ICT that can be harmful and lead to poor health. According to both Oxford (2013) and the Technology Dictionary (Techopedia, n.d.a), a digital detox is mainly an opportunity to improve mental well-being field by taking time to reduce one's dependence with ICTs and to enjoy the outdoor world. Digital detox is a growing phenomenon that offers a completely new opportunity to eliminate the information overburden and the negative effects that come along with it. The introduction of digital detox tourism and its positioning as a new alternative opportunity for relaxation, stress relief, and health improvement, some authors will define as a subcategory for health tourism (Smith & Puczkó, 2015, p. 205-219).

In the US, the market for digital detox has been created in 2013, and this trend was transferred to Europe a bit later in 2015. *Several studies identified wellness resorts as the most suitable places for practicing digital detox tourism*. There are three different options of detox packages available on the tourist market:

- Those in which the individual is responsible for himself, meaning a person must restrain himself from using digital devices. Most often, the accommodation can provide digital devices upon request;
- Tech-free packages. Accommodation does not offer digital options, but it is possible to catch an ICT connection nearby;
- Completely offline packages in remote destinations with no connection to ICT.

In our view, digital detox is a form of wellness tourism, which helps individuals through offline approaches to have a break from the fast-paced world of technology, to spend time on their own, and to strengthen their state of health and well-being. Wellness tourism provides a great opportunity for tourists to choose what is the most suitable for them: a high-tech experience or an offline adventure. In both cases, individuals can achieve a state of complete health, pleasure, harmony, a sense of well-being, and inner peace. Various elements of wellness such as yoga, massages, and detox programs combine perfectly well with digital detox. For other wellness users, the same elements can be offered in a newer and more modern way, such as practicing yoga through SmartMat. A cutting-edge new technology, that combined with a mobile application, helps practitioners do the asanas correctly by applying audio and video control (Lomas, 2014). Even though, the idea of digital detox is to completely shut down all digital devices we are exposed to, we still can notice a partial disconnection trend. Wellness tourism is suitable for all individuals and

meets different needs, but the first and most important aim is to develop health awareness, responsibility, and even sustainability.

Behind the growing desire for detox experiences stand various factors such as **physical, psychological, social, technological and economic**. The excessive use and the followed addiction to digital devices can lead to immobility and reduced physical activity, respectively, to poor health. In addition, the constant and prolonged use of digital devices affects the quality of sleep. Moreover, according to a study by the American Optometric Association, individuals who spend more than 2 hours per day in front of a digital screen put their eyesight at risk and are more likely to develop dry eye syndrome (American Optometric Association, nda). Psychological factors linked to digital technologies are most often associated with addiction. One of the most encountered forms of digital addiction today is Internet dependence. It can cause various negative emotions such as anger, irritation, anxiety, depression, isolation, and others. As a sociological problem arising from digital dependence, we can identify problems in relationships (Donnelly, 2012). Furthermore, cases of online affairs and relationships leading to separation or divorce are becoming more frequent. The European Commission (EC) has sought to reduce the telecommunications charges for customers traveling abroad over a decade. Since 2007, roaming prices have been reduced by 90%, and since 2017 the same costs have been reduced to zero for people who periodically travel to the EU (European Commission, 2016). To a certain extent, this has led to extreme digital fatigue caused by the constant use of digital devices. Both psychological and sociological motivational factors of digital detox holidays include improving health and well-being, reconnecting with the inner self, living in the present, sustainability, mental well-being, balance, natural wellness, increasing self-awareness, face-to-face interactions, and engagement with the environment (Ozdemir & Goktas, 2021).

We can outline that various factor are affecting the choice of undertaking a digital detox vacation. According to a study from 2017, tourists have geographical expectations (nature surrounded and distant destinations), expectations for physical health (a spiritual place that allows them to practice or meditate), and technological factors such as technological fatigue that encourage this type of travel. Geographical location is important when booking a detox holiday. **Factors that are considered prominent when choosing a detox destination are climate, distance, environment, and offered activities**. Although respondents claim that geographical factors are not the main driver for digital detox, it plays a huge role when choosing a destination. After undertaking an offline trip, tourists report a desire to reconnect with the digital world again, mainly to catch up on missed business calls and/or notifying relatives that they have returned home. Other individuals reported no need for this, due to a fear of experiencing the feeling of digital saturation again. The motives

for undertaking a digital detox are limited to selective rejection or deliberate rejection (Hoying, 2017, p. 33).

Digital detox can be explained as a strategy for handling and controlling cognitive overload, besides this, it can work as a **sustainable tool** that raises health and nature awareness. Different researches point out positive effects of such strategies: A case in a point, self-control enhancement, switching off notifications, and powering off electronic devices at a reasonable time in the evening, seem to improve sleep quality and quantity and, thus, increase work productivity the following day (Lanaj, Johnson & Barnes, 2014). The use of digital detox apps (i.e., apps supporting users to monitor and limit their screen time) can also prevent the potential harmful effects of social networking space on well-being among young people (Schmuck, 2020). These findings indicate that timeout strategies and/or digital detox holidays may have an overall positive impact on health and wellness levels.

From what has been deducted so far, digital detox can be seen as a well-being booster that has a positive impact on tourists' health and wellness state, thus, implementing its tools can be beneficial for the destination. Currently one of the most discussable topics, especially after the Covid-19 outbreak, remains to be health. Helping tourists to achieve better health, wellness and well-being levels can have numerous effects on the destination and its image by attracting more tourists and even investments, generating cashflows, supplying the destination with innovative and heterogenous accommodation and packages, helping its sustainable development and gaining better popularity. On the other side, digital detox can be considered as a good health option for the tourists as it helps to release the technostress.

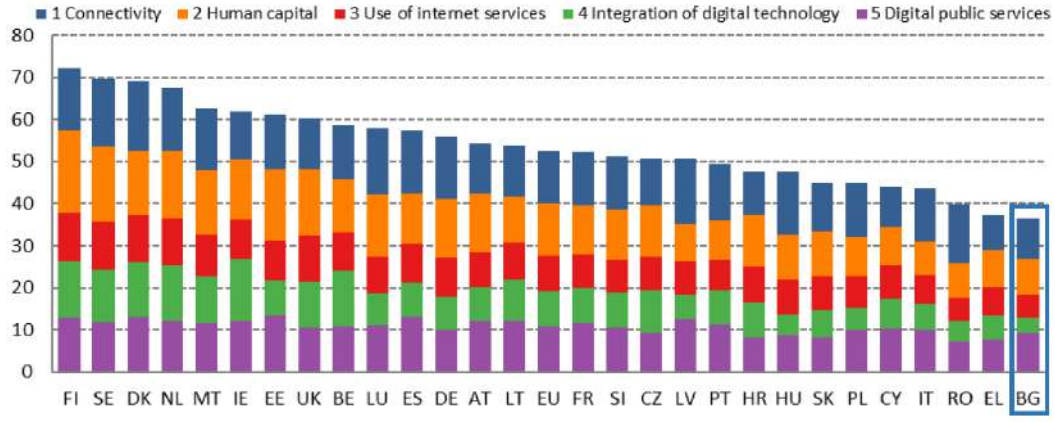
The current state of digitalization in Bulgaria

The first basic argument in support of the thesis of this article is the overall low level of digitalization in destination Bulgaria. The process of digital adoption in Bulgaria is a very topical field of interests, unfortunately, it goes sluggish, especially in the tourism sector. Recently, the Ministry of Economy advised for the coordination of a strategy preparation for the participation of Bulgaria in the Fourth Industrial Revolution (Industry 4.0). It aims to create the conditions for the modernization, automation, and competitive positioning of the Bulgarian economy in the medium to long term (2019 - 2027). One of its priorities is the stimulation of the use of artificial intelligence technologies in the industry, and particularly SMEs (European Commission, 2020, p. 15). Obviously, the initiative is taken, but the process is not instantaneous. Digital applications are becoming extremely complex. This means that Internet, large data, artificial intelligence, robotics, or 3D-pressure applications will not only change the industry but provide tourist services.

Many small and medium-sized companies face major challenges. Particularly in rural areas, there is a lack of the necessary infrastructure for the use of digital processes (Velikova, 2019, p. 253). The development of digital technologies and their penetration into all fields of economic and social life enforces a rethinking of the approach to exploiting their huge potential to increase the competitiveness of the Bulgarian economy, increasing demand, supply, and efficiency of public services. The accelerated digital transformation is a prerequisite for an anticipated development of industry production, economic growth, and increased incomes.

The European Commission has been monitoring Member States' digital progress through the Digital Economy and Society Index (DESI) reports since 2014. The current COVID-19 pandemic has shown how important digital assets have become to our economies and how networks and connectivity, data, AI, and supercomputing as well as basic and advanced digital skills sustain our economies and societies by tracking the spread of the virus and accelerating the search for medications and vaccines (European Commission, 2020, p. 2). *Unfortunately, according to the above-mentioned reports, Bulgaria ranks 28th out of 28 EU countries in DESI for 2020. There is also a significant lagging behind the average European levels of digital connectivity, the use of digital skills online, the digitalization of enterprises, and digital public services.* The COVID-19 crisis has also reconfirmed the need of accelerated digital transformation in all economic and social sectors and proved that large-scale efforts for exploiting the potential of digital technologies are not only necessary but also mandatory (MTITIC Government, 2020, p. 3-4).

Figure no. 1 Digital Economy and Society Index (DESI) 2020 ranking



Source: European Commission, (2020), Digital Economy and Society Index (DESI) 2020 Bulgaria

Furthermore, according to a recent Siemens survey conducted in Bulgaria examined 76 companies in 33 different industries, including tourism, whereas it appears that, digitalization is by no mean an unknown concept for those companies. The results of the survey show that the Bulgarian companies have a clear vision of what benefits they can obtain from the introduction of digital technologies. The highest expectations and significance of digital solutions are in terms of optimized resources (89%), improved planning (89%), increased competitiveness (89%). Improved service (86%), improved quality (79%) and transparency of business processes (76%) are also among the main business motives on the road to digital transformation. The lowest expectations regarding the effects of digitalization are for increased profits and reduced environmental footprint, where a significant proportion of the respondents expect almost no impact (Siemens & German-Bulgarian Chamber of Industry and Commerce, 2018, p. 1-20). Moreover, more than half of the respondents believe that the development and implementation of "smart" environments such as smart cities and smart factories are the most important trends in front of digital transformation. About 51% of the respondents emphasize on the importance of connectivity and the Internet of things. For 46% of the participants, the development and use of mobile applications that integrate business and production processes or optimize services, are also crucial. In the similar vein, digital transformation happens when the biggest portion of the companies accept and implement it. According to the aforementioned study, only 5% of the listed companies in Bulgaria have a long-term overall digital strategy, which exceeds the period of 10 years. Most of the companies are planning strategic digital actions in a short/medium term.

It can be concluded that the examined companies in Bulgaria are at different stages of digital implementation. Generally, those companies have already taken or are currently taking small steps in the right direction, but most of them are still in the initial or intermediate phase (Siemens & German-Bulgarian Chamber of Industry and Commerce, 2018, p. 1-20).

We can summarize the following on the overall digitalization state of Bulgarian companies: investigations show that digitalization is a well-known concept but still at a **raw stage** due to various reasons such as lack of investments, large time frame, lack of necessary skills, etc. To a certain extent, this can be seen as a good opportunity for Bulgarian hoteliers, who do not initiate and use digital solutions yet.

The wide-range meaning and concept of wellness and detox tourism gives plenty of possibilities for a significant development of this type of tourist product throughout the entire territory of Bulgaria. Poor digitalization in the tourism sector of Bulgaria should be considered as a gap that need to be filled. Additionally, the current raw stage of certain aspects of digitalization and the competitive advantages of Bulgaria in terms of resources

can be pointed out as the main drivers to position the country as digital detox destination. Until we adopt the digitalization, the aim can be focused on the digital detox as Bulgaria has great potential for this new tourism niche.

Digital detox- strategic tool for tourism development in Bulgaria

Considering that digital detox is directed at improving individuals' well-being and overall health by eliminating the excessive technostress caused by digitalization, we can count it as a subcategory of health tourism and more specifically - the wellness tourism. It is a new tourism niche created as a response to technology fatigue all of us experience daily. Digital detox tourism has amazing strengths and opportunities as it is a market niche, customized directed, it combines well with different alternative forms of tourism, and last but not the least it is affordable, meaning it doesn't require huge investments. There are no official statistics on the share of wellness tourism in Bulgaria, both for shares in the total tourist product of the country and in GDP and as absolute values. According to experts, spa and wellness tourism has a share of 3% in Bulgaria's GDP by 2016 and the potential is to double or triple that share within the coming years, depending on the market positioning (Explica-Global metrics, 2019, p. 50-150). One of the most important prerequisites for the development of digital detox tourism in Bulgaria is the extremely **favourable natural resources** of the country:

- the favourable temperate-continental climate determines the development of digital detox with the inclusion of many outdoor activities and complementing the tourist experience with sports and other activities;
- The beautiful and diverse nature provides almost unlimited opportunities for physical activity and places for solitude and recovery from stress;
- Digitalization in our country is at a relatively early stage, so tourists who have chosen this type of tourism will find it easier to stay away from digital devices (Explica-Global metrics, 2019, p. 50-150).

The availability of natural resources is of fundamental importance for the wellness and detox tourism development in the country. Among the most valuable natural resources of Bulgaria are the diversity and abundance of:

- Hydrothermal mineral water;
- Healing mud;
- Sea access;
- Marine and mountain climate;
- Beautiful nature;
- Existence of over 1,600 springs, over 600 which are mineral, located mainly at the foot of the mountains;

- Dozens of lagoons and deposits of healing mud;
- Sources of peat with therapeutic effects (Ministry of Tourism, 2017).

The **hydromineral resources** of Bulgaria are numerous, diverse and unique. During the last years the usable capacity of the mineral springs has increased to 4500 l/s or 389 million l/day (24 hours). Other arguments in support of Bulgaria's competitiveness in terms of its positioning as a leading wellness and detox destination are:

- Bulgaria is ranked second in Europe after Iceland and is ahead of a number of other countries with proven traditions in balneology, in terms of mineral water resources;
- In Bulgaria over 600 sources of mineral water have been discovered and studied, grouped in nearly 240 deposits, with 1600 springs with a total flow rate of 4900 l/s, but a significantly small part of them are used for balneotherapy (only 0.4%);
- The mineral recourses have temperature of 10°C - 103°C and proven healing properties;
- In Bulgaria there are almost all types of mineral waters that are found in the world (Ministry of Tourism, 2017).

Bulgaria and its extremely favorable natural resources, give us the flexibility to purposefully develop digital detox interventions, and why not to combine it with wellness tourism. The **superstructure** is also a strong side of ours, as most of the accommodation and other facilities have been built relatively recently and as private properties, therefore owners have a clear interest in maintaining their good condition and invest in them regularly. The wide scope of digital detox allows us to position many profitable and suitable marketing combinations with traditional summer and winter tourism, as well as specialized or alternative forms of tourism. In Bulgaria, there is a clear system for accommodation categorization, which ensure the tourist they will receive a certain sustainable service quality (Explica-Global metrics, 2019, p. 100). Another strength of Bulgaria is the price-quality ratio, which is relatively high. *From what have been exposed so far, we can conclude that Bulgaria has many competitive advantages as a wellness and detox destination in terms of its available resources. In defense of the thesis that Bulgaria is a potential wellness and detox destination, and in addition to the mentioned resources of the country, we should consider other competitive advantages of ours, namely - traditions in healthcare and spa treatments, strategic geographical location, and macroeconomic stability. Bulgaria is a favorable country for development and investments in the field of all subsectors of health tourism due to the richness of its natural, anthropogenic, and human resources in the field, as well as due to the presence of economic, political, and geographical advantages. Finally, the competitive advantages of Bulgaria, specifically related to its tourism policy in the specialized types of tourism, must be considered, as well* (Ianeva & Basmadzhieva, 2021). To further analyse the opportunities for Bulgaria to

develop digital detox tourism we decided to use the SWOT analysis technology presented in Table 1.

Table no. 1 - SWOT analysis of Bulgaria as digital detox destination

Strengths	**Weaknesses**
Rich and diverse natural resources	Poor infrastructure
Relatively high quality of the tourist superstructure	Not utilizing the full capacity of the given resources
Price competitiveness of the destination	Poor destination management on a national, regional level and international level
Good geographic location	Lack of enough financial investments for small and medium tourism enterprises
Favourable climate	Insufficient information flow and insufficient advertising
Huge variety of outdoor/indoor options for tourist	Lack of sufficient staff competence in the field
Opportunities	**Threats**
Availability of EU funding for tourism	High chance for global economic crisis post Covid-19
Increased welfare in the country	Positioning of Bulgaria mostly as a budget sea destination
Opportunities in generating new ideas in the digital detox field due to the wide scope of the term	High competition with other remote destinations, suitable for digital detox tourism
Relatively raw stage of digitalization in the tourism industry that in this case can be seen as an opportunity to develop new sustainable forms of tourism such as digital detox	Lack of sufficient advertising activity and active promotion of Bulgaria as a detox destination
	Poor advertising on social media
	Homogenous supply, devoid of modern ideas

Source: Author

Digital detox alongside with wellness tourism must be a priority for Bulgarian tourism. Having a great variety of natural, anthropogenic, and material resources and amazing conditions reveals the potential country has. Digital detox as a new alternative form of tourism is extremely affordable, not requiring huge investments and satisfying the latest needs of travellers. Bulgaria is a country with great potential that can be utilized to a maximum level only with targeted advertising. Combining different marketing strategies,

we can succeed in repositioning Bulgaria on the world tourist market as a key detox and wellness destination. To prosper, we must pay special attention to the human resources hired in the tourism field, the current condition of the superstructure and infrastructure, and finally to attack with properly constructed targeted advertising.

To sum up, to position Bulgaria efficiently as a digital detox destination on the tourism market it is essential solving certain problems, mainly related to **proper and active advertising**. Another pending problem is the lack of qualified staff, which gives rise in a homogeneous supply, devoid of sufficient imagination and new ideas. In order to solve the listed problems, first of all, Bulgaria must invest in human resources and take small steps towards changing its current image, which in any case doesn't s exhaust country's full potential.

Conclusion

In the article the thesis and the aims are proved, namely – investigating and identifying the potential of Bulgaria to position itself as a digital detox destination that can strengthen its positions on the global tourism market. The main results of the article are related to the prove of the main thesis, which can be summarized in the following way:

1. The negative aspects of digitalization that lead to technostress are exposed which cause the emergence of digital detox interventions and structure this new tourism niche;
2. The current state of digitalization in the country is examined and the analysis shows that Bulgaria is still at a raw stage of implementing digital tools. As the global trends keep focusing more and more on the digitalization, which have both negative and positive impacts on the tourists, we believe Bulgaria will benefit the most if in the current situation it develops digital detox interventions;
3. After a detailed analysis made in the article it can be concluded that Bulgaria has many competitive advantages as a destination for wellness and detox tourism in terms of its resources;
4. Bulgaria is a favorable country for sustainable development and investment in the detox tourism field due to the richness of natural, anthropogenic, and human resources, as well as the presence of economic, political and geographical advantages in the area.

In conclusion, we could note that Bulgaria has all the prerequisites to reposition itself from a budget sea destination to a major detox one. To reach this, the country must sort certain pending issues in front of the sector and must pay special attention to the marketing efficiency, brand and image of Bulgaria.

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TRACKING CITIZEN'S OPINIONS AND ATTITUDES TOWARDS KEY ASPECTS OF HEALTHCARE IN THE REPUBLIC OF BULGARIA

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Abstract

Bulgarian healthcare is in a situation of crisis, which implies the adoption of important strategic measures for its stabilisation and sustainable development. It is the concern of the state, organisations and each one of us. It is evident that the health care system faces many challenges to respond to. Without rehabilitating it and turning it into a working mechanism to help the sick, the country will face a crisis of particular proportions - lack of medical staff, shortage of medicines and medical care, outdated and poorly functioning equipment. The main objective of the study is to establish the attitudes of citizens towards the main aspects of healthcare in Bulgaria. The main research methods used in the development are analysis, analysis and synthesis method, survey research.

Keywords: *health; economy; social payments; etc.*
JEL Codes: *I1; I15*

Introduction

Social payments in any sector of the Bulgarian socio-economic system are one of the fundamental sources of profitability and this brings to the fore the need for adequate government measures to ensure that both civil society will be responsible to the Bulgarian health care system and will be a financial instrument for its dynamic development, and the state in the face of the ruling political bodies will help to implement an adequate reform policy, which will stop the illegal draining of the health fund, implement an exemplary policy for the provision of medical care, help to ensure the normal provision of medicines for the seriously ill and provide expensive technical equipment for those in need. Civil society considers the priority on the health care system on the indicators of information, transparency and quality of health services and care to be significant. It is of utmost

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importance that the system works effectively, especially in the current situation - the coronavirus pandemic, which has shown the importance of human life in the context of good health capital management.

Literature review

In the main materials of the World Health Organization (WHO) health is defined as a state of complete physical, spiritual and social well-being, not just the absence of disease and physical defects. (https://www.coe.int/bg/web/ compass / health**).** Health is a very complex phenomenon, whose characteristic and significant aspects cannot be expressed briefly and unambiguously. Health can be considered in several aspects: physical health, mental health, moral health, social health, etc.

An analysis of scientific sources shows that there is a tendency for human health to deteriorate worldwide. It is known that everyone should be responsible for their own health. However, objective reality proves the opposite. Especially among adolescents and young people, there is an irresponsible attitude towards health as a lasting value. That is why the attention to the healthy lifestyle of young people has been increasing lately.

Health is determined by genetic, economic, social, cultural and environmental factors. Objective factors affecting human health are, most often, the following:

-Environment

-Heredity (genetics).

-Healthy lifestyle.

The System of Health Accounts of the Republic of Bulgaria states that health care combines (includes) personal health services provided directly to the individual and collective health services that relate to the implementation of public health tasks such as prevention, prevention, health administration and health insurance administration.

The world practice in the development of healthcare, proved by the statistical data, unequivocally confirms the thesis that strong health inequalities cannot be explained by the natural sciences. Differences in health between and within countries are the result of socio-economic policies that define the environment in which people are born, grow, live and work.
(http://www.who.int/mediacentre/news/releases/2008/pr29/en/index.html)

This largely generates the main problems of health care:

-which medical services, to whom and in what quantity are needed;

-who will pay for the medical services provided;

- what resources are needed to provide the selected medical care;

- what can be the result of the realized professional and economic activity in the healthcare;

- the choice of the organizational and legal form for rendering the medical service;

-the form of management of economic processes in healthcare.

A number of scholars analyze health care at the intersection of socioeconomic processes. Robert Owen, for example, views health as a social good and - in particular - strongly emphasises the importance of environment, education and cooperation as factors in improving social conditions. However, it is impossible to interpret health as a factor of economic growth without giving due attention to human capital. There is a theoretical and empirical basis for the argument that it is through human capital that the productive capacity of the economy increases over time, leading to high levels of national output and income. (Todaro, M., 2000.) For the first time, Becker includes health as a fundamental human capital resource in addition to education. His theory measures the economic contribution that these two factors have, thanks to which the productivity of the workforce and the quantity of the product produced increase. (Becker, G., Murphy, K., Tamura, R. 1990, pp. 12 – 37.) Based on the theoretical views of Becker's model, Grossman's model values the economic function of health to the greatest extent. It distinguishes health as a consumption good and as an investment good. In the former, one adds the utility of consuming health, while in the latter, health reduces days lost to illness and increases days of production. Grossman derives the demand for health from an optimal control model in which health capital is both consumption and investment. In his approach, the individual chooses his level of health and therefore his life expectancy. Therefore, the level of health is not treated as exogenous, but depends on the amount of resources that an individual devotes to producing health. The production of health capital also depends on variables that change the efficiency of the production process, therefore changing the value of health capital. For example, more highly educated people are expected to be more efficient producers of health care, an effect that should increase the demand for health. (Grossman,1972.)

In line with the scheme proposed by Bloom and colleagues (Bloom, D., Canning, D., Sevilla, J., 2004, pp. 1 – 13.) the European Commission proposes in a study (Suhrcke, M., McKee, p. 21.) the idea that health can contribute to economic outcomes (both at the individual and country level) in high-income countries mainly through four channels:

- higher productivity;

- higher labour supply;

- higher skills as a result of greater education and training;

- more savings for investment in physical and intellectual capital.

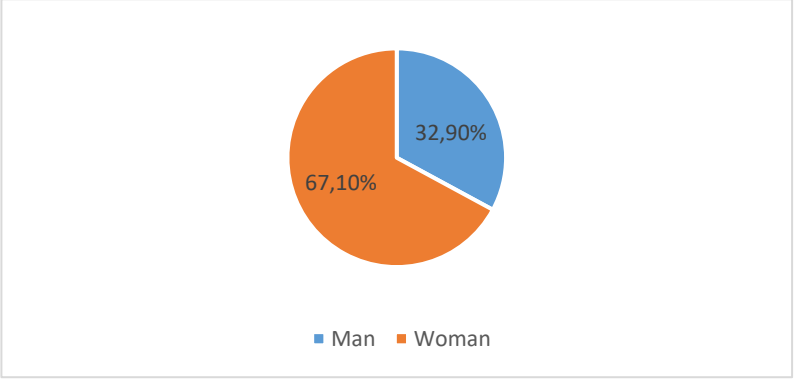
Methodology

In order to find out what are the attitudes of citizens towards the main aspects of health care in Bulgaria, the author conducted a survey among 158 respondents, with different gender, age and education. The study was conducted between April 2021 and October 2021. The questionnaire consists of ten questions and a software product - Microsoft Word - was used to create the database and process the information.

Respondents were asked ten questions to analyze: **First**, their gender, age and education. **Second**, the monthly income of a family member. **Third**, the complex opinion on the system of social payments in Bulgaria. Our main goal was to describe the opinions of the citizens regarding the healthcare in the Republic of Bulgaria. The results of the study are illustrated and analysed in the next few graphs.

Analysis and discussion

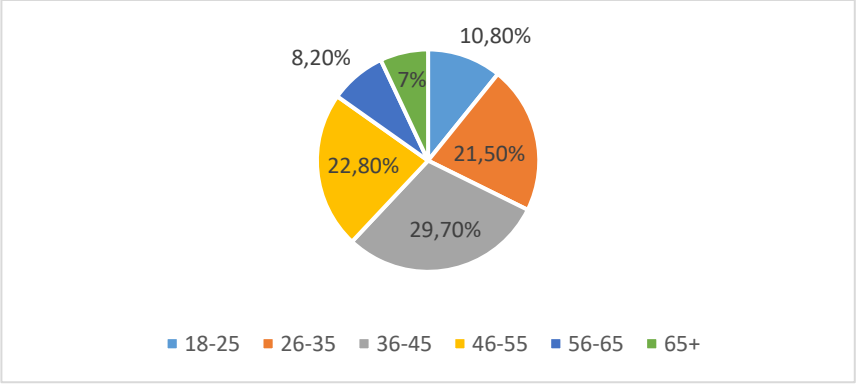
Figure 1. Gender of study participants



Source: Own survey and calculations

As can be seen from the data in the figure, about 67,10% of the respondents answered that they were women and about 32,9% - men. Randomly, rather than purposively, most women completed the survey relative to men, suggesting that the principle is objective.

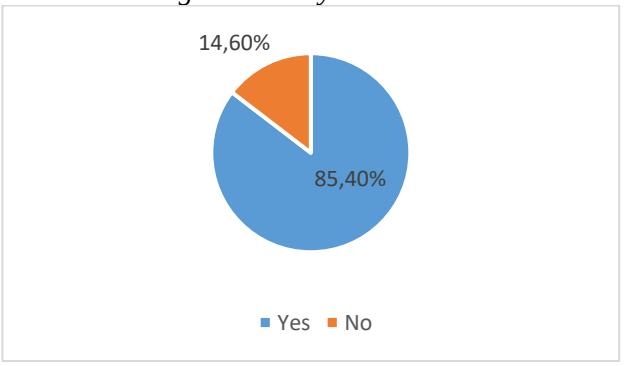
Figure 2. Age of participants



Source: Own survey and calculations

Based on the analysis of the results of the survey, it can be seen that the largest percentage of those who responded and participated in the survey is the age frame of 36 to 45 years. About 22,8% of respondents are between 46 and 55 years and between 26 - 35 years, with the smallest proportion of people who participated in the survey between 18 - 25 years and over 65 years. From this sample, it is concluded that in relation to the highest age indicator, these are people who have met the peculiarities of the health system, working, family and tax insured persons.

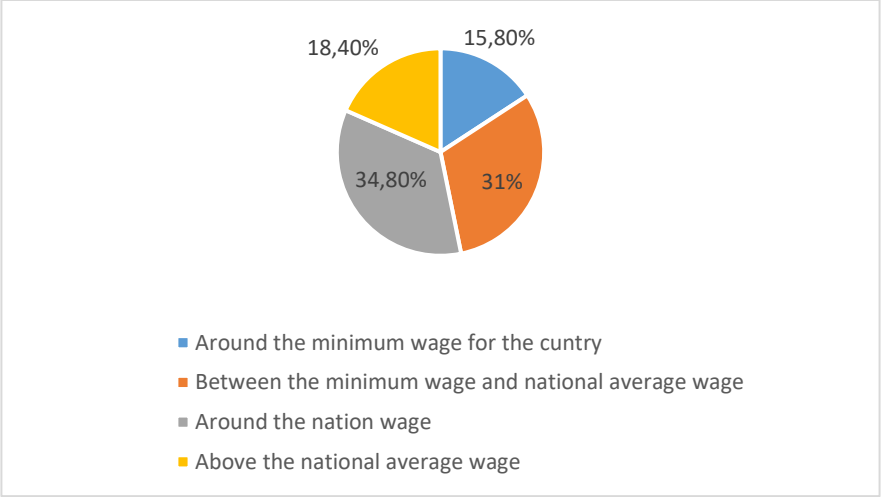
Figure 3. Are you insured?



Source: Own survey and calculations

From the data presented in the graph, it can be seen that a higher percentage of people have health insurance, and only 14. 60% of those who do not. We come to the fact that in the Bulgarian health insurance system it is important that the person pays his health insurance or his employer. Health is a value and there is a need to ensure quality access to inpatient and outpatient care, but for this it is imperative that the citizens of the country are insured.

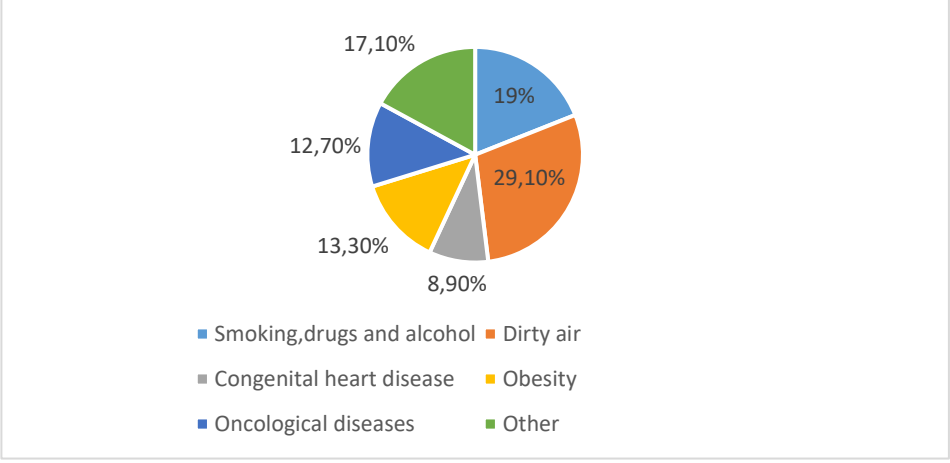
Figure 4. Monthly income per family member



Source: Own survey and calculations

From the analysis of the data obtained from the response to the question related to monthly income, it can be seen that the percentages of respondents are very close. Around 34,8% responded equally to people whose monthly income per family member is around the average wage and to those who earn between the minimum and average wages for the country. However, the percentage of respondents who earn around the minimum wage is impressive - 15. 8%.

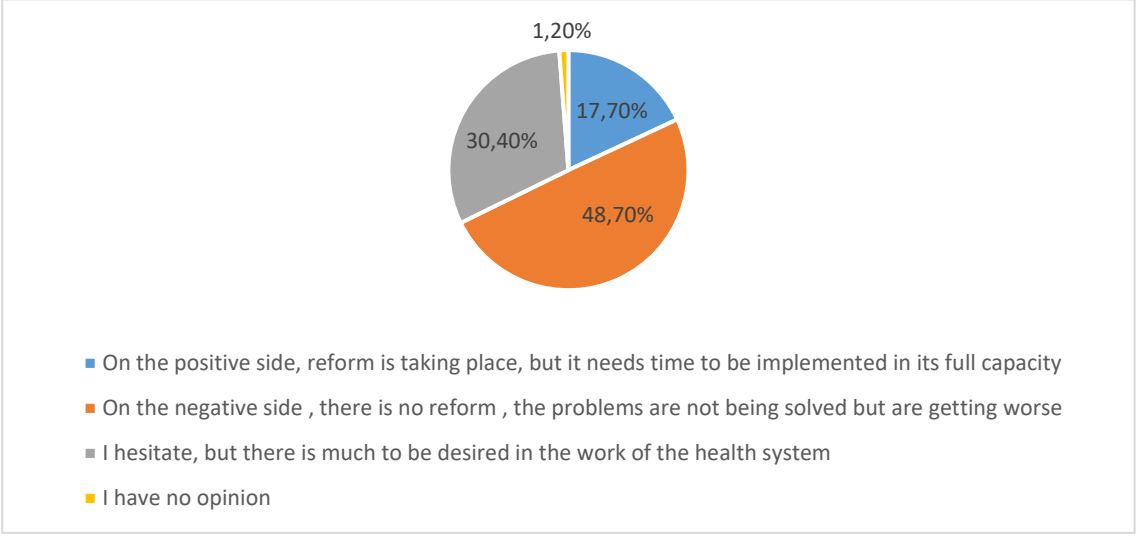
Figure 5. Main factor leading to ill health



Source: Own survey and calculations

Based on the survey analysis, respondents agreed that it was dirty air, followed by smoking, alcohol and drugs. Around 17. 10% felt that there were other factors that had a greater influence on ill-health. Almost 13. 30% thought it was due to obesity and the same number thought it was due to cancer. A small percentage believe that congenital heart disease is the cause of the poor health picture in Bulgaria. According to various literature sources, dirty air has claimed over 400,000 victims in Europe, with Bulgaria ranking in the red zone as the most polluted country in the EU in terms of fine particulate matter and ozone levels.

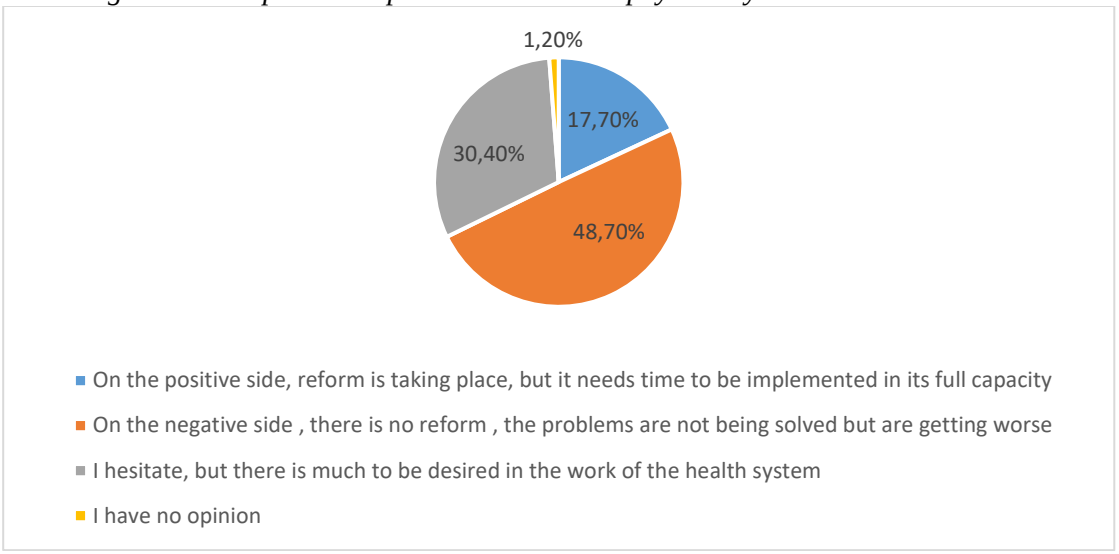
Figure 6. Your opinion on the health system reform



Source: Own survey and calculations

From the data presented in the graph, we can see that half of the respondents are negative because there is no reform, the problems are not being solved, on the contrary - they are getting worse. Some 30. 40% are of the opinion that there is more to be done, while only 17. 70% express a positive attitude and believe that time is needed to implement the reform in its full capacity.

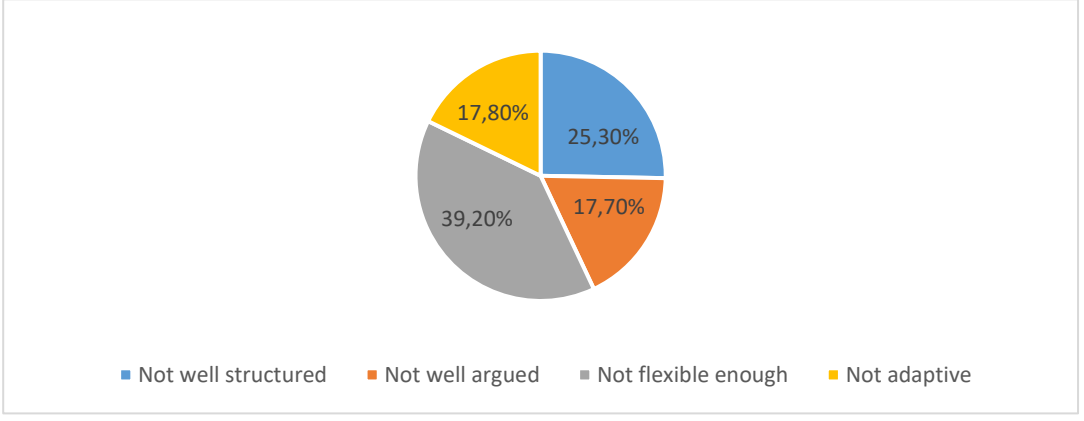
Figure 7. Your personal opinion on the social payment system in health care



Source: Own survey and calculations

Based on the analysis of the respondents' survey, it can be seen that about 48,70% are of the opinion that it is not flexible enough as it is not easy to transform and add new specifics. 25% thought it was not well structured and an equal number of 17,70% thought it was not adaptable and not well-argued.

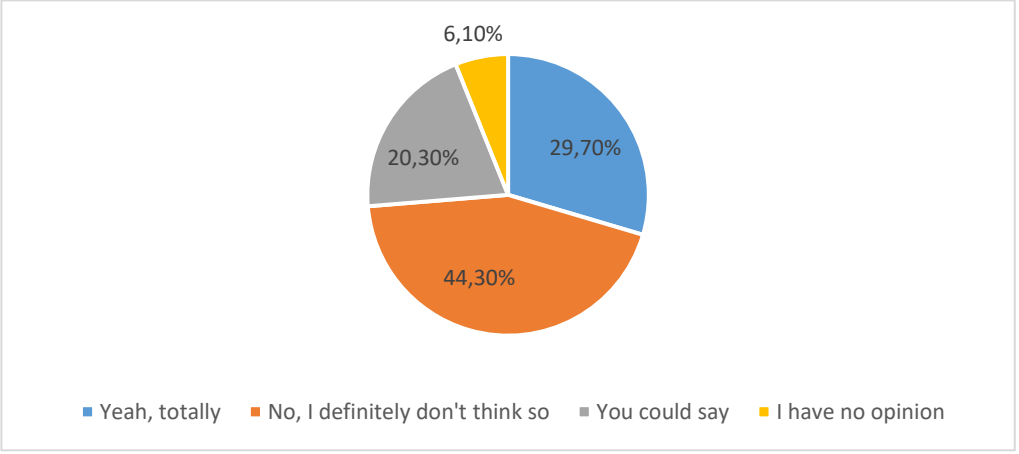
Figure 8. Are social payments in health care sufficient?



Source: Own survey and calculations

From the analysis of the data obtained from answering the question whether social payments in health care are sufficient, more than half are of the opinion that they are not, about 25,30% are of the opposite opinion, less than 17,80% of the respondents are hesitant. The high percentage of those who think that social payments are not enough is partly due to the deteriorating quality of health services and care and partly is proof that Bulgarians are willing to pay more, but for better and more adequate healthcare.

Figure 9. Do you think that social payments in health care can guarantee the provision of quality health services?



Source: Own survey and calculations

From the data presented in the graph, it can be seen that almost half of the respondents are of the opinion that they cannot guarantee the quality of services, while 29,70% are of the opposite position. This is a divergence of opinion as the percentage is extremely close and states two strongly diametric positions. 20. 30% are undecided about their position.

Conclusions

Based on the results of the survey, the following conclusions can be drawn:

First, more than 85% of respondents contribute to health insurance, an extremely small percentage of those who are not insured. This is a cause for concern, despite the small percentage, as health insurance is compulsory by law.

Second, about 35% are people whose monthly income per family member equals about the average wage. The conclusion is that wages are low to cover the expenses of a family of four, which puts Bulgaria in the statistics of the working poor. In 2020 the share of the poor among employed people in the 18-64 age group increased by 0. 7 percentage

points from the previous year to 9. 7 per cent. Impressive is the percentage of respondents who earn around the minimum wage - 15. 8%.

Third, almost half of the respondents have a negative opinion towards the reform of the health care system and are of the opinion that social payments in health care cannot guarantee quality health care services.

Fourthly, civil society believes that it is essential for the social payment system to work more efficiently, especially in the current situation - the coronavirus pandemic.

The conclusions of this study are that the funds allocated for health care are extremely insufficient compared to other EU member states. The Bulgarian citizen is dissatisfied with the quality of the service and the results, the surcharge for medicines and the cumbersome procedures for receiving medicines are some of the reasons for distrust of the system. In addition, slowing down modern medicines and methods of healing process with proven better results than other therapies, emphasizes the need to reform the health system to meet modern requirements for quality, affordable and safe health care.

As a final conclusion, we can say that efforts to improve the health of the nation should be aimed at achieving integrated health prevention, effective health system, high public trust in it and engaging all those involved in the provision and receipt of health care and service. However, these efforts need to be made in a much broader context, where sectors outside the health system play a significant and even predominant role in shaping public health.

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