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Logistic process indicator (LPI) as the measure of infrastructural and regional development

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Abstract: Logistics represents a network of services that support the physical movement of goods, international trade and commerce within borders. The volume of international trade highly depends on factors facilitating trade and contributing to reducing its costs. Logistic is affecting the speed of globalization through optimizing the supply chain. Furthermore, this interdependence is the reason why the improvement of logistic is seen as an essential element of the regional and global development. The main aim of this study is to investigate the impact of key dimensions that affect the logistic process indicator (LPI) and to highlight their importance by applying the adequate methodology of its modeling. The evaluation of the LPI is performed using variables that include customs, infrastructure, ease of international shipments, logistics services quality, tracking and tracing and timeliness. Parameters have been collected for the period from 2007 to 2018. The extensive research is considering the data from 160 country in order to perceive the global level of the LPI. Outcome of the artificial neural network is used to underline developed segments of the logistic process and those segments of the process that need to be further developed.

Keywords: logistic process indicator, prediction, artificial neural network



Introduction

Having in mind that we are living and working in a very dynamic environment with strong competition and strict trade conditions, logistics processes and services are also developing fast. Logistics performance is based on reliable supply chains and predictable service delivery for traders [1]. The most reliable tools for high quality logistics today are information technology solutions and efficient management. National competitiveness depends on the ability to manage logistics in today's global business environment.

The Logistics Performance Index (LPI) is calculated based on a global survey of global freight forwarding companies and logistics carriers. It is an online benchmarking tool developed by the World Bank [2] that measures productivity across the entire supply chain of logistics within a country [3]. The World bank has recognized the significant role of national logistics performance in world trade, as well as differences between countries in logistical parameters. Therefore, since 2007 the World bank initiated an annual global survey of national logistics performance which led to the LPI index development [2]. The index can help countries identify logistic systems' problems and find opportunities to improve logistics efficiency. The World Bank conducts a survey every 2 years. The latest current rating was compiled by the World Bank in 2018 and was calculated for 160 countries. The higher the LPI value, the more developed the logistics system in the country [4].

Research focus in lots of recent studies is on investigating the competitiveness between market participants, but the main aim of this paper is to investigate the global LPI produced by the World Bank [2], to explore the correlation between LPI indicators and to measure which of the six indicators, the LPI is based on, have the biggest influence to the overall LPI score. The six key indicators are: (1) Customs - the efficiency of customs and border management clearance, (2) Infrastructure - the quality of trade and transport infrastructure, (3) ease of arranging shipments - the ease of arranging competitively priced shipments, (4) quality and competitiveness of logistics services, (5) tracking and tracing as the ability to track and trace deliveries, and (6) the frequency with which shipments reach consignments within scheduled delivery times namely timeliness.

The international LPI represents an overall measure of the efficiency of the logistics sector, combining data on six key performance indicators into a single aggregated measure, so there is a need to analyze the indicators behavior, relations between them, and their impact on overall LPI score. To do this, we used Pearson's correlation and artificial neural network analysis. The results will show the prediction ability of ANN model and measure the impact each independent variable has on the overall LPI score.

This research study is organized into five sections. Section 2 is providing the insight into the recent literature review in the field of logistics development. Section 3 is



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describing the data that have been evaluated and methodological approach that has been used to generate prediction model for LPI. The outcome of the implemented analysis has been presented in the section 4 along with the discussion of the most valuable findings. Section 5 is presenting the conclusion of the study.

Literature review

The field of logistics performance (LPI) is the subject of research by numerous authors. This section reviews the literature related to the logistics performance index concerning important conclusions reached in this area.

The World Economic Forum [5] uses interstate evaluation to compare logistics country performance and assess their impact on reducing supply chain barriers, and reducing tariffs in the economy.

Some studies link logistical performance fluctuation with international trade volume changes showing correlation between key logistical indicators and world trade [6]. These studies show the acceptance of the LPI as a measure of assessing the logistics performance of a country, relate logistics performance to trade, and transport policy.

Many authors are linking the LPI index with other logistics indexes such as Global competitiveness index – GCI. Çemberci et al. [7] studied the moderator effect of the Global Competitiveness Index (GCI) on the LPI and concluded that a higher score on the GCI can be achieved by improving the LPI components timeliness, tracking and tracing, and international shipments.

Authors [8] investigated the influence of LPI on the export rate in 23 Asian countries. The results of the study highlight the importance of investing in logistics infrastructure that showed the highest potential to improve the export rates.

Min and Kim [9] combined the LPI score and the Environmental Performance Index (EPI) to create the Green logistics performance index, which presented a completely different ranking than either the LPI or EPI.

Liu et al [10] explored the connection between LPI and environmental impact assessed using CO₂ emissions in Asian countries. The main findings from the study showed the increase in environmental pollution and recommendation to facilitate green logistics.

Erkan [11] looked at the connection between the infrastructure-weighted indicators of the GCI and the LPI. The infrastructure components of the GCI that were used are quality of roads, quality of railroad infrastructure, quality of port infrastructure,



quality of air transport infrastructure, value chain breadth, and company spending on R&D.

A regression analysis was made with data from 113 countries to determine whether there is a significant relationship between the overall LPI score and each of the indicators. The conclusion was that only two of the six indicators (quality of port infrastructure and quality of road infrastructure) have a significant relationship with the overall LPI score [12].

However, among the researched literature there are a very few authors [4] who deal with the examination of the LPI index, its method of calculation since there is no exact data on the calculation of this index so it is wide range of methods that can be used to create prediction models for LPI development.

Data and methodology

Logistics performance index is an important indicator of logistics development of national economy. LPI measurement represents an interactive tool created by the World Bank [2] for tracing improvement of logistics in 160 countries across the world. It allows benchmarking of crucial dimensions that shape the overall LPI score. Key dimensions that generate LPI score are following: customs, infrastructure, international shipments, quality of logistics services, tracking and tracing and timeliness. The dataset for this research was gathered from the World Bank database and it considered timespan from 2007 to 2018. The study was conducted on a global level and considers 160 economy. All six dimensions are evaluated by experts from the field and marked with grades from 1 to 5. Based on the scores obtained by experts overall LPI is determined. Each survey respondent evaluates eight overseas markets based on six key logistics performance indicators. The eight countries are selected on the basis of the most important export and import markets of the country in which the respondent is located. If the respondent's country is landlocked, then the selection is done on the basis of neighboring countries in the logistics chain that connect them with international markets [4]. The global dataset was distributed to six continents in order to compare the evaluation score of LPI and six key dimensions according to the location. Distribution of the obtained LPI scores according to the continents is presented in the Figure 1 to Figure 6. Figure 1 is illustrating the distribution of the overall LPI score in Europe and it highlighted Germany (4.2) as the best ranked economy followed by Sweden (4.05), Belgium (4.04) Austria (4.03), Netherlands (4.02) and the rest of the countries. The lower LPI score was reached in Moldova (2.46), Belarus (2.57) and Albania (2.66). The LPI ranking discovered high oscillations among high-income and low-income economies.

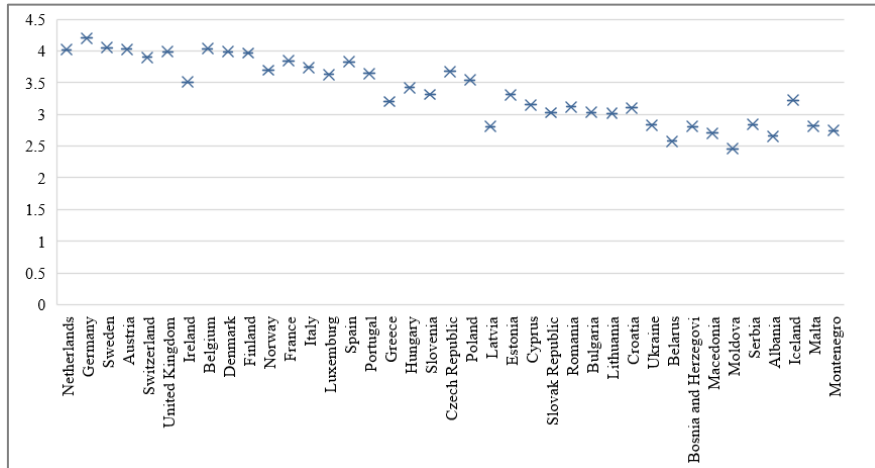


Figure 1 Overall LPI score for European countries in 2018 [2].

Figure 2 is describing achieved LPI score in Asian countries in 2018. The best results are obtained in Japan (4.03) and Singapore (4), followed by United Arab Emirates (3.96) and Hong Kong (3.92). Afghanistan (1.95), Libya (2.11), Bhutan (2.17) and Iraq (2.18) record the lowest score in the overall LPI. It is evident that the ranking of the overall LPI in Europe and Asia are following the economic development of countries.

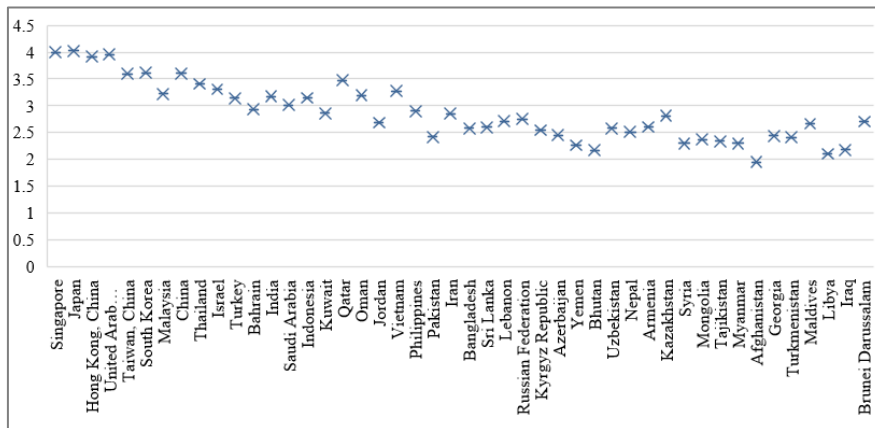


Figure 2 Overall LPI score for Asian countries in 2018 [2].

Furthermore, Figure 3 is presenting the results of the LPI measurements in 2018 conducted in Africa. The highest result was recorded in South Africa (3.38) that is far below than highest scores in Europe and Asia. The rank of South Africa is in the

line with European countries like Hungary, Slovenia or Estonia. While the lowest results were obtained in Angola (2.05).

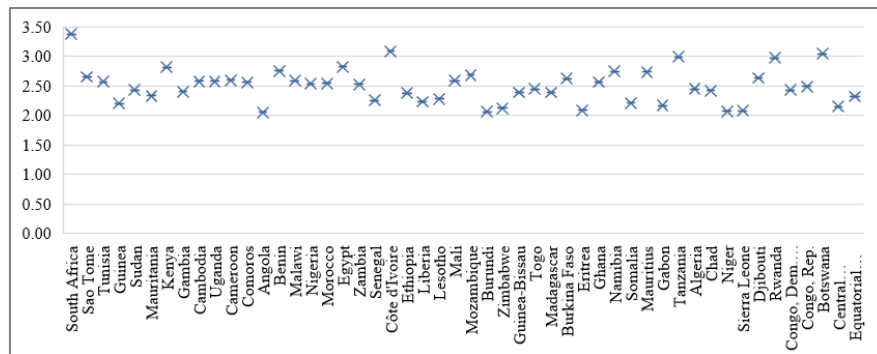


Figure 3 Overall LPI score for African countries in 2018 [2].

In addition, Figure 4 is illustrating the results of the LPI score for 2018 in South America. The leaders in logistics development are Chile (3.32), Brazil (2.99) and Colombia (2.94). Result obtained in Chile is approximately to the result obtained in South Africa. On the other side Venezuela recorded the lowest result of the overall LPI score (2.23). Low variation in the LPI score in 2018 is characteristic for countries in South America.

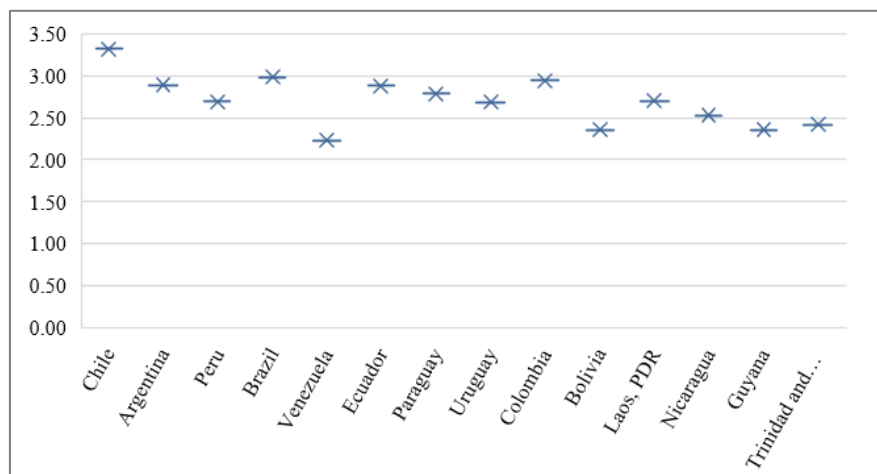


Figure 4 Overall LPI score for South American countries in 2018 [2].

The logistics performances evaluated in North America in 2018 are illustrated in the Figure 5. Pioneers in logistics development are United States (3.89) and Canada (3.73), while Haiti (2.11) records the lowest score.

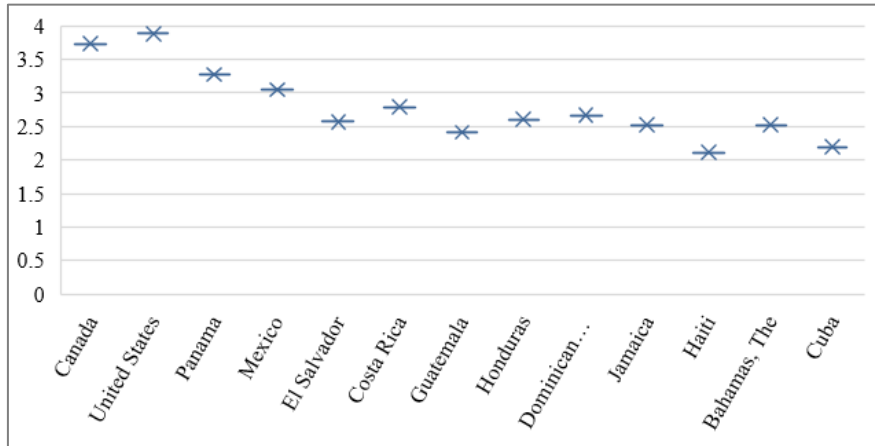


Figure 5 Overall LPI score for North American countries in 2018 [2].

Finally, the LPI score for Australia and Oceania are presented in the Figure 6. The outcome results of the LPI measurements place New Zealand (3.88) as the leader in LP and puts Papua New Guinea (2.17) at the bottom of the ranking list.

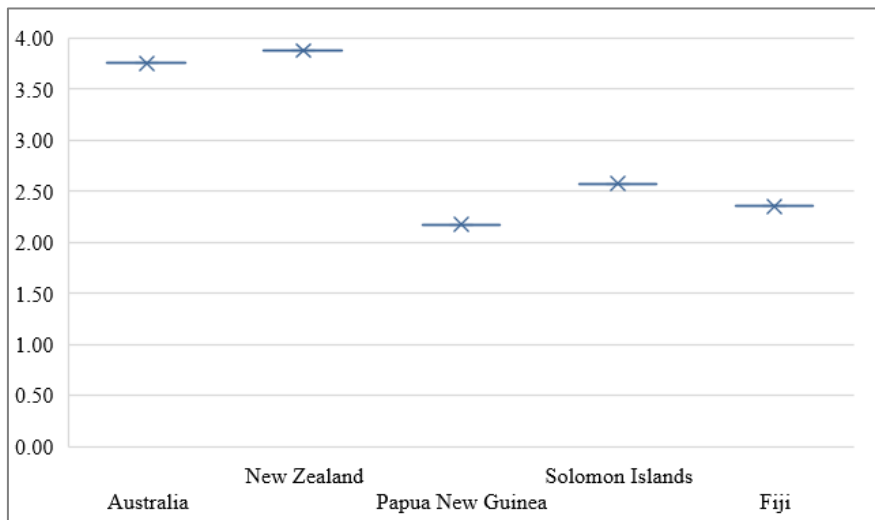


Figure 6 Overall LPI score for Australia and Oceania countries in 2018 [2].

In addition, the key dimensions that were used for calculating overall LPI score were presented in the Figure 7. Graphical illustration below allows comparison of average LPI score according to each dimension across six continents. The dimensions were evaluated with the highest scores in Europe that brings to the conclusion that Europe is the leader in development of logistics performances.

Australia and Oceania along with Asia achieve similar scores of the LPI dimensions. The next in the ranking are North America and South America, while the last ranked is Africa.

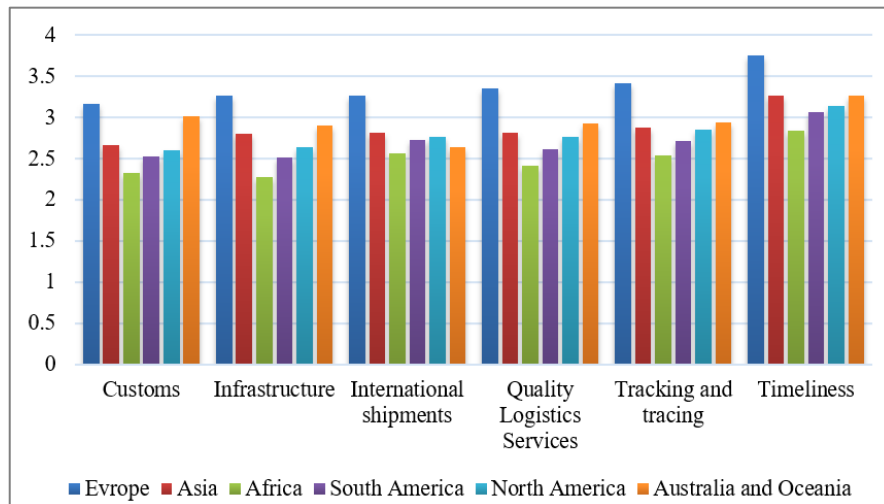


Figure 7 Average score of LPI dimensions for six continents from 2007 to 2018 [2].

The obtained comparisons provided interesting results for further analysis of the key variables. Therefore, the main idea of this research was to use the evaluations of all six dimensions and incorporate them into the prediction model to check the prediction power of the variables. The constructed dataset refers to the evaluation of the global LPI, therefore the results of the analysis presented in the next section are concerning global LPI outcome.

In this paper artificial neural network (ANN) was utilized to create a prediction model using the independent variables to predict the dependent – Logistics performance index. One of the most prominent of digital technologies is artificial intelligence (AI), defined as the capability of machines to communicate with, and imitate the capabilities of humans. Using AI leads to problem solving with higher accuracy, higher speed and a larger amount of inputs. Technological developments have shown that AI has a vast set of applications making headlines by adapting processes in numerous diverse areas including supply chain management (SCM) [13] Artificial Neural Network is a network of simple processing elements called neurons. Artificial neural networks have a natural tendency to save a past data (knowledge) and after learning it, make it available for future use [14].

ANNs can be used for classification, pattern recognition and function approximation and forecasting. Before the development of ANN models, these tasks were carried out by statistical methods such as the linear and nonlinear regression.



The domain of application is wide and includes fields such as the finance, sales, economy, forensic science etc [14].

A multilayer perceptron (MLP) is a deep, artificial neural network. It is composed of more than one perceptron. They are composed of an input layer to receive the signal, an output layer that makes a decision or prediction about the input, and in between those two, an arbitrary number of hidden layers that are the true computational engine of the MLP. MLPs with one hidden layer are capable of approximating any continuous function [14].

Results and discussion

Research process in the study includes several research phases that follow the order of performing statistics analysis of the data as the first phase, calculating Pearson’s correlation among variables that is the second phase and the third phase is constructing ANN prediction model. The most important outcomes of the previously mentioned phases are presented in the following part of the study.

First research phase. Insight in the diversity of the data that were considered in the study was provided by employing several descriptive statistics measurements that was the first phase in the analysis. The results of the descriptive statistics were summarized and reported in the Table 1. The main findings provided by the minimum and maximum values suggest that evaluation marks for variables range from 1.00 to 4.80 where tracking and tracing represent variable with the minimum evaluation mark and timeliness represents the variable with the maximum evaluation mark. Mean evaluation mark for the variables is higher than 2.71 for each individual variable. The lowest mean evaluation is recorded for infrastructure, while the highest evaluation mark belongs to the timeliness. Standard deviation is between 0.53009 and 0.69814 while variance range between 0.281 for international shipments and 0.487 for infrastructure.

Table 1 Descriptive statistics.

	Range	Min	Max	Mean	Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
Overall LPI score	3.02	1.21	4.23	2.8542	.01911	.58604
Customs	3.10	1.11	4.21	2.6529	.01974	.60511
Infrastructure	3.34	1.10	4.44	2.7057	.02277	.69814
International shipments	3.02	1.22	4.24	2.8257	.01729	.53009
Quality Logistics Services	3.07	1.25	4.32	2.7970	.02033	.62316
Tracking and tracing	3.38	1.00	4.38	2.8657	.02103	.64485
Timeliness	3.42	1.38	4.80	3.2662	.01949	.59764
Valid N (list wise)	940					



Second research phase. Next phase in performing analysis was to determine the coefficients of the correlation among selected variables in respect to the overall LPI score using Pearson's correlation. The results of the conducted calculation are presented in the Table 2. In order to take into consideration any variable their statistical significance needs to be computed and the value needs to be lower than 5% ($p < 0.05$). Accordingly, all relationships are characterized by acceptable level of statistical significance ($p = 0.000$). The strongest positive correlation is recognized between quality logistics services and overall LPI score ($r = 0.977$). Described relationship highlights the importance of good logistics services for the LPI ranking and improving. However, the impact of the infrastructure cannot be neglected when analyzing LPI since the correlation coefficient between those two variables equals to 0.970. The rest of independent variables that are tacking and tracing ($r = 0.965$), customs ($r = 0.958$), international shipments ($r = 0.935$) and timeliness ($r = 0.933$) reach high correlation with LPI. The outcome of the correlation analysis showed slight differences between the values of the correlation coefficients that point to the approximate importance of independent variables towards the LPI as the dependent variable. In general, the results of the Pearson's correlation showed high positive association among all variables. This means that all independent variables are highly important for the score of the global LPI.

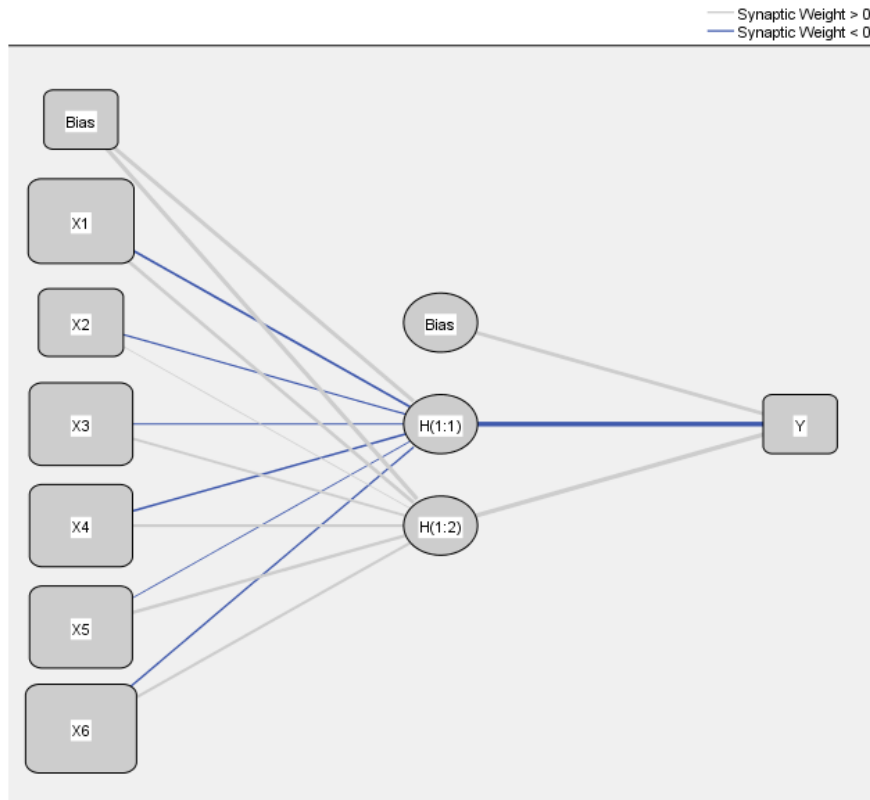


Table 2 Correlations.

		Overall LPI score	Customs	Infra-structure	Inter-national shipments	Quality Logistics Services	Tracking and tracing	Timeliness
Overall LPI score	Pearson Correlation	1	.958**	.970**	.935**	.977**	.965**	.933**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000
Customs	Pearson Correlation	.958**	1	.943**	.865**	.932**	.900**	.854**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000
Infrastructure	Pearson Correlation	.970**	.943**	1	.878**	.950**	.920**	.871**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000
International shipments	Pearson Correlation	.935**	.865**	.878**	1	.894**	.881**	.849**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000
Quality Logistics Services	Pearson Correlation	.977**	.932**	.950**	.894**	1	.939**	.890**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000
Tracking and tracing	Pearson Correlation	.965**	.900**	.920**	.881**	.939**	1	.893**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000
Timeliness	Pearson Correlation	.933**	.854**	.871**	.849**	.890**	.893**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	

** . Correlation is significant at the 0.01 level (2-tailed).

Third research phase. After analyzing descriptive statistics and Pearson's correlation outcome it is necessary to initiate the next phase in the analysis. The next step is to apply ANN methodology to create ANN prediction model using the independent variables to predict the dependent LPI. For that purpose, a total number of 966 considered data were divided into training and testing sample equal to 69.3% and 30.7% successively. The structure of the established artificial network that is illustrated in the Figure 8. was set up of three layers that consist of various neurons. Six independent variables were used to build up the input layer of the ANN prediction model. The model considered two hidden layers. Overall LPI was determined as the output layer. The model performance was evaluated based on the sum of squares error (SSE) and relative error (RE) for both training and testing sample. SSE result for the training sample was 0.316 with relative error of 0.001, while the SSE result of the testing sample was 0.166 with 0.001 relative error. Obtained error results imply on the acceptable estimation ability of the ANN model.



Hidden layer activation function: Hyperbolic tangent

Output layer activation function: Identity

Figure 8 Artificial Neural Network.

The prediction ability of the constructed ANN model is excellent and empirical evidence for that can be found in the estimations that are presented in the following Figure 9 and Figure 10. The graphical representation of the comparisons show low deviations that confirm good model fit.

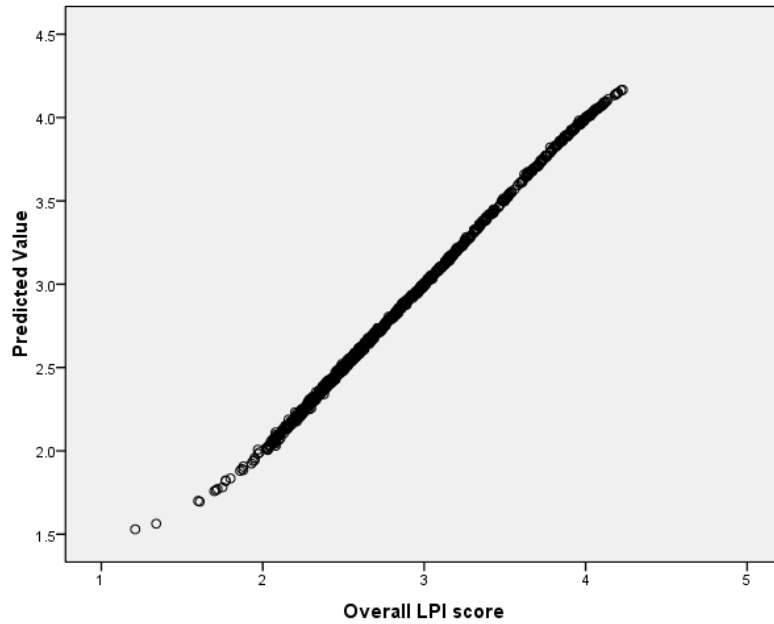


Figure 9 Comparison of realized LPI values and predicted values.

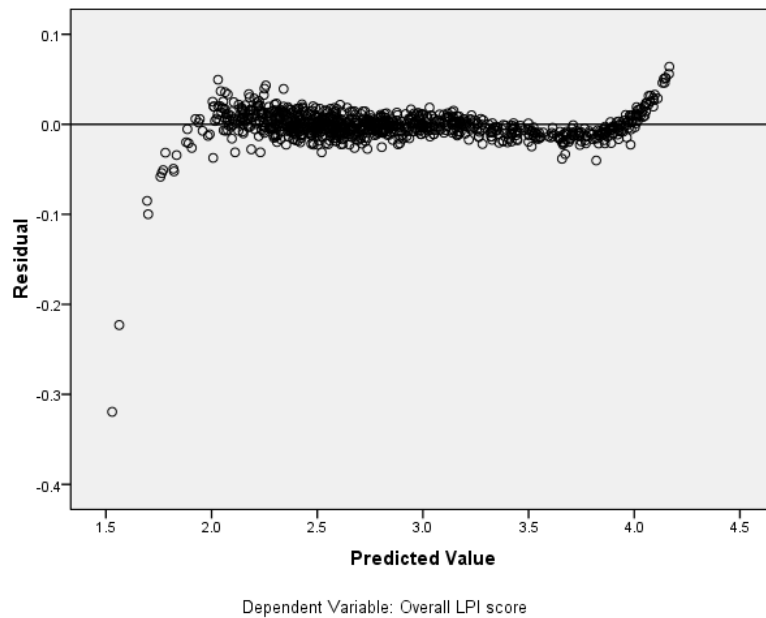




Figure 10 Comparison of predicted LPI values and residuals.

Further investigation of the input layer in the ANN model is based on the consideration of six independent variables. Their individual impact on the overall LPI score is reported in the Table 3. Empirical evidence showed approximately similar impact of variables that range from 0.123 to 0.190. The lowest impact is perceived in the case of the infrastructure variable, while the strongest impact is recognized in timeliness. Variables tracking and tracing, quality logistics services and international shipments express minimal difference in the level of influence. The nature of the outcome results suggests that all investigated variables are important in predicting future trends of LPI score. In other words, there is no specific independent variable that achieves higher influence than others and that should be considered separately.

Table 3 Independent variable importance.

	Importance	Normalized Importance
Customs	.177	92.9%
Infrastructure	.123	64.5%
International shipments	.171	89.7%
Quality Logistics Services	.170	89.2%
Tracking and tracing	.169	89.0%
Timeliness	.190	100.0%

Figure 11 is illustrating impact of each independent variable on the dependent variable LPI expressed in percentages.

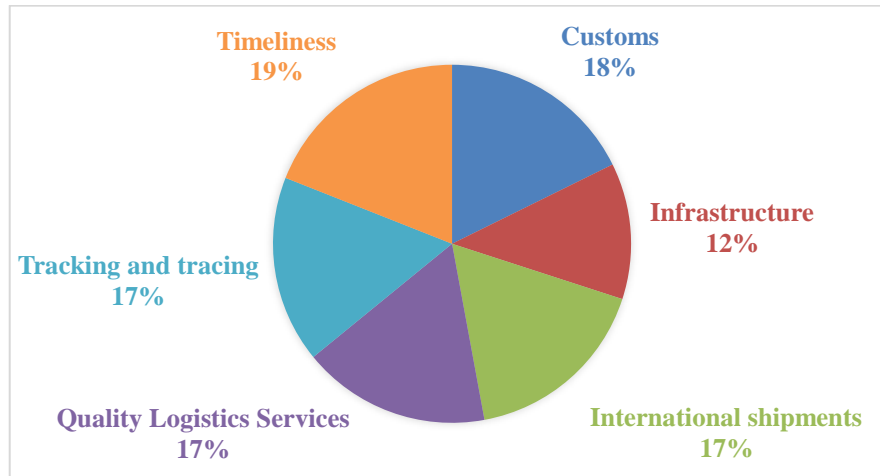


Figure 11 Individual importance of the independent variables.

Various conclusions can be made when conducting a comparison analysis of the results obtained by Pearson's correlation and ANN methodology. Empirical evidence from both analysis highlight the strong positive linkage between the independent and dependent variables. The most important relationship among them according to the Pearson's correlation coefficient is the relationship between LPI and the quality of logistics services ($r=0.977$). On the other side, ANN methodology offered different ranking of the independent variables importance and puts timeliness as the variable with the strongest impact on the LPI score. Share of 19% of the variables importance weight in respect to all variables belongs to the variable timeliness.

Another interesting observation is that according to the Pearson's correlation the variable namely infrastructure holds second position with correlation coefficient of 0.970 while the same variable is ranked as the least influential on the LPI with only 12% share of individual importance for the LPI score. However, the results that were further analyzed are ANN outcome results of the global LPI. The prediction model for the global LPI provided valuable predicted estimation with no major deviations. When looking at the individual importance weights of independent variables, ANN methodology is underlying the high importance of the timely deliveries to the customers in respect to the other variables. By improving the timeliness of delivery, the efficiency of the logistics process would improve resulting in higher overall LPI score. Nevertheless, decreasing the time needed for delivery is not an easy task since it depends on many internal and external factors. Some of those factors are other independent variables that were included in this study like for example infrastructure or customs. Therefore, secondly ranked variable is referring to customs. International shipment means crossing the border



of one or more countries to deliver the shipment into the destination country. The efficiency of the custom process is determining the time that is spent on handling shipments in the borders. Therefore, it is essential to prevent any delays caused by customs. Possible difficulties that can occur may be, for example, the consequence of technical or legislation nature. When talking about legislation problems, the role of the government is crucial in regulating the customs procedures. Many countries have already formed alliances or trade unions that secure faster and reliable customs procedures. Such example is European Union that assure shorter time spent in transition within its territory. More of these unions and agreements on international level between governments are necessary to improve the customs process. In addition, it is expected that reducing the time needed for the customs would reduce the delivery timeliness. This statement is supported by the results of the Pearson's correlation coefficient ($r=0.854$) for timeliness and customs and confirms that changes in both variables must be in the same direction. Next three variables that are tracking and tracing, quality logistics services and international shipments achieve almost the same share ($\approx 17\%$) in their individual importance weights towards the global LPI score. In logistics, tracking and tracing are crucial processes for providing exact information of the shipment location in real time and securing the successful shipment delivery. Furthermore, assessing quality of logistics services and international shipments cannot be possible without adequate following infrastructure. Poor infrastructure is driving away potential foreign investors. In this study, ANN prediction model classified infrastructure as the sixth ranked variable important for the global LPI with a bit lower importance weight of 12%. Infrastructure and good connectivity between cities, countries and continents is the key of successful trading. The more developed transportation infrastructure means higher competitiveness of the economy and attraction of additional foreign investments. Trading and logistics are supporting the economic development of every society so for achieving higher economic growth it is necessary to invest in routes and other following infrastructure.

All six indicators that have been used in the study to are very important in determining the speed of globalization and provides the idea on how far is a specific country, region or continent developed and organized in the field of logistics. The foundation of the globalization is seen in global connectivity and exchange of people, goods and money without any obstacles. The development extent of the LPI score can decide on weather country is marked as attractive for international trade and transportation or not. Overall LPI score of countries allows identification of logistics indicators that provide great results or achieve low outcome. Therefore, the LPI measurement provides possibilities to compare logistics improvement of economies in different regions. Any kind of improvement of LPI indicators can bring to regional cooperation and increase of international trading flows.



Conclusion

International cooperation is gaining momentum in trade. In order to make products and services available to all interested customers governments of various countries sign various cooperation agreements. The market is becoming global and competitiveness is strengthening. All these are the consequences of globalization. In order to survive in the global market, countries must ensure the competitive advantage of their products and ensure good business conditions in the domestic market in order to attract foreign investors. The development of logistics is one of the important indicators of the country's attractiveness for attracting foreign funds. In order to measure the development of logistics and to be able to compare these measurements at the global level, a logistics performance index was created. Logistics performance indicator is a relatively new tool for analyzing and comparing the level of logistics development in every country that was first introduced in 2008. The results of the LPI are useful for gaining knowledge about the various questions in the logistics field such as the state of infrastructure in particular country, the efficiency of the customs procedures, time needed for delivery, efficiency of the tracking and tracing process and handling the international shipments. However, to be able to use LPI data it is necessary to understand their nature and internal relationship among them. This research was based on the problem of analyzing and predicting the values of LPI by employing six LPI indicators. The calculation procedure for the LPI was not explicitly defined so it is convenient for researchers to apply different models to find appropriate methodology for future calculations.

The main research results of this study provided few interesting observations and the most important of them are highlighted. Conducted Pearson's correlation analysis showed high positive correlation coefficients for all independent variables in respect to the overall LPI score. The detected correlations provided statistically significant results. The strongest correlation of LPI is recorded with independent variable namely quality of logistics services ($r=0.977$). The detected correlations of LPI with the rest of the independent variables range from 0.933 to 0.970. However, the outcome of the Pearson's correlation that describes the relationships among independent variables imply on high positive linkage between them. This means that all variables express high positive connectivity with the overall LPI and any improvement in individual variables would induce improvement of the overall LPI score. The LPI overall score was predicted using ANN prediction methodology. Estimations provided by the model for predicting global LPI score expressed good fit of the model without any major deviations. As a part of ANN methodology, the importance of individual variables described as input ANN layer was determined towards global LPI score that generated output ANN layer. Outcomes of the importance calculation showed approximately equal importance weights of considered variables that range from 12% (infrastructure) to 19% (timeliness). Accordingly, the individual importance weights calculated by ANN confirmed the



results of the Pearson's correlation coefficients stating that all variables are important for improving LPI score. It leads to the conclusion that governments should develop each of these six fields simultaneously. Also the improvement of an individual variable can provoke improvement in other variables so the regulation of logistics issues and challenges should be considered carefully. Governments should take into consideration to adopt legislation and policies that are harmonized with global logistics trends. Their policy should be focused towards creating new agreements and unions that foster the development of logistics process and regional collaboration. The most effective way of using past LPI scores is to plan long-term strategic targets with the help of prediction models that can be used to estimate future values of the LPI. Another advantage of using prediction models in evaluating LPI is the emerged possibility to simulate the effects of variables on the total LPI score. Obtained simulation results could be used in formulating policies and legislations that arrange the field of logistics. Future research could be directed towards employing additional parameters that are of interest in logistics.

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Entrepreneurship in the Covid Era

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Abstract: The author attempts to summarize the origin of the current pandemic highlighting the evoking reason in the light of the international conference of the Medical and Ethical Emergency Deliberation held in Amsterdam. The COVID-19 is not a pandemic but a planned world-scale operation. The Corona measures result in destructive economical, physical and psychological effects on society, which are strongly disproportional to the goal of controlling the proclaimed pandemic.

Sustainable Development is impossible. The current financial system based on interest is set to a forced growth. However, our Earth, how is a finite system where no subsystem can work infinitely. The mankind instead of living in harmony with the wonderful order of the nature, the 20th and 21st centuries show significant impact on the Earth's geology and ecosystems, including, but not limited to, anthropogenic climate change. The man with his civilization activity disturbs and overturns the equilibrium of the created world, the ecosystem.

The COVID/19 pandemic is a human tragedy effecting the life of billion people. It has negative impact of the global economy, agriculture, industries and micro, small and medium/sized enterprises (MSMEs). Consequently, the economic activity is slowing down without specific ending date.

According to the International Council for Small Business (ICSB), former and informal micro, small and medium sized enterprises (MSMEs) represent more than 90% of all firms, account, on average 70% of global employment and 50% of GDP. Unfortunately, small businesses are being hit hardest by the pandemic. Solutions are needed to give them the support they need to survive and continue to contribute to the global economy. In order to raise public awareness, the United Nations General Assembly declared June 27 MSME Day.

The author presents the findings and suggestions of the International Labour Organization SCORE - Sustaining Competitive and Responsible Enterprises – Global Covid-19 Enterprise Survey. MSME Day 2020 should focus on the needs of SMEs in order to support them to survive and contribute to global economy.

FOREWORD

The COVID-19 is an unprecedented global crises, affecting human health and economic welfare across the globe. It is first of all a health crises, but resulted in a global economic slowdown. The WTO estimates that the world merchandise trade



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could fall between 13-32 %, while the estimated global losses in GDP will be 5%, will in 2020 .

ILO Sustaining Competitive and Responsible Enterprises - SCORE Programme Survey indicates that formal and informal micro, small and medium sized enterprises (MSMEs) represent more than 90% of all firms, account, on average 70% of global employment and 50% of GDP. Unfortunately, small businesses are being hit hardest by the pandemic. Solutions are needed to give them the support they need to survive and continue to contribute to the global economy. In order to raise public awareness, the United Nations General Assembly declared June 27 as MSME Day. [1]

According to ILO SCORE Survey SME responses to the survey are diverse, yet all small businesses are united in asking for support to ensure their sustainability through the pandemic. Their priorities are clear:

- 57% of companies would like advice on infection prevention; and
- 50% would like advice on business continuity.

The European Investment Bank summarizes the negative impact of the Coronavirus on the MSMEs and highlights the most important features as following:

First MSMEs are more labour-intensive than other companies and therefore more exposed to disruption, especially when workforces are in quarantine.

Second MSMEs have thinner liquidity reserves. They have limited financial alternatives. They lack assets that can be disposed of, or that can be used as collateral for new credit lines. All these factors make them more vulnerable and exposed to the so-called liquidity squeeze.

The SME United reported that 30% of total SMEs report that their turnover is suffering at least an 80% loss, with an EU average which is about 50% loss. In Belgium the decline in turnover for 72% of SMEs, Germany reports a decline of 50%, France and Spain a decline of 80% and 70% in sectors confined. [2]

The most vulnerable sectors hit by the COVID-19 are the following:

1. Tourism is one of the world's major economic sectors. It is the **third-largest export category** (after fuels and chemicals) and in 2019 accounted for **7% of global trade**. For some countries it represents nearly 20% of the GDP. In some Small Island Developing States it represents even 80% of the GDP. According to the World Tourism Organization 100 to 120 million jobs are in risk.
2. The **tourism industry** is one of the Siamese twins. In Q2 2020, 80-100% declines were reported across airlines, as many tourists group cancelled their hotel accommodations, did not visited museum, restaurants and catering facilities due to curfew.



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3. The **leisure, hospitality, sports and recreation, personal services** and large parts of the **retailing sector** are among the sectors most affected by partial or full lockdowns.
4. The **manufacturing sector** suffers slowdowns or (partial) shutdowns during national lockdown periods with repercussions across borders.
5. A significant hit was in **service** and **manufacturing**. Alone in the US the national unemployment rate increased from 3.5% to 14.7%—the largest spike in the post-World War II era. [3] Out of the manufacturing sector the **automotive, apparel and footwear, and computer and electronics sectors** are among the sectors most exposed to indirect effects from lockdowns abroad because of negative repercussions along international value chains as the International Trade Center evaluated.

MEDITATION ON COVID – ORIGINE and ITS GOAL

MEDITATION ON COVID-19 AND THE WORLD POWER:

instead of *PANDEMIA*

the reality is:

PLANDEMIA

Numerous independent experts, medical and juridical professionals, policy makers and senior managers gathered on 11 September 2020 in Driebergen-Rijsenburg (Province of Utrecht), the Netherlands and discussed the narrative needs to discuss and investigate the Covid-19. The voices of these experts are ignored and even censored by the multimedia Governments. The Motto of this gathering was that “We the people have to take back the power and protect our children and all of humanity against genetic experiments”. An International convention was elaborate and accepted called MEDICAL and ETHICAL EMERGENCY DELIBERATION. [4] The Medical and Ethical Emergency Deliberation has layed the foundation for an international alliance between European doctors and lawyers. Experts law and medical science shared their views on surviving and striving for the restoration and recovery of science and moral values while facing misinformation and censorship.

From Hungary *Dr. János DRÁBIK*, Msc Law and Political Science, President of the Strategic Committee of the WORLD FEDERATION OF HUNGARIAN delivered



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remarkable presentation on The supranational power's plan for the militarized control of the population. In his presentation he pointed out that „The goal is to create a worldwide chaos so that after the global clean-up the global elite can consolidate its rule over the threatened people. The supranational power wants to stabilize a unipolar global order through a universal force-culture where the strong can do anything against the weak with impunity. Therefore, nations holding on to their national culture and identity have to stand up and refuse to put on this universal intellectual straitjacket.” [5]

Dr. Drábik drew attention of the participants to the **National Covid Testing Plan – Pragmatic Steps to reopen our workplaces and our communities** by the Rockefeller Foundation announced on 21 April 2020 In this document the Rockefeller Foundation defines the **strategy for the steps that need to be taken to open workplaces and restart community life**. However, contrary to what the plan's name suggests, the authors outlined a hierarchical, highly militarized social model. [6]

- At the top of the hierarchy is the **Pandemic Testing Board**, PTB. the leading role would not be assigned to the constitutionally accountable representatives of the Government but to the confidants of the financial and economic sector. This high-level board would have authorizes acts by the president of the United States during war time.
- **The Action Plan** finds it important to establish an organization called the **Pandemic Control Council**, which would be entitled to create a Pandemic Response Corps, a special power-enforcement entity.
- **The Action Plan of The Rockefeller Foundation** was primarily made for the United States, but evidently it would be applied to other countries too.

Covid-19 IS NOT A SPONTANEOUS PHENOMENON! It is an attempt of the supranational power to introduce global Governance. It is a planned world-scale operation.

Mike Pompeo, Secretary of State of the United States put his foot in the pandemic matter when he said that COVID-19 is actually an operation carried out live. **It is the real-time testing of a carefully prepared strategy**. The leaders of the **PENTAGON** and the **NATO** took part in the preparation of the crisis together with the intelligence community. It is not only about weakening China, Russia and Iran, but it is about **destabilizing the economic situation** of the states quarrelling each another of the European Union, which is not willing to defeat Europe from the growing number of refugees.



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The current world-wide pandemic has three phases:

1. The first phase of the pandemic was **a trade war against China**. This a certain extent it also halted the export-oriented industry sector.
2. In the second phase the danger of a **world economic collapse** was exceeded by fear and the manipulations of the financial market. The pandemic reached its peak in February 2020, which lead to partial collapse of the financial and stocks market.
3. The third phase saw the **introduction of restrictions**, the imposition of curfews and the paralysis of the global economy. This phase started in March 2020. **The aim of this phase was to halt the world economy and transform it in a predetermined way through mass restrictions.**

Unfortunately, the devilish scenario is highly seasoned with the issue of the migration. The leaders of the European Union commit suicide allowing accommodation of million illiterate and unskilled refugees without travel document and medical certification. The British *Douglas Murray* pointed out this situation in his book "The strange death of Europe". [7] Brussels illicit punish those EU Members, who refused admission of the unwanted warriors. Brussels and the world liberal Power intend to create a mixed race without national identity, patriotism, religious identity, which can be easily manipulated. The majority of East-European countries had no earlier colonies, they preserved national identity and they do not need migrants. Unfortunately, majority of the top EU-leaders are leaving in single parent family. The loss of population can be compensated by healthy family planning, such policy, what e.g. Hungary does. The world-scale pandemic we could call as the III. World War. While during the II. World War between 1939 and 1945 75 people lost their life. According to the Johns Hopkins University (JHU) Hospital Coronavirus Resource Center out of 191 countries 64 million people infected, the global death is 1 469 835 as of 1 December 2020. (See at <https://coronavirus.jhu.edu/map.html>). Unfortunately, so far we do not see the end of the pandemic tunnel, the number of cases are growing day by day.

Our meditation about the future we have to finish with the **AGENDA 2021**, which is a supplementary to **AGENDA 2030**, will officially be declared in Annual Meeting 2021 in Lucerne-Bürgenstock, (Switzerland) from 18 to 21 May. The **Agenda 2021** is not identical with the **Agenda 21** non-binding action plan of the United Nations with regard to sustainable development [8]. This time **World Economic Forum** will publish its manifesto, **THE GREAT RESET**. This event will be taken place in Lucerne-Bürgenstock instead of the well-known Davos. **Klaus Schwab**, founder and executive Chairman of the World Economic Forum, and **Thierry Malleret**, founder of the Monthly Barometer, explore what the root causes of these crisis were, and why they lead to a need for a Great Reset. [9] The World Economic Forum is aiming to be back in Davos for its Annual Meeting in 2022.



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SUSTAINABLE DEVELOPMENT

Looking at the future we should raise the question whether the sustainable development is possible or not? My simple reply is that it is impossible.

No clear definition of sustainable development exists to guide politicians in solving challenges at the global or regional levels. However, unquestionably, sustainable development still is an important concept, which was clearly illustrated at the United Nations Conference on Sustainable Development (Rio+20), held in Rio de Janeiro in June 2012. One of the conference's main outcomes was the agreement by member states to set up sustainable development goals, which could be useful tools in achieving sustainable development.

The term “sustainability” has its origin in ecological science. It was developed to express the conditions that must be present for the ecosystem to sustain itself over the long term. The International Institute for Sustainable Development defines that *Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.*

The current world financial system based on interest is set to a forced growth. However, our Earth is a finite, limited system. The Ecological Footprint is the only metric that measures how much nature we have and how much nature we use. At the time being the mankind uses 1.7 times more resources as compared with the regeneration capability of the Earth. This year the Earth overshoot day delayed three weeks accounting 22 August – due to effect of the pandemic.

According to the Stockholm International Peace Research Institute the biggest source of the environmental pollution is the military industry. In 2019 the total military expenses reached 1.91 billion USD! Experts are estimated that only 1 % of this amount could solve all the drinking water problems in Africa and Asia!

The United Nations Member States in 2015 adopted 17 Sustainable Development Goals – SDGs or Global Goals – which has 169 targets that countries attempting to reach by 2030. [10] At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries - developed and developing - in a global partnership. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests.

The sustainable development is not possible because of the lack of mutual understanding of mankind. We are eyewitnesses of extraordinary catastrophes,



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hurricanes, cunamis, however the mankind behaves like a bad boy, ignore the warning signs. **The mankind shouldn't wait until it is too late.**

UN Secretary General *Antonio Guterres* issued a searing indictment of humanity's "war" on the environment on 2 December 2020 at the Columbia University in New York, in a speech on the State of the Planet, in which he urged everyone to prioritize "making peace with nature." "We are facing a devastating pandemic, new heights of global heating, new lows of ecological degradation and new setbacks in our work towards global goals for more equitable, inclusive and sustainable development," Guterres said in the address. "To put it simply, the state of the planet is broken." "Humanity is waging war on nature. This is suicidal. Nature always strikes back – and it is already doing so with growing force and fury". Two new reports – from the from the World Meteorological Organization and the other from the United Nations Environment Programme - "spell out how close we are to climate catastrophe," [11], [12] However, the UN Secretary General sees hope. There is momentum toward carbon neutrality. Many cities are becoming greener. The circular economy is reducing waste. Environmental laws have growing reach.

MEASURES AND SCHEMES HELPING TO ASSIST MSMEs TO SURVIVE AND OVERCOME THE COVID-19 PANDEMIC

At time being there is no recipe how to survive the pandemic, how to preserve the market and keep the solvency. Each countries, Governments and business communities are searching to possibilities to survive. Those SMEs, which are rigid in business philosophy are dying. However, businesses, which offer some additional plus activities, getting to be flourished. Restaurants, which offer delivery of dishes and perhaps combine the delivery with individual taxi services, survives this difficult time.

SIX FACTORS OFFERED BY THE ICSB

Ahmed Osman, President of ICSB, offers **six critical factors for every MSME** and start-up to keep in mind as they move into the realm of post-COVID-19. His particular position within our current situation as an entrepreneur, centered in the realm of micro, small, and medium-sized enterprises (MSMEs), coupled with his leadership position as the head of a renowned international organization, [13]



First: MSMES must be assess their current financial situation. they have to understand the deficits, future inflow of funds, potential expenses & liabilities of their current enterprise. from this, it is advisable to create a six-month action plan. As reality guide for financial health check companies can then decide whether they need to make potential pay cuts, pull back on investment and stop new recruitments.

Second: Businesses must re-valuate their business plans based on their financial assessment, the risk and the revival strategy. Within the uncertain times, the pre-COVID-19 business plan can not guide the business in the way the entrepreneurs need them. redefining business goals, and planning a more realistic growth plan, we can then integrate all involved stakeholders, including employees and external investors.

Third: The third method involve creation of a strong digital ecosystem. By becoming empowered digitally, business must transform the preconception that digital platform is luxury. the business's digital engagement will not only help „positive brand recall”, but also assist in generating businesses, especially in retail. an active social media presence can work as a magnet for consumer and stakeholder engagement. As impressive digital ecosystem supports also remote working, while upholding data protection, productivity and well-being of employment.

Fourth: The next way is adopting the Fourth Revolution for Business. By leveraging modern innovation and technologies, MSMEs can find simply ways in which they can incorporate these strategies for higher income of investment.

With a well-planned strategy, a technology-enabled, highly productive, next generation business can be created by mapping out a two-three years business plan, by implementing this urgently, a short term growth goals should be accomplished.

Fifth: It is essential to note, that businesses now can rely on less physical space and assets. remote working are real, effective and productive mode of operation. Physical meetings can be held much often which can reduce the office space, meeting room size, reduction of the overhead costs associated with security, utilities and insurance.

Sixth: MSMEs must put in place a crises management strategy, which will work to consider both immediate and long-term impact. Therefore, by creating a financial back-up plan, as emergency fund, in addition to a robust digitally enable ecosystem, we can ensure a maximization in productivity, even in the wake of a crisis. We need robust revival plans to support MSMEs during and following moment of uncertainty.



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SUGGESTIONS OF THE ILO

The pandemic crises has had different impact of MSMEs, on employees, their families, Special attention should be given to the following groups:

- Employees working in the health care and social security sectors, often on the front line of the battle again this pandemic;
- Older workers and employees, who even in normal times face difficulties in finding decent work opportunities and now have to face with an additional health risk;
- Artists and performers who have no appearance due to cancel of public events;
- Unskilled workers in the grey economy, like carriers, transport workers, street cleaners;
- Young temporary workers, whose employment is subject of fluctuation of demand;
- Micro-entrepreneurs and the self-employed – particularly those operating in the informal economy, who may be disproportionately affected and are less resilient.

The ILO has structured its key policy messages for response to the crisis around four pillars. Like any solid foundation, each pillar complements the others in sharing the weight of the enormous load faced by countries. [14]

The *first pillar* is **Stimulating Economy and Employment**. This pillar includes:

- Active fiscal policy
- Accommodative monetary policy
- Lending and financial support to specific sectors, including the health sector

The *second pillar* highlights **Supporting Enterprises, Jobs and Income**. This pillar includes:

- Provide various types of relief, including financial and tax relief, for enterprises
- Implement employment retention measures
- Extend social protection to everyone



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The *third pillar* orients on **Protecting Workers in Workplace**. This pillar includes:

- Strengthen occupational safety and health measures
- Adapt work arrangements (e.g. teleworking)
- Prevent discrimination and exclusion
- Provide access to health for all
- Expand access to paid leave

The *fourth pillar* points out that we should **Rely on Social Dialogue for Solution**. This pillar includes:

- Strengthen the capacity and resilience of employers' and workers' organizations
- Strengthen the capacity of governments
- Strengthen social dialogue, collective bargaining and labour relations institutions and processes

CONCLUSION

With the help of the planned pandemic the supranational financial power could paralyse global and multinational companies including the biggest aviation companies, hotel chains, high tech labs, global trade networks and import-export companies, and then thousand SMEs. These are now all on the verge of bankruptcy. At the peak of the pandemic the world is witness, that not only the economic life that got paralysed but the whole structure of social life, cultural institutions and educational state and private institutions, too.

The coronavirus pandemic continues to spread across the world following a route that is difficult to predict. Countries are adopting different measure trying to isolate the player in the world economy, health, humanitarian and socio-economic affairs. The policies adopted by countries will determine the speed and strength of the recovery. Unfortunately, so far we do not have reliable vaccine to fight of the pandemic. In July 2020 the U.S. Department of Health and Human Services and the Department of Defense (DoD) announced an agreement with U.S.-based Pfizer Inc. for large-scale production and nationwide delivery of 100 million doses of a COVID-19 vaccine. However, we have yet no enough practice and evidence on the long-term effect and impact of this vaccine. The other big pharmaceutical companies and factories, laboratories and agencies competing with each other, the mankind even in this dangerous situation is not holding together against this disease.



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The countries are dancing on the razor edge. The primary aim of every Government is to minimize the loss of life but keep going the economy. There is a need that every citizen should be disciplined.

Unfortunately, the European Union has no clear policy in this issue. Instead of boosting the recovery and rebuild the post-COVID Europe, the long-term budget intent to deal with political condition call democracy. According to Brussels technocrats only those countries will allow to utilize this budget, who accept settle migrants destroying the country ethnic unity. The EU so far has no definition concerning democracy in the EU constitution, so it is a devilish plan.

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Secrets of an Effective Islamic Banking System

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Abstract: Is a banking system possible in which morality, religious exaltation, and profit are present at the same time. Is it possible that the assistance is not an end in itself but a purpose together. The answer to that is yes, it is possible. As we return to the moral principles that formed the basis of all practicing religions, and some still do today. One religion where it is still somewhat preserved is Islam. Both the principles of cross and Islam are aimed at development, the support of the other, while banks are also capable of good business results. It is possible, but for that we need to go back to basics and change our approach. How does Islam do this?

Keywords: Islamic, Banking system, morality

1 THE ISLAMIC RELIGION

The word Islam means “devotion to God, resting in the will of God”. Muhammad, therefore, called the Arab form founded by monotheism without idolatry, which was intended to be the youngest religion in the world. Believers in this religion are Muslims. By the word “Muslim” we mean devotion to Allah, who follow this religion to call themselves and their religion. Turkish version: Muslim, the term Mohammedan (after the name of the prophet) is also used, but due to their inaccuracy, believers reject them. In Europe and Hungary (Middle Ages), Muslims of different ethnic backgrounds were called Ishmaelites or Bohemians, while Arabs who conquered Spain were called Moors.

The religion of Islam itself can be seen as a monotheistic religion based on monotheism, built on the teachings of the believing prophet, and fully trusting his words as well as believing in life after death. It is important to note that Muslims do not recognize a religion other than their own religion — its faith — and Christianity.



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The Islamic religion is “monotheistic,” nevertheless, in this religion it can be said that it considers the individual to be the cornerstone of society, as it emphasizes man’s accountability to God. Accountability is not a strange feature either, as it is a specific theorem of monotheistic religions. This religion sees the world as a network of relationships that is conservative in nature. By conservative nature, he means that he did not take into account changes (at least at the level of credit) because of ancient views, and therefore did not adapt the principles of the operation of the economy to that. Why do you say that? - Activities based on non-dogmas can disrupt the Islamic-based economic system, disrupting much of the economic action based on the principle of justice.

According to Islamic teachings, private property and self-management is a fundamental right of Muslims, but within moral limits. Justice is the most basic instruction proclaimed and disseminated by the Islamic religion. (Balázs, 2008)

1.1 A brief history of the islamic religion

At the beginning of the 7th century, it began to develop in the Arabian Peninsula, where it was subjected to pagan, but at the same time Christian, Jewish and Zoroastrian influences.

The Arabian Peninsula is the largest peninsula in the world with an endless, hot desert. An area inhabited by nomadic shepherds and Bedouins engaged in horse and camel farming (nomadic Arabs of African descent belonging to the Semitic language family). Due to the great drought, there was a constant struggle for water and the pastures of the oases, as well as for livestock. (Goldziher, 1881)

The population of southern Arabia was engaged in large numbers of trade, but the Middle East was also involved. Trade has developed caravan routes. The word caravan is a Persian-rooted word, named after a group of people traveling on a camel or horse. Merchants, pilgrims who travel together in the desert or other dangerous area for greater safety. Along the caravan routes, merchant cities were created, controlled by a stronger tribe, thus controlling the trades passing through them. One such trading town was Mecca, home to the holy fetish, the Kaaba stone, which later became the cradle of the Islamic religion. The inhabitant of this town was Mohamed (570-632), who was the son of a poor merchant, having been orphaned early by his grandfather and then raised by his poor uncle. He started working early as a camel hairdresser, thus getting to know the Arab world. He gained an insight into the lives of Bedouin shepherds, coming into contact with Persian, Jewish and Christian culture. Mohammed was known throughout Mecca as “Honest,” regardless of whether he was not a young person with a high intellectual level (he was illiterate). (Hillenbrand, 2016)



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At the age of forty he had visions of religious origin. He meditated in a cave when Archangel Gabriel appeared before him, who brought him divine revelation, which meant that Muhammad began to proclaim to the people the importance of religion. Muhammad thought God had singled him out to be a prophet to the people, like Moses to the Jews or Jesus to the Christians. The first chapter of the Qur'an, the "divine book," appeared in the aforementioned cave.

Following the will of Allah, he went to Mecca to proclaim the exclusive deity of their God. Mohamed's first followers were the poor because they were considered obsessed by the rich. Over time, he became more and more followers, but due to the local rich, he had to leave the city, so he moved his residence to Medina in 622, and was named the "City of the Prophet".

His change of seat is called hijra, meaning it was Mohamed's "run" —not an escape, but rather an emigration — and later it became the beginning of the Islamic era. The inhabitants of Medina accepted Mohammed as their leader, who was already acting as head of the archbishop, thus both the Islamic religion and the state were born in this city. (Armstrong, 2005)

A large number of unbelievers were present in the city of Mecca, but Mohamed wanted to convert the inhabitants of the city at all costs, and he also wanted to win the Kaba for Islam. The disagreement between the two cities led to a war that ended in 630 with the victory of Mohammed. He "converted" and took Mecca, washed away the pagan symbols around Kaaba, and then incarnated the reverence for black stone. More and more Arab tribes joined the teaching of the Prophet, thus laying the foundations of the Arab Empire in addition to creating the youngest world religion. (Goldziher, 1881)

In his "farewell speech" (632), Mecca stated that the Muslim man has nothing ahead of reality over the non-Muslim, only his faith. He died when he returned to Medina, but was flown to Jerusalem, making it a place of shrine for Muslims today, the place of his ascension (the Temple of the Rock Mosque stands on the site of the Temple of Solomon).

He did not consider himself to be God, nor did his followers or followers do so after his death. Followers of the Islamic religion to this day revered him as a prophet who, in their view, is even greater than everyone else than Moses and Jesus. (Rostoványi, 2011)

The ideas of the Islamic religion are explained in the Qur'an. The Qur'an, a Mohammedan scripture, contains the revelations of Muhammad that God sent to believers through Gabriel. For a long time it was not allowed to translate it into other languages, who could not learn Arabic. The Qur'an never becomes invalid.

It consists of 114 stems (chapters) of the Qur'an, recorded by the Prophet's disciples on palm leaves after Muhammad's death. It regulates everyday life and describes



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Mohammedan legislation. The hadith or sunnah collects the deeds, explanations, and sayings that were not included in the Qur'an but from Muhammad. Controversy arose over the authenticity of the aforementioned sentences and "sacred customs".

The formation of different trends raised two questions. One is power and the other is based on religious opposition. The question of power questioned inheritance: who can be considered the legal heir of Mohamed. The sons of the prophet died in their childhood, which is why the first 4 caliphs were chosen from among the relatives and followers of the prophet. He became the son-in-law of the fourth caliph, Ali. A Syrian governor revolted against him, and when a fanatic killed Ali, he himself sat in the throne of the caliphs. This power struggle was coupled with a religious opposition, namely that opponents of Alit considered tradition, the Sun, to be binding, hence the name Sunni (today it is the largest, Orthodox) in Islam.

The Sunnis, the kind of trend that only considers the Qur'an to be followed, but not the Sunni, are called parties or sects (skiing). Hence the Shiite name of the other trend. This sect includes Ali's followers, who regard His two sons as legitimate heirs. The Sunnis slaughtered one of Ali's sons, and from this began the irreconcilable rage between the two camps. Shiites do not accept Sunni caliphs as religious leaders, and their own community is ruled by the imam - a denomination that still prevails in Iran today. (Armstong, 2005; Hillenbrand, 2016)

In addition to the Qur'an, the Sunnah (the tradition of customs) is the basis of religion, and the main tendencies of Islam are distinguished on the basis of its relation to it.

- Shiites - (10-14%) only recognize Muhammad and his descendants (imams) as prophets.
- Sunnis - (85-87%) After the death of Muhammad, not his descendants but also the reigning caliphs were accepted as imams, as they did not believe that the Sunnah ended with the death of Muhammad. (Hillenbrand, 2016; www.sulinet.hu)

Islamic religion distinguishes two basic concepts, faith and religious practice.

1.2 The islamic religion in practice

Islamic religious practice distinguishes five pillars, also called "pillars of Islam".

The following five commands must be followed by Muslims according to the Qur'an:

1. Faith - in Allah, the One God and His Prophet Muhammad.
2. Prayer five times a day to the holy city of Mecca.



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3. Mandatory distribution of alms to the poor. □ later there will be a tax of 2.5% of the property.
4. Observance of Ramadan monthly fasting - eating and drinking is forbidden from sunrise to sunset.
5. Pilgrimage to Mecca (Hajj) to the Kaaba Stone at least once in the life of every Muslim.

Islam cannot be considered a complicated religion, as the first of its five main pillars refers to faith, which formulates strict monotheism. The priesthood does not play an important role, a strong ecclesiastical hierarchy has not developed in this religion.

In addition to the five main commands, there are requirements that must also be complied with, such as a ban on the consumption of pork and alcohol, a restriction on polygamy (four wives are allowed).

Jihad (“Holy War”) is a task for every Islamic faith. It is also mentioned by Islam as the sixth pillar. Its original meaning is struggle, struggle, but it does not mean military struggle, but man’s struggle within himself. A believer who dies in battles for faith immediately goes to Paradise.

Islam forbids the depiction of people in holy places, which is why the depiction of Allah and Muhammad is also a forbidden activity. Mosques feature plant ornaments or geometric shapes. (Mawdudi, 1977)

1.3 The spread of religion

The Golden Age of Islam centuries lasts in 8-13 th century, during which it ruled the world’s economic, military and cultural power. In the absence of Muslim culture, part of the ancient cultural heritage for Europe would have been lost. Arab medicine, science and philosophy were advanced, at which time religion and state were not separated, neither in Islam nor in the Christian world. During this period, Islam is both a religion and a state.

The number of believers in Islam exceeded the number of Christian believers at the top of the rankings in 2008, making Islam the strongest religion in the world in terms of numbers. In the well-known developed Western world (Europe and America), Islam became the second largest religious community, accounting for about two-fifths of humanity. (Balázs, 2008)

Nearly two-thirds of all Islamic people live in southern Asia. India and Pakistan are home to more Muslims than North Africa and the Middle East. Looking at the world as a whole, however, it can be said that most people live in Indonesia, where 87% of the population is Islamic. It is estimated that by the end of 2020, nearly a quarter of the world’s population will be an Islamic believer, and the number of Muslims in Europe will more than double, reaching 8%. (Varga, 2017)



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1.4 Islamic economy

Books and literature on the Islamic economy show an increasing trend, and even the number of attempts and aspirations on economic methods that meet Islamic standards is growing.

The term “Islamic economy” is incompatible with the economies of Islamic countries. In the system of the Islamic economy, the organizations of the economy are built along religious foundations, Islamic norms and regulations, which in turn applies to the countries of Islam that the economic systems that are still in operation are semi-independent of Islam. Scholars dealing with the Islamic economy start from the totality of Islam. By wholeness, it is understood that if Islam is a complex system of command and control involving some areas of community life, it also includes areas affecting the economy. In contrast, other scientists believe that the economy is a part of human life that is inseparable from the rest. On the west side, it is typical to separate the different spheres of existence. Material factors come to the fore, thus pushing the non-material part of existence into the background. The economy is at the center, which is why it can be said to be morally and ethically neutral.

Because of the completeness mentioned above, Islam also examines the economy from several directions, so it includes non-economic areas as well. The characteristic of his system is that he draws in parallel all material, all spiritual and all spiritual aspects of life, explaining this by the fact that moral and material, economic and social, spiritual and physical, are inseparable. (Rostoványi, 2011)

There were two reasons for the growing trend of the Islamic banking system. On the one hand, full adherence to religious rules and compliance with regulations, as well as the large number of Islamic communities that have developed over time (approximately 2.4 billion people, 2018). It is the European headquarters of Islamic financial institutions in Germany, Britain and France, as it is home to a largely Muslim population.

Modern Islam has been present in the banking system since the 1970s. The rapid spread was the result of the Islamic Development Bank, founded in 1975, and in 2011 about 400 banks with Islamic funds were established in 75 countries. Interestingly, there are countries in Western Europe where, in addition to traditional banks, there are also banks with Islamic drunkenness or fully operating as Islamic bank branches. In the banking markets of Iran, Pakistan and Sudan, there are only banking institutions that follow Islamic rules.

It is important to note that Arab and Islamic banks are not the same as they do not operate under sharia rules. The sharia-based banks are the real Islamic banks, whose penetration can be traced back to the mid-1970s.



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From 2010 onwards, the Emirates Business Council (EBC) in Hungary will help us to have adequate information about the banking sector other than our domestic banking system. (Varga, 2012)

In the Arab regions, trade along the caravan routes mentioned in the 7th century played a very important role. This activity has long been a dominant economic activity. At the roots was the fact that Islam had acquired a truly evolving world economic and commercial practice.

A method similar to some financial transactions started in the early period, called suffaj. The Sufaja handled a transaction between three people.

- Suffaja

Procedure: Person X gives a bill of exchange to Y, in which another person asks Z, asking Y to give a certain advance, which person X repays in the same way.

So, person Y had the given amount of money at a given time and place, but he did not have that amount in cash.

Why is this good? - For safety. However, this method of transaction has been used among acquaintances who know each other personally or by correspondence. (Kóbori, 2013)

1.5 Islamic bank system

The banking system is completely embraced by the five pillars of the Islamic religion. The five pillars fully outline what the difference is between sharia-based banks and conventional banks.

The following principles govern the Islamic banking system:

- Prohibition of interest payments (limit).
- You may not conduct a business whose product or service is prohibited by religion. (alcohol, pork, gambling, black trade)
- Avoidance of speculative matters.
- Transactions must include a tax intended for charity or the poor, i.e., a jacket. (Varga, 2012)

Interest was banned because it was an unethical act for someone who was struggling to make a living and would have been asked to return an amount increased even with interest.

For the sake of transparency, let us take the example of the home loan scheme, which is also used at home. An Islamic bank provides a “home loan”, then during



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the transaction he buys the property himself and then uses it as a sublease from the borrower.

In the case of small business loans in Arabia, a stake is given to the financing organization, which receives the amount specified in the contract from the profits of the business.

(Balázs, 2008)

Halal is a product that is not forbidden by religion and has a clean background. In addition to regulating interest, this is another stipulation of religion that banks may not give money for haram activities, i.e., they do not finance prohibited and black activities (alcohol, pork consumption, buying and selling, gambling, etc.).

To determine the exact activities, which one is allowed to be brought by a league committee. These have implications for both individuals and economic institutions. So banks cannot serve claims that are related to some illegal activity.

Saria-compatible banking transactions must meet three conditions:

1. A financial institution may not require collateral, thereby incurring full material risk, but may require collateral in order to reduce moral hazard (eg to prevent the disappearance of entrepreneurs).
2. The value of the profit rate should be determined as a percentage and not as a lump sum. Profits must be shared.
3. The supporting and financing person cannot enter into the activities of the entrepreneur, as he has complete freedom in the management of the company. (Varga, 2017)

Instead of a ban on interest, they want to build the system along the principle of “profit and loss sharing”. Islam rejects interest altogether, unlike profit. This kind of idea can create a strong relationship with people. The system has not yet been fully implemented, so it works with the traditional system everywhere. The Islamic Development Bank has introduced a fixed interest rate due to the issue of consumer loans and short-term loans and transactions between Islamic banks and foreign banks operating under non-Islamic law. The amount received from the interest is kept in a separate account. (Kóbori, 2013)

1.6 The spread of Islamic bank system

An article on the spread of Islamic banks divides it into four sections.

1. The spread of Islamic banks to Egypt began in the 1960s.
2. It began in 1975 with the establishment of the Islamic Development Bank in Saudi Arabia.

3. Building on the application of the sukuk method, which was comparable to the interest-bearing bond of traditional banks.

4. Rising oil prices in 2000 resulted in high revenues for oil-producing countries, with Islamic banks also showing progress.

In 2000, the average growth rate of banks was 15%. Two-thirds of Islamic banks operated in the Middle East and North Africa, and the other one-third operated in Southeast Asia and Black Africa.

The further development of Islamic banks has been due to the fact that some parts of the world's 1.6 billion Muslim population have not yet had a banking relationship. The role of banks is defined by:

- per capita income and macroeconomic stability,
- a strong link to Malaysia and Bahrain (two major Islamic financial centers),
- trade with the countries of the Middle East.

Rising interest rates are hampering the development of Islamic banks. Scholars dealing with Islam, highlight another important point in the article, that Islamic financial institutions are not religious organizations but profit-oriented financial intermediaries whose activities are restricted by Islamic law. (Ligeti, 2007)

GCC's 10 largest Islamic banks rank

The following is a chart prepared by GGC's that illustrates the ranking of the largest Islamic banks.

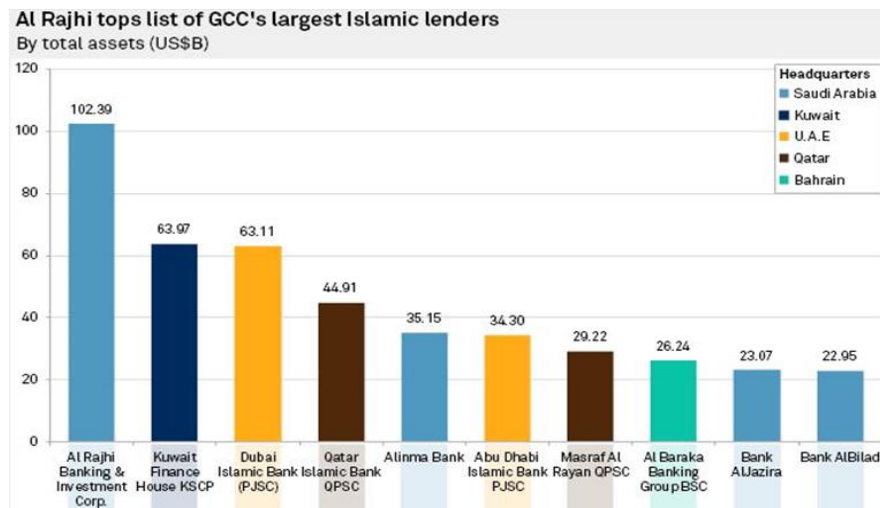


Figure 1

GCC's 10 largest Islamic banks rank Source: GCS



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Al Rajhi Banking & Investment Corp., a Saudi Arabian financial institution that ranks first among S&P Global Market Intelligence among the largest Islamic banks in the Gulf Cooperation Council (GCC).

According to a 2019 report by the Saudi Monetary Authority, Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates account for 42.3% of total global Islamic wealth. (Anonymous, 2020)

1.7 Islamic banking transactions

Islam divides its banking transactions into two groups, one is the Profit and Loss Sharing (PLS) modes and the other is the Non-Profit and Loss Sharing (Non-PLS) modes.

PLS modes fully comply with sharia rules. Instead of demanding interest and collateral, it focuses on the risk community and customer relationships.

Non-PLS methods can be used to achieve goals that PLS cannot, such as reaching small-scale business customers and providing consumer credit.

Profit and loss sharing methods (PLS):

Mudaraba

In this case, the Islamic bank will provide the full amount of money needed for the project, and the contractor will provide the work and expertise given to the project. The profit is divided between both parties, the distribution is made in the proportion specified in the contract. The loss is borne solely by the financial institution, but it is liable to the extent of the collateral.

Musharaka

With this type of method, the amount of money needed for the project or tool comes from two sides. On the one hand, the bank and on the other hand the borrower. In proportion to the amount of money provided by the parties, they may participate in the management of the project or in the ownership of the asset.

Non-profit and loss sharing methods (Non-PLS):

Charity Loans - Qard al-Hasanah:

Donation and assistance. They are considered non-repayable loans, for those who are forced to do so. The bank is allowed to charge a service fee to cover the administrative costs, but it is a condition that the amount must be independent of the size and duration of the loan.

Sales with deferred payment - Bai'Mua'j:

The seller can sell the product, the price of which is determined at the time of sale. The sale can be deferred lump sum or installment.



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The price generated during the negotiation may include the bank's brokerage fee. You cannot include an additional fee for the possibility of deferred payment in the brokerage fee.

Buy with deferred payment - Bai'Salam or Bai 'Salaf:

The buyer buys a lump sum at the price specified at the sale (negotiated) and the seller assumes responsibility for the delivery of the product at a later, specified date. They are used when the quantity and quality of products can be determined at the time of sale and purchase, such as agricultural goods and goods to be manufactured.

Operating or financial leasing - Ijara or Ijara wa iqtina ':

We know about financial leasing in the case of conventional banks, this is a loan scheme, the course of which is regulated by the regulations of the credit institution. Here, the interest rate structure is allowed, as it does not involve the lending of money but the transfer of real assets.

Cost Plus - Murabaha:

The seller provides the customer with information about the product, be it the cost of purchasing or manufacturing it. The agreement includes a profit margin, which is not interest as this transaction does not depend on the duration of the contract and the contract itself is not for the purpose of borrowing money but for the transfer of an asset or assets. Typically, the purchase amount is made in installments.

Service fee - Jo'alah:

One person provides the other person with a certain amount described in the contract as a natural service fee. Such a transaction is consulting or asset management.

A common feature of the non-profit and loss sharing method (excluding the charity loan) and the profit and loss sharing method is that the yield is determined during the lease and lease and the bank may charge collateral.

In summary, the listed transactions are a trademark of risk aversion, not much different from the constructs used by traditional banks. The main difference can be seen in professional language and legal formalism. The methods can comply with Islamic standards in such a way that the rate of return can be linked to the transaction rather than its duration.

Nor should we ignore the fact that serial banking is not uniform, as it may restrict financial activities in different ways from country to country. (Varga, 2017)

1.8 Comparison of Islamic and European-American banking systems

If we can look at the main rates of great Islamic banks, we can see 35% point increase in total equity of weighted average and 22% point decrease of total



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deposits and 24% point in total investment, 19% point in total assets and 53% point in total revenue. We have to take account into the fact of depression of 1990's.

Bank	Total Equity			Total Deposits			Total Investment			Total Assets			Total Revenue		
	1990-94	1994-98	1990-98	1990-94	1994-98	1990-98	1990-94	1994-98	1990-98	1990-94	1994-98	1990-98	1990-94	1994-98	1990-98
Rajhi	7.7	7.5	7.6	13.9	7.7	10.8	12.0	7.3	9.6	11.8	7.1	9.4	0.5	11.2	5.7
KFH	14.4	21.0	17.6	2.7	3.3	3.0	9.9	6.2	8.0	4.2	6.2	5.2	11.2	11.8	11.5
BKBN	0.2	3.1	1.6	-12.2	5.5	-3.8	-10.5	3.8	-3.6	-9.3	5.1	-2.3	14.9	23.3	19.0
BIB	17.5	2.4	9.7	5.8	4.6	5.2	7.1	4.5	5.8	6.7	4.5	5.6	-2.0	11.9	4.7
FIBB	16.3	5.4	10.7	5.2	4.3	4.7	4.3	4.8	22.6	31.4	-8.8	9.5	23.9	2.8	12.8
FIBE	-15.2	12.2	-2.4	-2.4	5.6	1.6	4.5	9.3	6.8	-1.2	5.1	1.9	-13.8	17.1	0.4
DIB	8.0	34.1	20.3	17.0	6.9	11.8	12.2	9.7	11.0	13.8	9.2	11.5	14.4	8.6	11.5
JIB	32.2	6.4	18.6	22.0	5.2	13.3	21.2	6.5	13.6	21.9	5.1	13.2	17.8	0.6	8.9
QIB	-1.3	11.9	5.1	6.2	4.1	5.1	10.4	3.6	7.0	11.7	4.1	7.8	2.9	12.5	7.6
IBBG	12.1	25.2	18.5	18.5	13.4	15.9	21.4	9.3	15.2	18.8	13.3	16.0	12.0	14.0	13.0
BIM	24.1	30.8	27.4	21.1	-2.4	8.7	21.7	1.3	11.0	21.5	3.3	12.0	19.9	7.6	13.6
BKTFH	-12.1	35.4	9.1	20.1	9.8	14.8	14.8	12.0	13.4	10.0	10.7	10.4	49.9	-27.9	4.0
Simple Average	8.7	16.3	12.0	9.8	5.7	7.6	10.7	6.5	10.0	11.8	5.4	8.4	12.6	7.8	9.4
Standard Deviation	14.0	12.4	8.6	10.7	3.8	6.0	9.1	3.1	6.3	11.0	5.4	5.1	15.9	12.7	5.2
Weighted Average	7.9	12.6	10.2	8.8	5.7	7.2	11.3	6.9	9.1	9.3	6.4	7.8	11.2	3.7	7.3

Table 1

Annual Growth Rates os Islamic banks for Some Key Variables
Source: Iqbal, 2001.

If we can look at the main rates of the largest Islamic banks, we can see the developing in capital assets ratio and ROE, ROA. We can see a little decrease in the ratio of liquidity which means, that these banks thought in longer time, and made investments for the future. And there is a decrease in deployment ratios and cost income ratios which show less efficiency in these banks.

Bank	Cap/Asst Ratio			Liquidity Ratio		Deployment Ratio 1		Deployment Ratio 2		Cost/Income Ratio		ROA		ROE	
	1990-94	1994-98	1990-98	1990-94	1994-98	1990-94	1994-98	1990-94	1994-98	1990-94	1994-98	1990-94	1994-98	1990-94	1994-98
Rajhi	14.3	14.5	15.0	13.5	99.2	97.7	84.5	84.4	36.6	34.2	3.8	3.7	25.9	25.6	
KFH	4.2	7.3	19.3	8.1	89.8	105.0	81.7	90.6	83.8	61.6	0.4	2.2	6.6	29.3	
BKBN	37.5	33.2	8.9	12.3	90.6	91.1	84.8	81.6	62.1	69.7	1.2	2.4	3.6	7.3	
BIB	8.1	9.8	5.1	4.4	96.7	97.2	94.4	95.1	80.7	78.8	0.9	1.1	10.8	11.1	
FIBB	31.8	31.8	9.0	7.2	54.6	91.8	33.9	54.1	43.1	47.1	5.4	4.9	16.8	15.9	
FIBE	4.3	3.4	31.2	17.9	80.3	98.9	68.9	83.1	91.1	87.4	0.2	0.1	3.7	1.3	
DIB	5.8	8.1	16.3	15.6	96.9	89.2	84.7	84.3	70.3	74.6	0.5	0.6	8.7	8.5	
JIB	5.2	7.0	39.4	31.5	69.0	76.9	62.5	69.9	75.4	76.7	0.9	0.8	19.2	11.3	
QIB	6.8	6.8	6.5	10.2	105.6	100.0	90.4	85.7	65.4	69.3	0.4	1.1	-2.3	16.4	
IBBG	4.0	5.3	36.3	32.8	70.5	77.8	61.4	68.6	81.9	80.0	1.4	1.4	32.9	28.8	
BIM	8.6	9.2	10.2	20.6	91.4	87.5	86.1	80.6	79.4	78.5	1.1	0.9	13.2	13.2	
BKTFH	3.9	3.3	13.7	12.8	96.7	91.7	81.3	84.4	40.0	59.4	1.8	1.3	42.9	38.3	
Simple Average	11.2	11.6	17.6	15.6	86.8	92.1	76.2	80.2	67.5	68.1	1.5	1.7	15.2	17.3	
Standard Deviation	11.4	10.2	11.8	8.9	15.1	8.5	16.9	11.0	18.5	15.3	1.5	1.4	13.2	10.9	
Weighted Average	9.3	10.4	17.6	13.6	92.2	96.5	80.7	84.2	55.9	53.4	1.9	2.3	19.9	22.1	

Table 2

Period Averages for Some Key Ratios: 1990-94 And 1994-98 Source: Iqbal, 2001.

As ROA and ROE can show increase in the largest banks, we can say that there is a development in the return on these banks, but we have to be careful because we can see some decrease examples in smaller banks, so it is not generous that these corporations make a better output.

Bank	ROA			ROE		
	1990-94	1994-98	1990-98	1990-94	1994-98	1990-98
Rajhi	3.77	3.72	3.78	25.89	25.65	25.97
KFH	0.43	2.16	1.30	6.65	29.34	17.38
BKBN	1.24	2.42	1.81	3.60	7.29	5.36
BIB	0.87	1.09	0.97	10.80	11.15	11.05
FIBB	5.37	4.92	5.31	16.84	15.87	16.36
FIBE	0.22	0.06	0.15	3.68	1.26	2.74
DIB	0.52	0.63	0.58	8.70	8.47	8.57
JIB	0.92	0.79	0.84	19.24	11.31	15.37
QIB	0.38	1.12	0.69	-2.27	16.36	5.33
IBBG	1.38	1.40	1.34	32.88	28.82	28.94
BIM	1.10	0.94	1.01	13.21	13.19	13.00
BKTFH	1.77	1.34	1.68	42.86	38.30	43.03
Weighted Average	1.86	2.29	2.09	19.90	22.14	21.05
Simple Average	1.50	1.71	1.62	15.17	17.25	16.09
Standard Deviation	1.54	1.39	1.48	13.22	10.94	11.64

Table 3

Performance Ratios for the Islamic banks Source: Iqbal, 2001.

If we can compare the two types systems we can see that capital assets is similar. But in liquidation and in deployment the conventional banks are stronger. Cost and income ratio is similar but in ROA and ROE we can see that islamis banks are stronger in 1990's and weaker in 2000's.

Ratios	1990-94		1994-97		1990-97	
	Islamic Banks	Conventional Banks	Islamic Banks	Conventional Banks	Islamic Banks	Conventional Banks
Capital Asset Ratio	9.3	9.0	10.0	9.0	9.6	9.0
Liquidity Ratio	20.2	27.7	15.7	39.3	18.5	31.9
Deployment Ratio 1	92.2	75.8	96.0	69.0	93.7	73.3
Deployment Ratio 2	80.7	72.3	84.0	63.1	82.0	68.9
Cost/Income Ratio	55.9	NA	52.4	60.3	55.4	NA
ROA	1.9	NA	2.3	1.4	2.0	NA
ROE	19.9	NA	22.6	15.0	21.2	NA

Table 4

Comparative Ratios (%) Source: Iqbal, 2001.



Therefore we can see that islamic banks can be competitive.

Year	Nb. of obs.		Av. TA (\$ mil)		L/TA		E/TA		ROA		ROE	
	Isl.	Conv.	Isl.	Conv.	Isl.	Conv.	Isl.	Conv.	Isl.	Conv.	Isl.	Conv.
2000	27	85	4857	5422	0.5273	0.4503	0.1319	0.1122	0.0315	0.0129	0.1547	0.1090
2001	28	102	2586	4429	0.5119	0.4478	0.1325	0.1189	0.0170	0.0133	0.1202	0.1234
2002	30	120	3077	5419	0.5103	0.4332	0.1439	0.1287	0.0163	0.0167	0.1275	0.1368
2003	35	142	3846	5684	0.5070	0.4451	0.1442	0.1256	0.0176	0.0187	0.1280	0.1428
2004	37	159	4925	6146	0.5369	0.4714	0.1392	0.1349	0.0252	0.0188	0.1475	0.1490
2005	38	160	4772	7203	0.5238	0.4752	0.1421	0.1278	0.0312	0.0225	0.1631	0.1696
2006	36	174	3717	8764	0.4942	0.4835	0.1453	0.1329	0.0309	0.0205	0.1529	0.1520

Table 5

Summary statistics by year, Islamic vs. conventional banks Source: Ariss, 2010.

Conclusions

Advantages and disadvantages of Islamic banks:

Advantages of Islamic banks:

- The rate of loss of solvency is low. The principle of Islamic banks is profit and loss sharing. Their applied principle protects solvency, but liquidity disturbances persist in the event that assets and liabilities mature differently.
- Due to the profit and loss distribution system, both banks and depositors pay due attention to the efficiency of borrowers, ie what and how, how efficiently they use the given loan amount. When choosing a bank, depositors take great care to ensure that the given bank makes as high a profit as possible, but the information available to them is quite incomplete. The lack of information is also present in traditional Hungarian banks.
- It can also provide services to customers who, for some reason, such as religion, do not or cannot take advantage of what traditional banks have to offer.
- Islamic finance is based on the financing of physical assets, usually of a material nature (finished product or service), which reduces the scope for speculation, but it is also bad because the Islamic banking sector does not use the entire range of financial instruments and hedging methods. benefit is also reduced. (Ligeti, 2007)

Disadvantages of Islamic banks:

- True, the risk of insolvency is reduced due to the Islamic banking principle, but because of this, the loss is passed on to depositors.
- Higher costs are incurred compared to traditional banks. Compliance with the sharia funds is monitored by the Saria Commission, which also has costs. Islamic banks hold more liquid assets than conventional banks due to the lack of interbank lending facilities.
- Because of Saria, the customer has fewer options for compensation.



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- Murabaha and ijara deals are more expensive than consumer credit schemes at traditional banks.
- Prohibiting forward transactions reduces the level of risk, but also limits the expansion of banks and the growth of the economy. (Ligeti, 2007)

Problems of Islamic banks:

Problems:

- There is no fully regulated regulatory and legal system for banking transactions.
- There is no collateral system for interest rate bans that is known to conventional banks, as its existence would reduce the number and development of risks.
- The deficiencies and limitations of the interbank market make it difficult for Islamic banks to operate.
- There is a lack of accounting rules based on Islamic principles, which entails the adoption of accounting standards used in the West, but we can also conclude from this that this does not lead to good, because if you no longer adhere to this kind of principles .
- There are also some differences between Islamic countries, which view the principle of operation of banks because they interpret religious principles differently. To remedy this, they use a religion legal committee, but neither do all Islamic banks. The Religion Legal Committee may analyze and evaluate the same products and services in different ways, resulting in no single concept of being an Islamic banking product or an Islamic banking activity.
- Another disadvantage is that the central bank has no “ultimate lender” function and there is no secondary market for Islamic banking products.

The practice of the Islamic banking system may be hampered by the profit and loss sharing system, namely that it is difficult to finance short-term transactions due to the complexity of yield calculation.

Another problem is the financing of the state budget, in the western part this kind of problem does not exist, because there the state is considered a significant borrower, but here the interest ban makes it difficult to take advantage of this opportunity. (Vahid and Kóbori, 2013)

Match

Personally, what is the same and emphatic factor in the two banking sectors is that they are based on some kind of legal system, have a central bank, are supervised by banking supervision, and have an incomplete information service to customers in both of them.

Deviation

Among the factors showing the discrepancy, the following are considered to be the most significant. These include the ban on interest payments, compliance with religious standards, the level of costs, the trademark of transactions, the applicability of forward transactions and the extent of the impact of the 2008 crisis.

	Islamic bank system	Hungarian Bank system
Legal system	Islamic legal system	Chapter - Civil Code
Accounting standards	They are incomplete	Established and appropriate
Religious background	The basis	No
Operation according to principle	Profit and loss sharing principle	There is no specific principle, the primary factor is to achieve maximum profit
Prohibition of interest collection	Yes	No
Central bank	Islamic Bank	Hungarian National Bank
Organization supervising banks	Islamic Advisory Board, Saria Commission	State banking supervision
Specific scope of activity	Yes	No
Clientele / potential clientele	Whatever your religion	Anyone except those of Islam
Customer Circuit Terms	Religious standards, level of costs, product quality	Rate of costs, product quality
The degree of trust	Large	No or a small percentage
Lack of information for the customer	Yes	Yes
Expenditures	Tall	Low
Financing of public expenditure	Not allowed (interest ban)	State is a major borrower
Trademark of transactions	Risk aversion	Maximum profit
Administration fee, Service fee	Charity Loans (Non-PLS)	All services
Possibility of compensation	Low	It is possible
Murabaha, ijara <-> consumer loans	More expensive	Cheaper
Forward transactions	They are forbidden	They can apply
Number of liquid assets	Tall	Low
Impact of the 2008 crisis	Less	Significantly

Table 6
Comparison of 2 banking systems Own edition

In the comparison, four types were distinguished, European banks, European alternative banks, Turkish banks, and Islamic banks.

By comparing the four banks, I primarily wanted to illustrate that, as an Islamic country, the functioning of Turkey's banking system is more like a Western scheme than an Islamic one.

	European banks	European alternative bank	Turkish bank	Islamic bank
Central bank base rate	yes	Yes	Yes	No
Premium interest	yes	Yes	Equivalent to the central bank base rate	No
Taking risks	No	No	Part	Yes
Carrying loads together with the partner	No	Part	Part	Yes
Following religious principles	No	Part	Dual	Yes

Table 7

Comparison of 4 banking systems Own edition

Because of the above, Turkey is considered a cuckoo's egg as it does not follow religious standards to the same extent as other Islamic countries. This is strongly reflected in the operation of banks, because they charge interest, equal to the value of the interest rate set by their central bank. Of course, those who fully comply with religious standards, also have the opportunity in this country to provide banking services to such a financial institution in Turkey Asya Bank. Asya Bank provides services in compliance with the rules of the Islamic religion. (Varga and Ary, 2018)

I compared the operation of MagNet Bank, which is also present in Hungary at European alternative banks, to the other types.

MagNet Bank is a community bank established in 2010 with an organic organizational structure by its owners and managers. The new strategy is designed to uphold traditional banking principles and goals. This bank is different from the others and differs slightly from traditional banks in that it is 100% Hungarian-owned, customers can choose to receive 10% of its profits from a social organization ("Community Donation Program"). retail customers can decide on the amount of the account management fee ("Honest Collection Account Management"), during card purchases customers can support social initiatives with bank money ("Help Card"), the amount of money placed in the deposit by the customer can be determined by the bank. (Bajkó, Varga, 2013), (<https://www.magnetbank.hu/>)

MagNet Banks have a view, also known in ancient Christianity, that it is important to help others, and this extends to other areas of life (economy). Over time, this view has become increasingly worn out in Christianity, and perhaps the banks based



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on Islamic principles, and the MagNet Banks just presented, still maintain this view to this day.

The Islamic banks for which they were created and formed carry out their business in compliance with it and without deviating from it. I think this is exemplary in the world or the economic situation we live in, because it is even factual that if we provide something to someone, we get a benefit (“interest”). These types of banks act according to their faith, provide, and provide assistance to Islamic believers.

The proposal to stay that way, to maintain what has been developed so far, as effective and stable, was a living example of this in the 2008 world crisis. And my advice is to spread and promote their services, as they can also provide products and services to non-Islamic believers, so that they can expand in the market ourselves and grow their customer base.

My advice and suggestion to the Hungarian banks would be that, in addition to their scope of activities, they could develop some banking schemes for Muslim believers, with which they could increase their customer base. Of course, this is worth knowing after a market research, because there are no unnecessary costs if it does not bring profit or profit.

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Endogeneity of Money and Non-Conventional Single Monetary Policy in the Context of Ongoing Crisis in three Central European Countries

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Abstract: In this study, we evaluate the relationships between credit creation, bank deposits, and monetary aggregates with a focus on the debate about money endogeneity. For data of Slovakia, Czech Republic, and Germany, we apply the Granger causality test in bivariate VAR models using monthly time series from the period between two large crises (from 02/2009 to 02/2020) to estimate causal relationships between the variables. Our results confirm endogenous money creation with a causal link going from loan growth rate to deposit growth rate in all three countries. In the context of the quantitative easing programme implemented by the national central banks as a response to bland economic recovery we also examine its pass-through into lending stimulation. Our results suggest that the efficiency of implemented quantitative easing might be limited.

Keywords: Granger causality, money creation, quantitative easing, loans, deposits

1 Introduction, theoretical background

The debate on endogeneity vs. exogeneity of money is in its core very closely tied to the theory of money creation and proper theory of bank lending. Examining the relationship between bank lending and the money-making process therefore plays an important role in understanding the impact of the banking sector's activities on economic activity.

Following the outbreak of the financial crisis in 2007-8, the role of banks in the economy has been gaining much more interest once again. According to Werner (2014/16), this was mainly due to the fact that the most widely used macroeconomic models and financing theories until then had largely neglected the sector and thus did not provide an adequate description of the key features of the economy and financial system. However, for the proper implementation of economic policy, it is



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undoubtedly essential to know the basic features of the functioning of these institutions and to further clarify the relationship between the functioning of commercial banks in relation to the central bank.

1.2 Theoretical background

In general, we can find various divisions of banking system. From one of the more recent influential papers, Werner defines three dominant theories of banking prevalent in the last century:

1.2.1 Financial intermediation theory

According to this theory, banks are only intermediaries of funds, which in turn does not distinguish them from other, non-banking, financial institutions. In this system, the bank creates liquidity by borrowing funds from clients (depositors) for a short time and providing loans for a long time. This means that the bank only collects the deposits of clients and then lends them further.

The fact that in this model the distinction between banks and other financial institutions virtually disappears has probably become the reason why even economists did not see a reason for the special position of banks in their macroeconomic models. (Werner 2015, Sgambati 2016)

1.2.2 Fractional reserve theory of banking

Unlike Werner, several authors do not draw a clear line between the model of banks as financial intermediaries and the theory of fractional reserves. According to them, the two systems are interconnected in a way where one is only a subset of the other. (Werner 2015, Angeles 2019, Sgambati 2016)

Ultimately, in characterizing this theory, Werner himself admits that banks also act as intermediaries of loanable funds. However, he goes on to say that the difference from the previous model is that in the fractional reserve theory, the banking sector as a whole generates money through the process of a money multiplier. (Werner 2015)

However, the main shortcoming of this process is the assumption that the lending process in the economy would have to be carried out gradually by banks. The second bank in the process cannot issue a loan before the first, as it needs the funds provided by the first. This, of course, applies to all other banks entering the process. In reality, however, all banks carry out the lending process simultaneously and therefore do not have to wait to receive these funds before granting another loan. (Angeles 2019)



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1.2.3 Credit creation theory of banking

Similarly, as in the previous fractional reserve theory, the credit creation theory admits, that the banking system creates new money. However in this aspect it goes further, arguing that by issuing new loan, individual bank creates money out of thin air. (Werner 2014)

Similarly, Jakab and Kumhof (2015) point to two basic models of banking institutions. In their work, the authors point to two models of perception of banking institutions. The first, currently still dominant view perceives banks as intermediaries of funds (ILF model) - i.e. as institutions dealing with the transfer of existing money from savers to borrowers. An alternative view perceives banks as institutions that finance borrowers through the creation of money (FMC model).

In this work, the authors point to the higher relevance of the FMC model, i.e. the model according to which banks directly generate new money through their lending activity. After taking into account shocks in their model, the FMC model is able to predict changes in lending that are larger, occur faster and have a more significant impact on the economy than the otherwise identical ILF model.

At this point, it is worth adding that the theory of money created through credit is not new in the economic world, as its principles have been discussed since the turn of the 19th and 20th centuries (Werner 2014, Jakab, Kumhof 2015; Gross, Siebenbrunner, 2017).

Much more comprehensive review of development in economic literature throughout 20th century can be found in the papers mentioned above. From there we can see that credit creation theory was actually more prevalent in the first half of 20th century. This can be observed for example in the work of Schumpeter (1912) where he mentions: "It is much more realistic to say that the banks 'create credit', that is, that they create deposits in their act of lending, than to say that they lend the deposits that have been entrusted to them [...] The theory of 'credit creation' not only recognizes patent facts without obscuring them by artificial constructions; it also brings out the peculiar mechanism of saving and investment that is characteristic of fully-fledged capitalist society and the true role of banks in capitalist evolution." (Gross, Siebenbrunner, 2017)

Keynes's view on this topic from his General Theory of Employment Interest and Money is generally interpreted as leaning towards exogenous interpretation of money creation, where the money supply is fully controlled by the central bank. Post-Keynesians argue however, that this view can be distorted and in fact is only the result of a simplified view of the issue, in given context. Keynes himself admits at the beginning of this book that technical details of monetary sector "fall into background" in the General Theory. Post-Keynesians however mainly provide evidence of the misrepresentation of his views in his previous book A Treatise on



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Money, in which he deals with this issue in more detail and his view in fact resembles more the one of endogenous money creation, when he says “[...] it is apparent that the rate at which a bank passively creates deposits partly depends on the rate at which it is actively creating them” and “[bank...] may itself purchase assets, i.e. add to its investments, and pay for them, in the first instance at least, by establishing a claim against itself. Or the bank may create a claim against itself in favour of a borrower, in return for his promise of subsequent reimbursement; i.e. it may make loans or advances.” (Keynes 1930; Carvalho 2013; Gross, Siebenbruner 2017)

In his work, Schumpeter further mentions that the effort to translate this thinking into the views of economists and politicians was more or less successfully completed by 1930. Unfortunately, the credit creation theory came under pressure after work of Gurley and Shaw (1955, 1956) and then Tobin (1963 in particular). (Werner 2016; Jakab, Kumhof 2015). Gurley and Shaw have smeared an important distinction between banks, as institutions that can generate own funds through the lending process, and non-bank financial intermediaries, which cannot do so. In other words, they saw banks only as another form of intermediary and treated bank liabilities simply as another form of debt. Tobin played a key role in consolidating financial intermediary view of Gurley and Shaw as a new paradigm, explicitly arguing that banks are not money makers in the sense that the credit creation model claims. (Jakab, Kumhof 2015)

Their work was rightly criticized at the time, but this debate did not continue much after the 1960s, when the monetary and macroeconomic function of banks almost completely disappeared from the main macroeconomic theories. As a result, many important lessons from the past that have fallen into the background over time need to be revived today. (Jakab, Kumhof 2015).

On one hand we can see this happening also in the publications and statements of current representatives of major central banks e.g. BoE (McLeay 2014), German Bundesbank (Monthly Report 2017), Swiss National Bank (Jordan 2018) who describe the fact that banks create their own resources through the lending process. On the other hand, as Werner notes, even to this day we can still see that the representatives of the central banks themselves are not united in their views on the functioning and validity of any theory. For example, in the case of the Bank of England, the statements of central bank staff are captured, which simultaneously support each of the three theories (Werner 2014)

1.2 Quantitative easing and the bank lending channel

Since the onset of financial crisis in the euro area and following bankruptcy of Lehman Brothers in September 2008, the ECB has been inflating its balance sheet trying to keep the banking sector functioning by providing liquidity to the bank



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system. Until mid-2012 the balance sheet of the ECB more than doubled. Subsequently as the situation started improving, the balance sheet also started to shrink. However following the period of low inflation, non-standard policies were implemented since 2013 first by forward guidance about keeping the interest rates at low levels for extended period of time and then since summer 2014 several asset purchase programmes were launched, including targeted longer-term refinancing operations (TLTRO) which was aimed at easing credit conditions of banks.

Then, since the beginning of 2015, the ECB launched its so-called quantitative easing (QE) programmes mainly consisting of purchases of government bonds of euro area member countries. The programme is implemented decentralized and when a national central bank purchases government securities, either from a commercial bank or a non-banking institution, it leaves that institution two options regarding the use of the acquired reserves. First, the institution may use these resources to purchase other assets, e.g. corporate bonds, thereby redistributing their portfolio (the so-called portfolio channel). Or, secondly, as excess reserves are currently remunerated at a negative interest rate, a commercial bank can use these reserves to increase lending activity (the so-called bank lending channel). In a small open country with a less efficient capital market - such as Slovakia - the credit channel might become the primary transmission channel for quantitative easing.

2 Literature review

Chai, Hahn (2018) test the causal relationship between bank loans and monetary base with regard to change in monetary policy in seven Asia-Pacific countries. The causation in their results mostly runs from bank loans to the monetary base during inflation targeting regime. Their results also do not support the bank lending channel and they suggest that the central bank can hardly increase or decrease the supply of bank lending by controlling the monetary base unless there is a shortage of market liquidity or when the financial markets are underdeveloped. Finally, the authors conclude that “policy makers applying unconventional monetary policy should pay more attention to the asset side of the central bank’s balance sheet rather than to the liability side.”

Albinowski (2020) examines panel data on 20 countries to analyze the links between savings (defined as time deposits and savings accounts) and credit extended by banks. His results suggest that credit growth is not related to prior changes in savings, at least not in the short run.

Regret (2018) brings some evidence on the debate of exogeneity and endogeneity for the case of Zimbabwe. For the period from January 2009 to May 2017, he provides evidence of a long run bi-directional causality between bank credit and



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money supply, bank deposits and monetary base using Johansen Cointegration test and VECM causality tests. His results therefore confirm endogenous nature of money supply.

Koksel (2016) test the nature of money supply for the Turkish economy from 2006 to 2015. This period also marked transition of monetary regime towards inflation targeting. Using Johansen cointegration analysis on the data of bank credits to the private sector and money supply, he finds bidirectional long run relationship between these variables.

Nayan et al. (2013) examined large panel of 177 countries in period from 1970 to 2011 using System GMM. On yearly data they find that real GDP per capita and bank lending are significant determinants of money supply, therefore also supporting the narrative of money supply endogeneity.

For the period from 1990 to 2013 Butt et al. (2014) examine whether quantitative easing implemented by the Bank of England provided a boost to bank lending via the bank lending channel in the United Kingdom. In their model framework with real data and instrumental variables, they find no evidence of Bank lending channel associated with QE. They suggest that the reason behind this finding might be the presence of deposits that are likely to quickly leave the bank - so called flighty deposits, that have emerged in greater extent after the application of QE policy.

Finally, Nazir et al. (2018) study the effects of financial innovation on economic growth in China, India, and Pakistan. Financial innovation is estimated using two proxy variables - domestic credit to private sector and broad to narrow money ratio. Their findings point to the existence of both short- and long-term positive influence of financial innovations on economic growth.

3 Data and Methodology

3.1 Data

The analysis was carried out on the sample of three EU countries – the Czech Republic, where monetary policy falls under jurisdiction of its own independent central bank; Slovakia and Germany where the central banks work in cooperation with the European Central Bank (ECB). Monthly time series span the period from 02/2009 until 02/2020 which covers 133 observation for each country. Data was obtained from databases of national central banks (NCB) (monetary aggregates), the ECB (loans, deposits and central bank balance sheet) and the OECD (industrial production, retail sales and GDP). Data for monthly GDP was obtained using Chow-



Lin interpolation from industrial production and retail sales as reference series, as in Gambacorta, Hofmann, Peersman (2013). Monetary aggregates are represented by M1 and M3 aggregates¹ and central bank balance sheet is the sum of asset side of the balance sheet. Both loans and deposits are represented by the total sum provided or accepted for non-MFIs (Monetary Financial Institutions) and excluding government sector. All the data was transformed to logarithmic form.

3.2 Methodology

To test for endogeneity of money supply we perform Granger causality test in bivariate VAR model which requires time series to be stationary. Therefore, we implement the augmented Dickey-Fuller test which tests null hypothesis that time series are nonstationary against alternative, which states the time series are stationary. Lag selection is based on Bayes information criteria (BIC) and we include intercept in the test regression. We can observe that the level data for all variables are nonstationary, therefore we compute first differences and run the test again. After differencing the data, we can observe that all time series are integrated of order 1.

Next, we construct several bivariate VAR models and calculate Granger causality. Lag length in VAR model is determined using Akaike information criterion (AIC) and Hann-Quinn information criterion (HQ) and as a deterministic regressor we include constant or both constant and trend, depending on their significance in the model.

$$X_t = \sum_{j=1}^p a_j X_{t-j} + \sum_{j=1}^p b_j Y_{t-j} + \varepsilon_t$$

Where X_t, Y_t are two stationary time series, ε_t is white noise and p is the number of lags included in the model.

For Granger causality we set following hypotheses:

H_0 : Y_t does not granger-cause X_t ;

H_1 : Y_t granger-causes X_t

If $b_j \neq 0$ ($i=1, 2, \dots, p$), or in other words, inclusion of Y_t in the model gives us greater precision in predicting X_t then we can say that Y_t affects X_t and we reject the null hypothesis (Granger 1969).

¹ Only M3 for Germany



4 Results

In the tables below we present results of Granger causality tests for the three countries. Here we include all the results which were statistically or economically significant.

In the case of Slovakia, we can state that the growth rate of loans affects both monetary aggregates with one-month lag. We can also see that growth of monetary base helps to predict GDP growth rate with three-month lead. When we look at the financial sector, we can see that the Granger causality between loans and deposits goes only in one direction, from loans to deposits, with one-month lag.

Table 1: *p-values for Slovakia*

	p-value	lag
Loan growth -> M3 growth	0,008	1
M3 growth -> Loan growth	0,095	1
Loan growth -> M1 growth	< 0,001	1
M1 growth -> Loan growth	0,13	1
Loan growth -> Deposit growth	0,006	1
Deposit growth -> Loan growth	0,899	1
GDP growth -> M3 growth	0,811	3
M3 growth -> GDP growth	0,04	3

Source: own calculations

In the case of Germany, we can observe the same relationship between growth rate of loans and growth rate of deposits as for Slovakia, when the direction of Granger causality runs from loans to deposits. Similarly, M3 aggregate can predict changes in GDP with four-month lead. On the other hand, there is no visible link between growth rate of loans and monetary base, even when we consider longer lag length.



Table 2: p-values for Germany

	p-value	lag
Loan growth -> M3 growth	0,0476	3
M3 growth -> Loan growth	0,0127	3
Loan growth -> Deposit growth	0,0187	1
Deposit growth -> Loan growth	0,7455	1
GDP growth -> M3 growth	0,2383	4
M3 growth -> GDP growth	0,0182	4

Source: own calculations

Results for Czech Republic again confirm endogeneity of money hypothesis since we can also see that loans growth rate Granger causes growth rate in deposits. Similarly, as in Slovakia, we can observe that loans can help to predict growth rate of both monetary aggregates one month in advance. On the other hand, there is no clear relationship between monetary development and GDP growth rate

Table 3: p-values for Czech Republic

	p-value	lag
Loan growth -> M3 growth	0,0013	1
M3 growth -> Loan growth	0,8538	1
Loan growth -> M1 growth	0,001	1
M1 growth -> Loan growth	0,3668	1
Loan growth -> Deposit growth	0,0002	1
Deposit growth -> Loan growth	0,0763	1
GDP growth -> M3 growth	0,4349	1
M3 growth -> GDP growth	0,9313	1

Source: own calculations

One of the proclaimed effects of the quantitative easing programmes of the ECB is also the stimulation of lending which should work either by more direct stimulation through TLTRO programme or via the bank lending channel of monetary policy.



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However, in our results we find no evidence for effectiveness of this policy, even when we considered longer lag length.

Table 4: p-values for central bank balance sheets

	p-value	Lags
NBS bal growth -> Loan growth	0,14	1
Bundesbank bal growth -> Loan growth	0,433	1
CNB bal growth-> Loan growth	0,343	1

Source: own calculations

5 Conclusion

Although the fact, that at the present basically all central banks in developed countries target inflation by controlling interest rates and not money supply is widely accepted among central banks and academics, the implications of this are arguably still not entirely mirrored into academic thinking. Therefore, in this paper we try to contribute to the debate of money endogeneity by looking at the causal links between development in banking sector and broad economy.

Namely we employ Granger causality tests for the data of bank loans, bank deposits, M1 and M3 monetary aggregates, central bank balance sheet and GDP for the period between two large crises, from February 2009 to February 2020. Our results show that growth rate of loans Granger causes growth rate of deposits in all three economies and there is no causality running in the opposite direction (i.e. from deposits to loans). We have also found evidence for causality from loans to both monetary aggregates, for Slovakia and the Czech Republic. And while the Czech Republic still has its own independent national central bank, Slovak National Bank (and German Bundesbank) falls under the supervision of the ECB so potential central bank independence issue does not seem to be the likely explanation for this difference. We also confirm that developments in monetary sector play role in predicting changes in GDP, at least in Slovakia and Germany, where broad money (M3) aggregate Granger causes GDP with three and four moth lag respectively. Based on these results we can state that money supply should be considered endogenous in all three economies.

There is also no clear causal link between the assets of central bank and demand for loans, which would render one aspect of quantitative easing policy (the so-called bank lending channel) as ineffective. On the other hand, we are aware that this could be a result of limitations of relatively simplistic Granger causality model and



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perhaps a more sophisticated method in our further research would shed more light into this problem.

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The Impact of Change Management on the Development of Business Sphere

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Abstract: Most companies are faced with the urgency of change in their daily operations; however, and start transformation processes: re-engineering, digitalization, change management. This is especially relevant in modern business development conditions when constant changes are considered critical for a company to adapt to changing market requirements and the global economic situation. This study discusses some of the main theories and approaches to change management. It attempts to evaluate the impact of change and change management in achieving strategic goals and objectives from the business's viewpoint. Specifically, a comparison of vital and basic models, assumptions of change management, consider the factors that cause changes. For this, a literature review was conducted. The article describes the main differences between the change models. The analysis led to the conclusion that it is impossible to pick up an optimal approach to change management. Every approach to change management attracts attention to various aspects of this problem, but at the same time, they do not exclude but complement each other..

Keywords: change management, change models, organizational change, factors of change management.

1. Introduction

Nowadays, the business environment is driving change at a high level. The inevitability of change has made most companies adapt and start transformation processes. Change cannot be avoided when it occurs. Any change initiatives and efforts should align with the strategic goals and objectives to ensure organizational



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success. It means that change management executes an essential role in superintendence and responding to change effectively, as well as the counter of resistance to any change. Undoubtedly, changes can have both positive and negative consequences for the business, and therefore, the need to manage the change has become a pressing issue. This study discusses some of the main theories and approaches to change management. It also attempts to evaluate the impact of change and change management on achieving strategic goals and objectives from the business's viewpoint. Specifically, a comparison of vital and basic models, assumptions of change management, consider the factors that cause changes. International research by McKinsey shows that 70% of transformations fail. 39% of failures are explained by the resistance of employees to changes, 33% by the lack of support for changes from the managers, and only 14% by inadequate resources and other reasons. Thus, the corporate culture is a key factor in making changes (Andrey Shapenko, 2017). The article attempts to systematize knowledge in change management and the main models related to this issue. To achieve this goal, an analysis of the literature on this topic was carried out, oriented approaches, and the models based on which effective change management is carried out.

2. Methodology

Methodologically, this article is a comprehensive literature review that explores, criticizes, and synthesizes representative material on key variables in effective change management. Essential research findings have been incorporated into the literature, and new concepts have been developed on this topic that can be empirically tested in future research. The methodological and theoretical basis of the article is scientific research by Kotter, J.P., Lewin, K. Michael Beer, and Nytin Norhia and others. Search Code: TITLE-ABS-KEY ("Change Management " OR " Change management models, " AND "Approaches" OR " Business Transformation " OR Organizational Change "). The main information base of the study was data from EconBiz, Emerald Insight, McKinsey & Companies. In the process of writing the article, Kazakh and foreign periodicals were also analyzed. Information sources on the Internet, official websites of international organizations also served as sources of additional information.



3. Theoretical Backgrounds

3.1 What is change management? Comparison of definitions

Nowadays, change is synonymous with standard business practice, and business needs to change to develop and be competitive. There is a large body of literature from several disciplines about change management and what makes it succeed. It is a complex topic with many contradictions (A. Anyieni, 2016). Though the term change management did not discourse much before the 1990s, other term "organizational" had been used, yet shared almost similar meaning to change management (Farias & Johnson, 2000; Worren, Ruddle, & Moore, 1999). The exact term of 'change management' was only concretized later in the 1960s and developed since then (Cooperrider & Sekerka, 2006). Though none of the earlier-mentioned literature stated precisely who coined the term 'change management' during the time, most scholars back then, and now, think of Kurt Lewin (1951).

Although Lewin first published the model in 1947, it is still extremely relevant and is based on other new models (Newstrom and Davis, 1985). This three-stage model has been the dominant framework for many years (Todnem Bai, 2005). Since its inception, the theory reviewed and adapted, separating steps for more precise steps. Behind, For example, Bullock and Batten (1985) developed a four-stage model: exploration, planning, action, integration.

He conceptualized the theory in two main ways. The first way considers change as a rational, strategic process; that is, the organization adopts a new course of action and adapts to the change. The second approach views change as an evolutionary selection when organizations usually resist changes around them (Flood & Fennell, 1995).

Moran and Brightman (2001) characterized change management as "the process of continually renewing an organization's direction, structure, and capabilities to serve the ever-changing needs of external and internal customers." Haitt and Creasey (2003: 10) point out that it is important to manage people in a changing environment so that business change is successful and the desired business results are achieved. According to Fincham and Rhodes (2006: 525), "change management is the leadership and direction of the process of organizational transformation, especially with regard to human aspects and overcoming resistance to change." Anyieni, Bcom, and Campus (2013) further argue that change management means planning, initiating, realizing, controlling, and stabilizing change processes on both corporate and personal levels. Nickolas (2006) argues that the task of managing change includes its impact on people, and many managers find this difficult. Change may cover such diverse problems as strategic direction or personal development



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programmers for staff. Strategic, technological, and structural changes, as well as changes in attitudes and behaviors, are all aimed at competitiveness and viability.

There is one common feature among different authors, all of them agrees that change requires a transition from a familiar situation to a new one, and this affects people (human resource), processes (re-engineering, digitalization) and organizations (strategy) in different ways.

Changes that occur in organizations can be caused by both external factors and pressure within the organization. Internal factors include technology, operational changes and processes, strategy, organizational structure, changes in management decisions, internal policies, etc.

External factors that affect an organization can be economic, political, social, cultural, technological, legal, and environmental forces (Lynn, 2001). The same internal factors that influence and lead to the success of an organization inevitably characterize the organization's relationship with the external environment in these broad areas. For example, an organization with a clear understanding of its mission can better explain itself to the world and can join the positive elements in each area. Leaders who learn and communicate what they have learned in their organization can also learn from the organization's external environment and communicate successfully with it, resulting in a constant exchange of ideas for the benefit of both the organization and its environment.

Pressures for change are created from both inside and outside the organization. Organizations must forge ahead on these forces to survive. Some of these are external, arising from outside the company, whereas others are internally arising from sources within the organization. Companies can also experience internal forces of change, which can often be related to external forces but are significant enough to be considered separately. Internal forces of change arise from inside the organization and relate to the internal functioning of the organization. They might include low performance, low satisfaction, conflict, or the introduction of a new mission, new leadership.

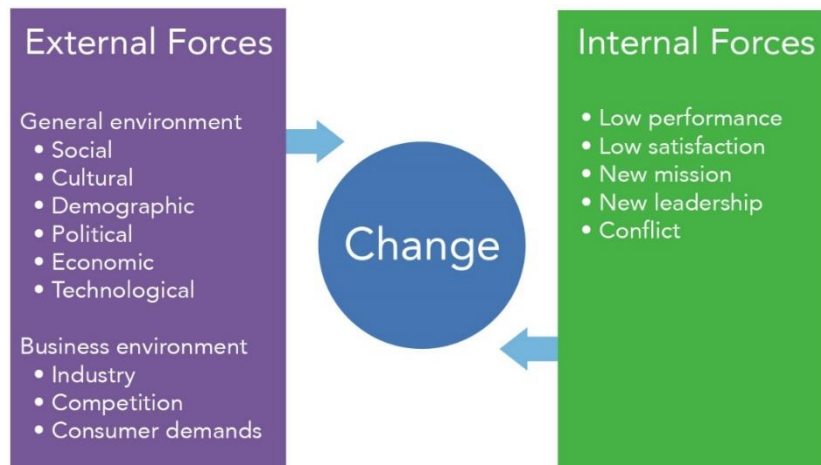


Figure 1: External and internal forces, Lumen Learning (2017)

Karmarkar (2004) pointed out the positive direct relationship between organizational change and the achievement of an organization's strategic goals. His research highlights the importance of careful planning to ensure that corporate goals and objectives are met, as well as the ability to achieve a competitive advantage.

3.2 Change management approaches

The belief that all changes in the company impact the fundamental, auxiliary processes and even the workers are essential to the philosophy of change management. The idea suggests that a reproducible model of successful change can be developed and that there are particular processes and resources to adopt change effectively. A high-tech organization can achieve the following competitive advantages with efficient change management:

1. The development of a unified organizational approach to change, involving the use of the required resources to create a unified organizational approach to change, system of targets.
2. Reduction of resistance to transition, which leads to the prevention of a decrease in efficiency and disputes.
3. Consistency and continuity of improvements, rapid learning, the capacity to constantly enhance changed introduction processes and the implementation of a plan for organizational development (M. Teczke, R. Bespayeva, 2017).



By the type of changes, two fundamentally opposite approaches to management can be distinguished: revolutionary and evolutionary (M. Teczke, R. Bespayeva, 2017).

A revolutionary approach (re-engineering) - involves a fundamental change in processes, calling into question the established methods and foundations, thereby achieving an optimal state of affairs. The application of the method is justified only in situations, the solution of which requires extreme methods.

The second approach - evolutionary - is based on systemic improvement aimed at increasing the efficiency of the company by changing the established norms and values. The implementation of evolutionary development is based on a change in the structures and processes underlying activities organization. The classification of change management methods can be based on the theory of temporal change. Approaches are considered from this point of view: "changes as a project" and "changes as a constant part of the component." As a project, one approach regards transition. In this case, it is presumed that the changes are a one-time activity with clearly specified project start and end dates, with a straightforward and transparent outcome. The technique is used when there are major shifts in the strategy of the organization.

The benefit of the project is its concreteness, which focuses on critical management activities. The drawbacks of the approach include the possibility of a discrepancy between the goals of the implementation of the plan and the objectives of the change management project, and the probability that at the completion of the project, the organization will not be ready for further transformations and an evolutionary continuation of the development process: to do so it is important to initiate a new project.

The second approach to change management is that the company and its staff build the capacity and ability to change. This work is carried out on an ongoing basis, without time limits and independent of particular programs. This method is aimed at the long-term growth of the business and is not a solution to any particular issue but an investment in human capital development. The key danger, in this case, is the lack of a link to specific business issues. When skills grow, and there are no changes (M. Teczke, R. Bespayeva, 2017)

1) A more fundamental, commitment arranged and measure centered way to deal with the administration of authoritative change empowers cooperation between pioneers, chiefs and staff in the usage of innovation and business measure changes. To accomplish this joint effort, four related approaches should be attempted (H. Hornstein, 2004): Participative leadership - is a set of organizational values and leadership behavior that can increase the commitment of people to their organization and its goals. As a result, the relationship between employees and management is improved and the gap that often exists between leaders / managers and their employees.



2) Empowerment - is characterized regarding building up the authoritative conditions that help high staff inclusion in change activities, sharing "suitable" dynamic obligations among the board, chiefs and staff, and sharing of intensity as proper for the conditions. the center of strengthening is worker contribution, mutual dynamic, rearranged authority and control, and expanded authoritative adaptability and versatility.

3) Systems Thinking - associations are dynamic frameworks whose parts sway and are affected by both outside and inside impacts. This implies that the littlest intercession will have unforeseen impacts on different pieces of the association. The shared characteristic of language, mental model and approach is ensured by guaranteeing that staff, the board and pioneers work in a coordinated and collective style. In any case, all together for an association to see long haul advantage, it is important that it be set up to give on-going energy and assets to looking after advancements, and to change itself by embracing rehearses that seem to have not been recently used, e.g., proceeded with improvement of the change agents, more more consistent information exchange with all staff (H. Hornstein, 2004).

4) The eight-step change process is created by John P. Kotter incorporates participative authority, strengthening and frameworks thinking, and proposes that powerful change is to a great extent reliant on guaranteeing that the suitable administration and backing measures, strategies, structures and frameworks are set up. this model will be discussed in more detail in the next chapter.

In summary, the high staff inclusion in the change activities, sharing "appropriate" decision-making responsibilities and sharing of intensity as proper for the conditions appear to be the foundational elements of the approach to managing organizational change. Collaborative leadership is the main segment of active and contributing associations.

3.3 Change Models and Frameworks

To date, the theory of organizational change offers a large number of different models of change management that allow you to develop a common ideology and concept of change and are an excellent practical guide. The most interesting and useful are: Lewin's model of change, the theory of E and the theory of O organizational changes, and Kotter's model. This section provides information on the indicated change models and is based on the extensive literature in this area.

3.3.1 Kurt Levin's model of changes

Lewin's change model is one of the first models of organizational change and can be called classical. The three-step approach by Kurt Lewin suggests that understanding change involves an awareness of the concept of stability. The factors that "push" for change and the forces aimed at maintaining stability, he called,

respectively, "motivating" and "limiting" forces. If these forces are equal, the organization remains stable. The model is a sequence of three stages of the change process, as illustrated by Fig. 2.

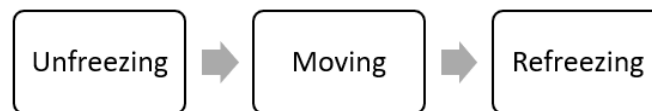


Figure 2: Lewin's Change Model Source: Adapted from Lewin (1951)

Lewin suggested a way of looking at the overall process of making changes. He proposed that organizational changes have three steps: 1. "Unfreezing." The first step involves unfreezing the current state of affairs. This means defining the current state, surfacing the driving and resisting forces and picturing a desired end state (E. Cameron, M. Green, 2019). Some thing must be done to break existing practices. Most organizations are extremely committed to the old ways of doing things and reject any attempts at change, so radical steps are required to provide members with information about the current state of Affairs that they ignored or did not consider. It is necessary to justify the need for changes and describe in detail the proposed methods of reform.

2. "Moving." The second step is about moving to a new state through participation and involvement. At this stage, planned actions are performed to change the behavior of employees or departments.

3. "Freeze." The third focuses on refreezing and stabilizing the new state of affairs by setting policy, rewarding success and establishing new standards (E. Cameron, M. Green, 2019). Activities aimed at the consolidation of new organizational practices. Ignoring this step may lead to the return of previous working methods. It is necessary to convince the staff of the organization of the effectiveness of new methods, promoting the benefits of the new system.

The three-step approach to change requires investment in significant resources, as well as research-based knowledge of conditions that can facilitate the stages of "Unfreezing," "Moving," and "Refreezing." Lewin (1951) offers a General scheme for studying the stages of development of the organization, leaving the details to the discretion of the conducting individual changes. Despite its apparent simplicity, the model Lewin marked the emergence of a new direction in the theory of organizational change — the creation of change management models, each of which, in one way or another, is based on this "classical" model. (Lewin, 2010). It is also argued that Lewin's theory focused on the magnitude of change while ignoring the speed of change hence not applicable in radical processes (Quinn, 1980-1982). Quinn opines that it is often a question of time before incremental change results in comprehensive transformations. Of note is the fact that Lewin's

change model focuses on behavioral changes from diverse angles such as group, organizational and societal change (Dickens and Watkins, 1999), but to the contrary applicability of rapid and transformational changes only work best in situations that demand major structural adjustments (Cummings & Worley, 1997). The other argument established was that Lewin's theory ignored the role played by politics and power as far as conflicts in organizations are to be discussed (Dawson, 1994); Hatch, 1997); Wilson, 1992). However, this criticism has been lambasted with the argument that Lewin tackled religion and racism in his theory; therefore, there is a slim chance that power and politics were given a blind eye (Bargal et al. 1992, p.8). The other criticism was derived from Lewin's idea that top-down management systems worked best for change implementation, unlike the bottom-up system of management (Dawson, 1994); Wilson, 1992). Lewin also maintained that the change process was catalyzed by the need and desire to effect such a change. To achieve success, every stakeholder had a part to play in the process regardless of being a manager or a leader.

3.3.2 Theory E and O of organizational change.

Every business's change initiative is unique and there are two archetypes, or theories, of change. These archetypes are based on very different and often unconscious assumptions by senior executives—and the consultants and academics who advise them—about why and how changes should be made. Theory E is change based on economic value. Theory O is change based on organizational capability. Both are valid models; each theory of change achieves some of management's goals, either explicitly or implicitly (N. Nohria, M. Beer, 2020). Theory E and Theory O are not mutually exclusive. For example, reducing occupancy costs (Theory E) while increasing flexible work policies (Theory O) are not at odds with each other; they are complementary strategies

The managers who follow the “E theory” apply rather hard methods as a rule, dwelling upon changes fulfillment up and down and attaching importance to the creation of certain structure, which means that mechanistic approach is applied.

The followers of “O theory” – are mostly oriented to the staff training and development, changes of corporation culture and the changes up and down. The characteristics of these theories are presented in Table 1.

Characteristics	“Theory E” (authoritarian style of management)	“Theory O” (democratic style of management)
Changes Goal	Income Rise (economic goals)	The Development of organizational changes
Leadership	Is spread according to the principle up and down	All Links are Involved
The Object of Changes	The Structure and System ("hard" elements)	Organizational structure ("soft" elements)
Changes Planning	Programmed Planned Changes	Spontaneous Changes (the reaction to possibilities which occur)
Changes Motivation	Financial stimulus	The Combination of Different stimulus
The Consultants Part	Consultants apply ready technologies and decisions	Staff Involvement into the decision-making process
According to an approach to organizational changes fulfillment in the system of company management	The Formation of Measures for Organizational Changes in the System of management of higher link of managerial staff	All Management Links Involvement to form the measures concerning organizational changes in the system of company management

Table 1. Theory E and O, Michael Beer and Nytin Norhia (2000)

3.3.3 Kotter’s 8-Step Model

Kotter's 8-step change model (date) is a popular framework for successful organizational change implementation that is used in many industries. Kotter's change model emphasized the importance of a holistic approach to change, and the probability of successful implementation of organizational changes is only 30%.

Although employees will see progress, leaders must be prepared to face opposition from within the organization.

The way forward is by formally addressing the opposition and highlighting the contradictions in the resistant idea that the new practice is intended to overcome (Hultman, 2003). Dinesh Venkateswaran (2014) examined the eight steps taken by Kotter to handle change, and he pointed out a variety of problems that occur. In step one, Kotter begins with the formation of a feeling of urgency without mentioning the vision. Dinesh claims that individuals are unlikely to abort the status quo and welcome transition when the future is not guaranteed. He objects that it just produces a 'false urgency' instead of a real urgency' argument. He also pointed out that while phase three talks about an optimistic vision, it is entirely out of the

question appropriate in organizations. However, the theory does not understand that there is no fixed parameter to legitimize a vision. (D. Venkateswaran, 2014) It is also the duty of the leadership to estimate the vision set based on a shared understanding with the coalition team. While it focuses primarily on rolling out your changes everywhere, Kotter's model is essentially a top-down approach. This is likely because much of Kotter's experience came from working with large companies, but it can nevertheless be a problem for companies relying on more collaborative customization. The employees don't have input or the choice to share thoughts before strategic vision creation. Another drawback happens if a stage is skipped or executed erroneously. This influences different advances and leaves the association and venture group to defer or relapse. As a result, there could be wasted time and effort (B. J. Galli, 2018).

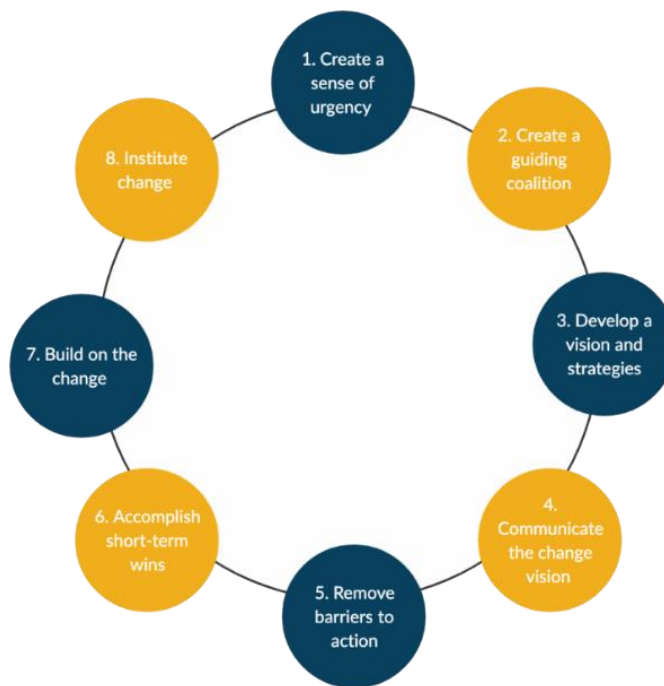


Figure 2: Kotter's 8-Step Model (Source: Adapted from Kotter 1996)

3.4 FINDINGS

To date, the theory of organizational change offers a large number of different models of change management that allow you to develop a common ideology and concept of change and are an excellent practical guide. The most exciting and useful is the K. Levin model of changes, the theory of E and the theory O organizational



changes, and Kotter's model. K. Levin's model of changes is one of the first models of organizational change and can be called classical.

Lewin identified three stages of the change process: "defrosting,» movement, "freezing." This model has had a significant impact on the further development of the theory of organizational change. According to some experts, almost all subsequent models are based on the Levin model, detailing the proposed three stages of change..

Theory E and Theory O are two polar approaches to organizational change, representing two different strategies for the process of change. Theory E proceeds from the primacy of financial goals and focuses on their effective achievement, taking into account the company's shareholders' constant pressure. O theory considers an organization a self-developing system and is more focused on the organization's employees' corporate culture, goals, and motivations. The choice of an approach depends on several factors, including:

- the nature and scale of the problem facing the organization,
- the personal characteristics of employees,
- the nature and content of work in the organization,
- the value orientation of management and leadership style.

As mentioned earlier, change management develops from the current state to the desired state. Table 2 shows the overall change process management models' strengths and weaknesses:

Point	Lewin's change management model	Theory E and O of organizational change	Kotter's change management model
Strength	The model is suitable for cases where a business needs to change dramatically in order to be successful. It also does a great job of spotting hidden bugs that were taken for granted as there are need to analysed every aspect of what you are changing	The choice of an approach depends on several factors, including: the nature and scale of the problem facing the organization; the personal characteristics of employees; the nature and content of work in the organization; the value orientation of management and leadership style	The first few phases of Cotter's theory are fantastic - they set the stage for success by creating a sense of urgency and convincing everyone why change is needed. This gives your team the incentive it needs to implement the change, and enough people are working to implement it, and this should quickly become standard practice

Point	Lewin's change management model	Theory E and O of organizational change	Kotter's change management model
Weaknesses	Due of the scale of the defrosting process, the Levin model can be difficult and time-consuming to implement, meaning that the use of the model is often only needed for in-depth analysis and overhaul. Massive changes (for which this model is suitable) are fraught with the risk of employee churn, as their workflow will be radically different from the previous one	The model cannot be executed efficiently in a short time or in a short period of time. You will not have the necessary knowledge to evaluate every element of your company, and therefore need to allocate additional time and resources to build an overview and evaluate viable changes	While it focuses primarily on rolling out your changes everywhere, Kotter's model is essentially a top-down approach. This is likely because much of Kotter's experience came from working with large companies, but it can nevertheless be a problem for companies relying on more collaborative customization. Not suitable for a small company
Motivation	Must use organizational incentives that support, not lead the desire for people to make change real	Must use financial incentives that support, not lead the desire for people to make change real.	Must use cultural-organizational incentives that support, not lead the desire for people to make change real
Drivers	Lewin emphasized the importance of preparing individuals for change (unfreezing) and reinforcing the need for change (freezing). Sponsorship would certainly play a part in this.	the internal team, not the consultants, must drive the change. Consultants can assist, guide, and support, but the vertical leadership team must drive the change.	The guiding coalition and volunteer army are important steps in Kotter's process. They both play crucial sponsorship roles.
Approach	Involving the people in the process, allowing them time to shift, and talking to external stakeholders (e.g., employee organizations) if required	Top-down: the employees do not have input or the option to share ideas before strategic vision creation	Top-down: the employees do not have input or the option to share ideas before strategic vision creation
Leadership	Defined as the influence of certain individuals in the group to achieve common goals. A well-planned change process requires defining a vision and motivation	Must be participative top-down, so that the top leaders quickly develop the goals and encourage middle layers of management to adopt them, and middle management works influence upward	Need a strong leadership culture. The leaders need to develop a well-designed plan

Point	Lewin's change management model	Theory E and O of organizational change	Kotter's change management model
Focus	Except technology which was hardly (unfreezing, discussed, human and strategy were somehow move and act, reflected in those strategies. This signifies that and refreezing) these aspects are main ingredients for all changes before, now and then	Must be on changing the organization design and culture to embrace new methods and thought models, including the successful integration of financial and operations metrics	The model proposes transforming organizations must create an artificial void for establishing a sense of urgency for a change to be accepted and driven by the people
Process	Given the absent of technology, changes per se were static. The results of change could thus be predicted; the methods to manage change do not vary, and hence planning has a critical role in the management of change	A combination of planned/programmatic change with opportunistic capture of emergent practices	The need to create short-wins can actually increase the sense of true urgency and actually accomplishing these goals does much to cement the change initiative

Table 2. Strength and weaknesses. Completed by the author on the basis of sources considered

Lewin's model requires deep analysis and process improvements. By uncovering the roots of your methods and completely changing processes and practices where necessary, you can change an organization at a critical time in its life cycle. Lewin's ideas are valuable when analyzing the change process at the start of an initiative. His forcefield analysis and current state/end state discussions are extremely useful tools. However, the model loses its worth when it is confused with the mechanistic approach, and the three steps become 'plan, implement, review'.

Theory E and O of organizational change's model is suited for those, who want to know how they can change for the better. Having created an overview of how consistent and effective various elements of the company are, there are needed leaders and good employee support. Then proceed to analyze the current situation and develop changes to solve the problem model combines a number of key elements management model of organizational change together in a neat process.

Kotter's theory is great as a checklist, but lacks the necessary actionable instructions to be taken as a step-by-step process. Smaller companies depend much more on cementing every employee as a champion of each change, meaning that there is a need to pay more attention to their feedback. Kotter's model should be supplemented with other approaches or at least elements of them to make up for its shortcomings. Kotter's eight steps are an excellent starting point for those interested



in making large or small-scale organizational change. The model places most emphasis on getting the early steps right: building coalition and setting the vision rather than later steps of empowerment and consolidation. Change is seen as linear rather than cyclical, which implies that a pre-designed aim. International research by McKinsey shows that 70% of transformations fail. 39% of failures are explained by employees' resistance to changes, 33% by the lack of support for changes from the managers, and only 14% by inadequate resources and other reasons. Thus, the culture of the company is a critical factor in making changes (Shapenko A, Filippova M, 2017).

Many organizations wishing to implement changes effectively should consider transitioning the present system or state to the desired future state, thereby maximizing resources and minimizing time costs, making it profitable for the organization (Hotho, 2008). The following key areas can be considered to ensure its success:

- 1) An adequate definition of the problem and an assessment of the urgency of the need for change should be made to understand the current situation in the organization and determine what changes are necessary for solving the identified problem.
- 2) Imagine the desired future state of the organization by creating a realistic picture of the ideal company situation after applying the change and effectively communicate the vision to all participants of the change, and developing effective mechanisms to ensure a smooth transition of changes from the old state to the new state. It also requires a high level of stability in the change process, such as ensuring and coordinating change efforts to achieve organizational goals and objectives.
- 3) Changes should be made systematically and organized image. Effective transition is essential and should include consideration of effectiveness in the allocation of resources, ensuring that planned changes performed, the person entrusted with the responsibility to manage such change can do it, and make sure that planned changes are coordinated from the top to the lowest level, to all organizations are well aware of the direction of change. Leaders in an organization must initiate change with enthusiasm and serve as role models in addressing change.
- 4) Effective management of the growth of resistance to change the level of participation of people in the change effort. Leaders play a major role in initiating change and share your vision for change. The higher the resistance level, the more likely it is to be challenging to implement the change. Appropriate strategies should be applied to minimize the degree of resistance.
- 5) Proactive change management is also an effective means of maximizing flexibility to adapt to changes in the future and can be seen as a creative approach to working with the dynamics of changes. This is possible with the help of the HR Department and all participants.



Conclusion

According to the reviewed material, it should be noted that there is no one ideal specific version of change management. The choice of an approach should be based on consideration of real conditions, as well as on the integration of several models.

Thus, it is necessary to assess the specific situation and the desired result for the correct implementation of changes and learn how to manage changes based on the approaches and models appropriately considered. A unique role is given to the consideration of digitalization processes. All of these models have a unique approach to change management, emphasizing different aspects of the problem. Therefore, these models should be considered in terms of complementarity, not opposites. Because of its complexity, change management requires knowledge of different points of view, differentiation of models, and approaches. The purpose of the article was to contrast these approaches, which allows to see the differences and similarities in the views presented.

The considered theoretical aspects are presented in appropriate sequences, structured at the level necessary for a qualitative understanding of their content. The study of the proposed material will contribute to the formation of a sufficiently complete understanding of the current state of change management. However, it should be recognized that many aspects of change management can be studied from an alternative perspective, which is characteristic of the dynamics of societal development.

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Collective Creativity in Organization

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Abstract: Employee is the most valuable asset that should be properly managed by the company. The capability of employees can affected the company's performance. To maximize performance and increase the company's value added, the development of the creativity is important and collective creativity is an important way for a company to propose solutions from every problems within the organization. This paper aims to show the implementation of collective creativity in organization. Collective creativity reflects a qualitative shift in the nature of the creative process as the comprehension of a problematic situation and the generation of creative solutions in ways that lead to new and valuable insights. Organizational support also affects employee creativity through the supportive work environment through its effects on procedural justice, knowledge sharing, motivation, and promotion in the work environment. Besides, transformational leadership has significant results at both individual and organizational levels. Top management leader's benevolence and adhocracy organization culture dimension have positive and significant impacts on employee creativity.

Keywords: employee, collective creativity, corporate culture, innovation

Introduction

Employee is the most valuable asset that should be properly managed by the company. The capability of employees can affected the company's performance [1]. To maximize performance and increase the company's value added, the development of the creativity is important. Innovations play an important role in increasing the value added, e.g. productivity (volume, revenue), and this can be a method to develop and promote potential skills and abilities of employees. According to this, innovation should be carried out by a whole element of organizations. Nowadays, collective creativity is an important way for a company to propose solutions from every problems within the organization. This paper aims to show the implementation of collective creativity in organization.



Literature Theory

Collective Creativity

Leading innovation is not about creating a vision, and inspiring others to execute it. Innovation means anything that is both new and useful, can be a product, service, way of organizing, can be incremental, or can be breakthrough. Collective creativity is the tool to reflect a shift from problematic situation into solutions from every individuals of organization [2].

Collective creativity reflects a qualitative shift in the nature of the creative process, as the comprehension of a problematic situation and the generation of creative solutions draw from – and reframe – the past experiences of participants in ways that lead to new and valuable insights [3].

There are factors contributing the collective creativity in organizations [4]:

1. Management practices based on trust
2. Interaction of culture and mutual inspiration
3. Cooperation capacity in solving tasks
4. Psychological safety
5. Specific professional for organizational creativity promotion
6. Flexible and efficient sectoral relations
7. Organizational memory

Organizational Culture

According to [5], it is advocated that organizational culture is the pattern of variations within a society, or, more specifically, as the pattern of deep-level values and assumptions associated with societal effectiveness, shared by an interacting group of people.

Organizations across several countries have experienced diverse challenges as a result of applying an organization culture that is not supportive of the kind of values they require to engender employee creativity [6].

There are some practices to increase collective organization culture [4]:

1. Empower your creativity
2. Create a peer culture
3. Free up communication
4. Craft a learning environment

In the discourse of [7], organization culture was highlighted as a factor that could be an obstacle and or facilitator of employee creativity.



Methodology

The method to looking for the how the influence of collective creativity in both companies used by the literatures and references which was published previously. This study uses a literature review method. Literature review is a method that reviews various literature that analyzes related research topics to produce answers from a study. The stages in the literature selection process were carried out as follows [8]:

1. Searching for literature on the database with relevance based on the suitability of keywords with the title, in addition to the conditions specified in the plan.
2. Performing literature elimination on those that do not meet inclusion criteria and meet exclusion criteria.
3. Reading abstracts from each literature whose title meets the conditions.
4. Elimination was then performed based on abstract relevance.
5. Evaluating the literature by reading it in its entirety and evaluating its quality.
6. Selecting literatures that pass the evaluation phase.

Result

According to [9], organizational support affects employee creativity through the supportive work environment through its effects on procedural justice, knowledge sharing, motivation, and promotion in the work environment. The role of organizational support in facilitating motivation, procedural justice, knowledge sharing, and promotion in the work environment leads to employee creativity. In particular, the measure of the work environment structure, motivation, and knowledge sharing mediated the relationship between procedural justice and promotion. Managers of organizations should be aware that the critical attributes of the work environment would influence employee behavior. These attributes may affect employees' motivation, which, in turn, may affect employees' ability to create new ideas concerning customer needs.

Based on [10], transformational leadership has important effects at both individual and organizational levels. At the individual level, transformational leadership positively relates to followers' creativity. It shows psychological empowerment as a crucial psychological mechanism through which transformational leadership influences employees' creativity. A reason for psychological empowerment to be a more vital mediator than intrinsic motivation might be that R&D employees are already intrinsically motivated, which may substitute for a transformational leader's influence on their creative performance. This leader's effect by enabling them to make their own decisions and take initiatives might be a more powerful creativity-enhancing force for these employees than his or her impact through influencing their intrinsic motivation. The transformational leader's direct behavior on employees,



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such as individualized consideration and intellectual stimulation, might affect their emotional well-being and provide immediate and clear cues that creative action is expected. Employees might not take an innovation supporting climate, an organization-wide contextual factor.

According to [11], top management leader's benevolence and adhocracy organization culture dimension have positive and significant effects on employee creativity. Top management leaders who are already exhibiting a high level of benevolence might have emanated from a habit of ensuring employees continuously perceive them as having high benevolence standards to drive employee creativity initiatives.

Conclusions

Capability and creativity of employees should be develop to maximize company performance and value added by implementing collective creativity. Collective creativity reflects a qualitative shift in the nature of the creative process as the comprehension of a problematic situation and the generation of creative solutions in ways that lead to new and valuable insights. Organizational culture is the pattern of variations within a society shared by an interacting group of people. Organizational culture was highlighted as a factor that could be an obstacle and or facilitator of employee creativity.

Organizational support also affects employee creativity through the supportive work environment through its effects on procedural justice, knowledge sharing, motivation, and promotion in the work environment. Besides, transformational leadership has significant results at both individual and organizational levels. Top management leader's benevolence and adhocracy organization culture dimension have positive and significant impacts on employee creativity. Top management leaders who are already exhibiting a high level of benevolence might have emanated from a habit of ensuring employees continuously perceive them as having high benevolence standards to drive employee creativity initiatives.

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Public Administration and Mediation. Conflict Management of Public Legal Relationships

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Abstract: The difference between mediation and court proceedings is mostly reflected in the difference between the procedural rules, goals and consequences. In Hungary, it has been possible to switch between civil litigation and mediation proceedings since 2008. The court may, at any stage of the proceedings, attempt the parties to settle all or part of the dispute amicably. A major breakthrough, especially in the development, transparency and efficiency of public administration in Hungary in terms of administrative practice and regulation of administrative activities, is that in the case of administrative litigation from 1 January 2018 it is also possible to use the mediation procedure. The significance of this is, among other things, that the official decision and the procedure aimed at making it can take into account the views of the client or other interested parties in a more emphatic and direct way, so it can have a significant impact on the client's acceptance and voluntary implementation. The aim of the present study is to examine how the possibilities of mediation in a functioning organizational system have prevailed in the recent period. The examined area shows an answer to the question whether the aim of the legislator is achieved by providing the possibility of mediation in everyday administrative practice.

1 Conflicts in Public Administration

Conflict appears in private sphere and in public sphere, too. Conflict is everywhere. It can be found in human interactions as well as business interactions. Companies involved in formal conflict, search for lawyers and leaders that resolve conflict in an efficient way. This means not only to address the issue of conflict and come to a solution but also to do so with the best use of resources possible and that assures a final solution rapidly. In the last quarter century, alternative dispute resolutions (ADR) has become an increasingly efficient and popular strategy to conflict



management. Among the most well-known ADR methods are mediation, conciliation, negotiation and arbitration. [2]

Litigation present a series of inherent disadvantages for companies - the parties lose control, the lawyers and the judicial system have power over the timing and procedure of the conflict resolution, and in result, disputes can take years to come to any resolution. The parties lose the ability to communicate with each other in order to resolve the problem. This causes most business relationships to be ruined and erodes trust and cooperation. Also, the costs of litigation increase significantly due to delays and (mostly) the lawyer's fees. The companies that become embroiled in litigation can lose its competitive advantage.

On the other hand, ADRs have become progressively common due to the advantages to litigation such as benefits in costs, simplicity and maintenance of the power of the entire state of affairs. In case of usage of these methods, a resolution is only reached if both sides accept to engage in this voluntarily. This own-willed approach to a conflict management implies a rationalized approach to the conflict at hand. This same rationalized approach also looks to quick conclusions that allow to construct a scheme to frame the relationship to prevent future disputes.

While there are some notable nuances between the different ADRs, they share the common feature: the dispute is mostly decided by the parties involved and less power is given to the third party involved (i.e. mediator, referees). Whereas in the case of litigation, the jury is granted absolute powers for the resolution of the conflict and to enforce this resolution. In mediation, the parties determine the result of the dispute and are in power of the conflict management the whole time while in arbitration, the result is determined in accordance with a rule, the law applicable. In both cases of ADR, when deciding on a result, the parties can take account for a wider range of rules, and in particular, their respective commercial interests. [3] Therefore, mediation and arbitration are procedures based on interests and rights. The fact of taking commercial interests into account also means that the parties can decide the result by reference to their future relationship rather than solely by reference to his past conduct.

The term conflict [4][5][6][7] has no single clear meaning. Much of the confusion around the definition has been created by scholars in different disciplines who are interested in studying conflict. Reviews of the conflict literature show a conceptual sympathy for, but little consensual endorsement of, any generally accepted definition of conflict. There is tremendous variance in conflict definitions, which is mainly defined according to two approaches. First, a more specific approach which includes a range of definitions for more particular interests or areas. Second, a broader approach which include a variety of more wide-ranging definitions that attempt to be more all-inclusive in the subject matter. We use the definition of Rahim (2011) [8] which is more of a broader approach. According to this author, "conflict can be considered as a breakdown in the standard mechanisms of decision making,



so that an individual or group experiences difficulty in selecting an alternative”. Conflict is even published by authors on the side of peace: “Peace is nothing more than a change in the form of conflict or in the antagonists or in the objects of the conflict, or finally in the chances of selection.” [9]

2 Public Administrative Procedure Act of 2017. Nr. I. (Kp.)–possibility of agreement and mediation

2.1 Agreement

In case of a court trial, the conflict management revolves around different litigation costs. In the case of litigation, which continues as the most popular formal conflict management procedure there are several costs to bear in mind. First, one can clearly compare the type of costs a plaintiff might have during a civil or a public administrative procedure. Not only the court fees, but time, the question of reasonable time mean also the cost of litigation.

Why it may be effective to reach an agreement in the public administrative procedure? If the subject matter of the dispute so permits and is not precluded by law, the court shall try to reach an agreement between the parties if there is a reasonable opportunity to do so within a reasonable time. 2) The court shall a) inform the parties of the benefits of the agreement. and (b) inform the parties of the nature of the mediation procedure, the possibilities and conditions for its use, (c) it may present the proposed agreement to the parties in writing during the preparation of the hearing or in the minutes of the hearing, or (d) summon the parties to an attempt.

2.2. Agreement and mediation

Settlement and mediation can be classified as alternative dispute resolution. The legal institutions of settlement and mediation are based on the aim of reaching an agreement between the opposing parties that reflects the interests of the parties as much as possible. The amicable settlement of a conflict between the parties is not only in the interests of the parties, but is also in the fundamental interest of the public authorities, as it speeds up the proceedings before them and, in all likelihood, closes them permanently. In contrast to traditional judicial decisions, which necessarily have a winning party and a losing party, the essence of alternative dispute resolution is that, at the cost of compromises, all parties involved can be considered to be largely winning. [Sáriné Simkó Ágnes (szerk.): Mediáció - Közvetítői eljárások. Budapest, 2012, HVG-ORAC, 18. p.]



A necessary condition for this is that, given the nature of the dispute, it is possible to reach an agreement and that the parties also have a willingness to settle their conflict in this way. The classic areas of alternative dispute resolution (family mediation, health redress, consumer conciliation) are typically linked to private enforcement, as the parties' decision-making autonomy in private law is significantly wider than in public law, and in particular administrative law. (Sáriné Simkó Ágnes: *Mediáció 2012*, 355. p.) In administrative law, ADR is closely linked to the issue of discretion, as there is essentially an agreement between the parties in areas where the law allows for some degree of discretion. Logically, in situations where the administrative body can only make one lawful decision, the possibility of a different agreement cannot arise during the litigation. If, on the other hand, the administrative body has acted in the exercise of its discretion, the following legal institutions may be applied within that framework.

In the application of settlement and mediation in administrative lawsuits, a fundamental question arises as to whether these tools can only be used in lawsuits where opposing parties outside the administrative body or authority are opposed to each other (eg. contact cases, expropriation cases) or possibility. There are for their application in official activity, in classic bipolar cases, i.e. also in the opposition of an authority and a client (e.g. imposition of a tax fine).

In our view [9], there is no obstacle to the conclusion of a settlement or mediation in cases where an authority is confronted with a client, since the basis for the application of these legal institutions does not depend on the number of subjects of the underlying legal relationship but on whether room for maneuver defined by law within which the agreement can be established.

Thus, for example, the legal institution of the settlement can be used in construction matters when establishing special permit conditions or even in social assistance matters. Similarly, it can be beneficial to seek settlement in complex regulatory lawsuits such as communications cases or competition cases. The wider application of the agreement in this type of case may also induce a change in the perception of the judiciary, as the focus of judicial activism is on reaching an agreement on reviewing the decision, leaving more room for market participants and the authority to agree on their own interests, eg GVH Notice 3/2015 on the settlement attempt). The court can thus indeed act as a guardian of legality in these complex cases and does not take over the role of the regulatory authorities through the review of the decision.

Another peculiarity of litigation settlement is that in the application of the law of the administrative authority - even in the changed legal environment - it gives the authority the opportunity to amend or revoke its decision protected by the rights acquired and exercised in good faith during the proceedings. Kp's explanatory memorandum also emphasizes that "the role of the settlement may play an important role in the context of the widening of the judicial sphere and the limitations of ex officio review possibilities". In this way, the conclusion of a legal settlement gives



the administrative body more leeway to shape its decision afterwards. Although Kp's Section 83 provides for the possibility for an administrative body to remedy an infringement in an administrative proceeding during the proceedings, in addition to the suspension of the proceedings, this is only within the limits of ex officio review of decisions (eg. Section 120 of the Act). possible. In contrast, during a court settlement, an earlier decision can be amended in the absence of a breach of the law, or beyond the one-year time limit, or even repeatedly.

Before examining the rules of settlement and mediation, it is necessary to briefly present the difference between the two legal institutions. The relationship between a settlement and mediation can essentially be described as a goal-tool relationship. The purpose of alternative dispute resolution in each case is to reach an agreement between the parties. One possible means of doing this is to use the mediation procedure, in which the parties call on an external mediator to reach an agreement. However, an agreement as an objective may be reached without mediation, either by an agreement between the parties independent of the proceedings or by the assistance of the trial judge.

2.3. Conditions for establishing an agreement

Within the framework of the establishment of the agreement, the Kp. essentially lays down three conditions: a) it is not precluded by law, b) the nature of the dispute allows an agreement to be reached, c) an agreement can be reached within a reasonable time.

Kp. According to the system of conditions, the possibility of concluding an agreement becomes the main rule in the administrative lawsuit, ie in the case of the other two conditions, theoretically any Kp. an agreement may be reached in proceedings falling within the scope of However, the possibility of reaching an agreement may be ruled out by the legislator in sectoral rules. The Ákr.-Kp. Mod. For the time being, there are two such sectors: settlement is excluded in lawsuits related to the official procedure of food chain supervision [Act XLVI of 2008 on the food chain and official supervision. Section 39 (2) of the Act], as well as in lawsuits related to environmental administrative authority proceedings (Kvt. 96/D. §). The latter exclusion rule is particularly unfortunate, as issues of discretion in environmental matters would have been appropriate for the application of the legal institution of the settlement.

With regard to the nature of the dispute, we have already stated in the introduction that, in principle, an agreement may be reached in cases where the administrative body acts in a discretionary manner. The administrative body acting in its discretion may choose from several legal decision-making possibilities provided by law. [Molnár Miklós: Jogkövetői mérlegelés az államigazgatási jogban. Jogtudományi Közlöny, 1989/44. sz., 376-378. o., 377. o.; illetve Fazekas Marianna (szerk.): Közigazgatási Jog - Általános Rész III. ELTE Eötvös, Budapest, 2013, 103-108. o.] The Curia 2/2015. (XI. 23.) KMK's opinion delimited the scope of the decisions made in the following discretion: "Administrative substantive law is extremely



characterized by the discretion in the indication of decision possibilities. The classic cases of this are the statutory provisions of some previous social benefits, as these provisions only created the possibility of a given benefit (named: “can be given”) under certain conditions. Another large group of discretion inherent in decision-making options is the list of different types of decision-making options from which the authority can choose. The third important area of regulation is when only the framework of the decision is designated by law. This is mainly the case in fines, usually by setting an upper limit or both.

If the law prescribes a binding decision for the authority in the presence of certain conditions, and the authority takes evidence for the examination of these conditions, the result of which is assessed, the decision cannot be classified as a discretionary decision in view of the latter. [Vö. Fazekas Marianna (szerk.): *Közigazgatási Jog - Általános Rész III. ELTE Eötvös, Budapest, 2013, 103-108. o.*]

It can be read from the above that the discretion is basically in the choice of the administrative decision, it provides alternatives in the decision-making process, thus the discretionary activity of the administrative body in the evidentiary procedure cannot be included in this circle, nor the cases when the decision of the body is essentially. Legal framework does not exist outside the definition of decision-making power (discretion).

As a last condition, the Kp. he mentions that, given the circumstances of the case, there is a chance of reaching an agreement within a reasonable time. This provision reflects the idea that one of the advantages of the settlement is that it speeds up the procedure. The assessment of reasonable time is at the discretion of the trial judge and can only be decided on a case-by-case basis. Presumably, in this situation, it can be considered a reasonable time that does not exceed the expected duration of the termination of the lawsuit without a settlement.

2.4. The judge's options for making a settlement

If the conditions for reaching an agreement are met, the trial judge is obliged to inform. The information is two-way, on the one hand the parties must be informed about the advantages and conditions of the settlement, and on the other hand the judicial information should cover the description of the mediation procedure. In addition to the general benefits mentioned in the introduction, the benefits include the costs of litigation and fees, as well as the exercise of the right of appeal. The court must therefore inform the parties that they may agree to bear the costs of the proceedings, failing which the costs will be determined in accordance with Section 67 (3). Itv. Pursuant to Section 58 (1) and (3), they are required to pay a moderate fee in the event of a successful settlement. In any case, the information must take into account the fact that the approved settlement is a judgment decision, but the parties to the settlement may not appeal against it.

In addition to general information, there are essentially three possible ways for a judge to help reach an agreement. On the one hand, the court may recommend the



parties to use mediation, in which case the procedure is governed by Section 69: if the parties agree to use mediation, the court suspends the proceedings for the duration of the mediation. On the other hand, Kp. it also provides an opportunity for an agreement to be reached between the parties in court proceedings. One way to do this is for the judge himself to outline a possible settlement for the conflict between the parties and present it to the parties.

In an administrative lawsuit, the court if the Kp. unless otherwise provided, the administrative dispute shall be adjudicated within the framework of the application, the applications submitted by the parties and the legal declarations [Kp. § 2 (4)], ie the principle of being bound by the application applies. Within the framework of the rules of the settlement, this may be interpreted as meaning that the court considers ex officio whether the legal conditions for the settlement exist and, if so, informs the parties ex officio about the methods of settlement and may decide to summon the settlement. without the cooperation and request of the parties.

On the basis of the parties' request for a settlement, the court is obliged to examine the existence of the terms of the settlement, however, it may reject the parties' request if the legal conditions are not met (eg. in its opinion the proceedings cannot be completed within a reasonable time). The court decides on the rejection by an order, which, however, is issued by the Kp. does not regulate separately, so the Kp. Pursuant to Section 112 (1), there is no place for a separate appeal against it, it can be challenged in an appeal against the judgment.

With a view to concluding the dispute within a reasonable time, it can be stated that an attempt to reach an agreement will clearly increase the duration of the action only if the parties attempt to reach an agreement through mediation. In this case, Section 69 (2) also provides that the court shall stay the proceedings. In cases where the court summons the parties to a conciliation attempt or presents the proposed settlement to the parties, the length of the proceedings may increase depending on the nature of the case, but there is no need to stay the proceedings, these measures may be included in the proceedings. [10]

3 Data Collection

3.1. Method

The primary research is a survey, a questionnaire. It is not a representative survey, so the result is able to show us an example based on the samples, on 35 responses.

3.2. Result

To go deeper into the topic of analysis, clients, natural persons were contacted on the subject. I consulted them on the topic of analysis, the research tool used was a questionnaire. 35 persons were contacted and responded the questions. Basic

questions were: the age of the respondents, the working years in public administration, the number of resolved cases in the working period.

The question of the study focused in asking about the decision in case of public administrative procedure –in case of the possibility of the decision about how to continue the procedure: in litigation or to make a possible agreement, specifically:

1. In case of a conflict, which way of conflict resolution is preferred in your decision? In the procedure of the public administrative court, I will:?

- The figure shows that 90% of respondents prefer choosing mediation in case of a conflict.

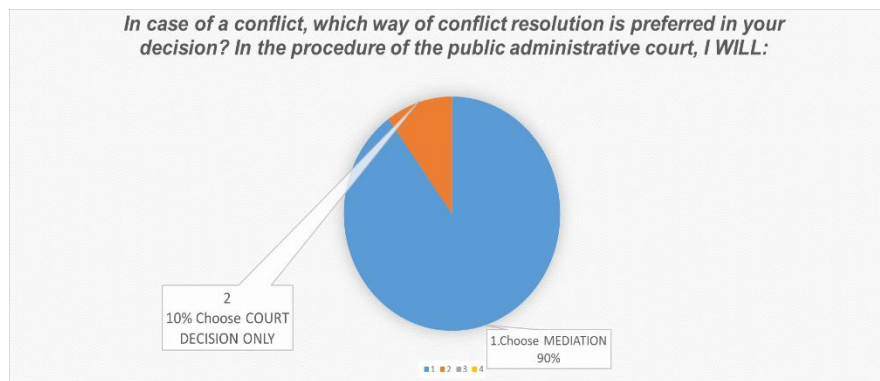


Figure 1. In case of a conflict in public administrative court procedure
Source: own research

- The figure shows that 10 % of respondents would stay in litigation and would choose court decision in case of public administrative conflict.

Conclusions

The results of this study suggest that according to the current data of proceeding fees, alternative dispute resolution in terms of cost, are a more economical alternative in conflict management as they allow a more expedite resolution. In addition to court proceedings, alternative dispute resolution (i.e. mediation, arbitration) is another way to achieve a lasting more peaceful solution to conflicts. As it allows the parties to maintain the negotiation power necessary to conduct the conflict management, it helps them keep communications open. This also seems to be hinted in the respondents' answers to the above question in this study. There is an almost 90% divide in those who prefer to compromise and will even accept a certain loss of power in order to obtain a better resolution. The study highlight the significance of power relationships in public admistrative conflict management and the selection of ADR, agreement and mediation.



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Health Awareness of Young Generations

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Abstract: Physical factors such as eating, burning, avoiding toxic substances, sports, abstaining from harmful substances play a role in health. Spiritual factors are also important, finding a balanced and stress-free life, self-confidence, self-esteem, loving relationships, and finding meaning in one's own life. In the dissertation, we researched the question of what role these factors play in today's youth and how they relate to health. We have assumed that there is a commitment to sport, but for the majority this is not the case, and harmful activity is also present.

Keywords: health, sport, activity, diseases, young generation

1 Introduction

In this Paper, we examined how much the younger generations pay attention to maintaining their health, what are the factors that affect their lives, and in what form, to what extent. Thus, we examined their eating and sports habits in the framework of a questionnaire and, if someone was born with a long-term illness or in the later years it turned out how this new information changed their lives and lifestyles. Our choice of topic was influenced by our love of sports and the pursuit of a healthy lifestyle. The topic of diseases was close to the topic and we became interested in the opinions of others in the field of disease and health. It is a very small group of young people today who consciously pay attention to their health without having a long-term illness or pursuing the sport they choose for non-serious purposes. Nowadays, people prefer passive pursuits (television, computer) and the level of harmful passions is also increasing. Probably people are aware of the benefits of sports and healthy eating yet are able to ignore them until something happens to them that opens their eyes (maybe even after that). Consuming food, nutrition brings people together; a social event, a bodily desire that is socially accepted. (Falus, 2015)

Most forms of nutrition are also a unified system, which, in addition to health aspects, also formulates additional goals, such as environmental protection, social justice and the conscious development of the individual. It can also be accompanied by a holistic-philosophical approach that goes beyond the natural sciences.



According to Werner Kollath, food should be in the most natural form possible, as it is most likely that the least processed food contains the most nutrients essential for life, health and well-being. (Schmiedel-Leitzmann-Lützner and Heine 2004, p. 46)

Factors influencing nutrient requirements

In this chapter, I will list the factors that affect a person's nutrient intake:

- body weight, physique,
- age, gender, physiological condition (eg pregnancy),
- eating habit,
- health,
- amount of daily physical activity,
- climatic and other environmental factors. (Agus, 2012)

1.1 Healthy eating

Vegetarian comes from the English word vegetarian, the result of the word combination vegetable + arain. Anyone who is a vegetarian does not eat meat and meat by-products, but also consumes other animal products (eggs, milk, etc.) as well as vegetables, fruits, legumes, mushrooms, seeds and cereals.

There can be various reasons for someone to lead a vegetarian lifestyle:

- Ethical reasons: you do not want to kill animals in the meat industry because of it,
- Health reasons: thanks to the ever-expanding research results of modern nutrition science, we now know that leaving meat can have several positive benefits,
- Environmental reasons: large-scale livestock farming is one of the most polluting industries in the world and is unsustainable for the future of our planet,
- Religious Reasons: He interprets God's goodness and teachings as not hurting or killing others — most Scriptures don't really require the use of animals,
- Financial reasons: Plant foods can be cheaper in many cases, so it's a good choice if someone can't afford the luxury of eating meat.

Several types of vegetarian lifestyle have developed over the years:

- Lacto-ovo vegetarian: A vegetarian who does not eat meat but consumes dairy products and eggs,
- Lact vegetarian: A vegetarian who does not eat meat and eggs but consumes dairy products,



- Ovo vegetarian: A vegetarian who does not eat meat and dairy products but eats eggs,
- Pescatarian: A person who eats only fish but no other meat,
- Flexitarian: A person who eats meat but significantly less and less often than followers of a traditional diet.

Overall, therefore, vegetarians do not consume meat, but other foods of animal origin do. There are also different reasons why someone pursues such a lifestyle and there are different types of them, of which the peccarian and flexitarian lifestyles are not always always listed among them.

Whoever vegan respects the interests and rights of animals and seeks to end the exploitation of animals. In addition, anyone who is vegan has a plant lifestyle in all cases, but not every person who follows a plant lifestyle can be said to be vegan. The difference between the two is that vegans boycott animal use (Anonymus, 2018).

1.2 Sport

Most people miss out on regular physical activity. Examining sports habits, it turns out that the average daily exercise is 7-14 minutes among adults. More than 80% of women and more than 60% of men do not exercise at all. It is sad that the vast majority of adults (74%) do not want to play sports because of their childhood physical education lessons and did not do so in childhood. Even among adults who choose sports, the primary goal is to maintain their health and improve their well-being, and they consider exercise to be much more fun and recreational. Because of these motivations, recreational sports and recreation are the most popular among them. The most common sports are: football, running, cycling, aerobics, swimming, team play. (Szatmári, 2009)

1.3 Harmful passions

“Addictions are those forms of behavior over which a person is unable to exercise control and therefore compulsorily perform them over and over again, and which have detrimental consequences for the person - and mostly for his or her environment. The fundamental boundary between passion and addiction is in the latter aspect, the detrimental effect on daily life, a person's health, psychosocial condition, social relationships, work and academic performance. ” (Demetrovics 2007, p. 30)

There are two types of addiction (addiction). One that is geared towards a specific goal (chemical substance) is alcoholism, smoking, heroinism. The other results in recurring, compulsive behavior and has nothing to do with a chemical. This



behavior is addiction, also known as coercion and includes gambling, watching television and compulsion to bathe. (Bácskai 1994, p. 113)

Harmful passions include smoking, binge drinking, drug use, and other pleasurable substances. These drugs not only cause permanent damage to the developing body, but also endanger the health of adults. They produce a temporarily pleasant effect in small amounts. After several small doses, the body demands more and more of them, and eventually they become the passion of the individual, causing addiction.

Predisposing factors

Harmful passions are different

- family problems, problems, unresolved life situations,
- extreme forms of education,
- bad role models, friendly environment,
- the model selection is incorrect,
- poor peer group choice, compliance with a friendly environment,
- school problems, study difficulties
- curiosity, other reasons. (Anonymus 2020)

1.3.1 Smoking

Researchers believe that although cigarette addiction is common in adolescence, even when adolescents smoke relatively little, the manner and duration of the addictive state varies from individual to individual. For professionals, these young smokers fall into three distinct categories.

Young people classified by research physicians in the third group have a chance that if they smoke a maximum of five cigarettes a day and do not increase this amount, they are unlikely to develop a smoking addiction later on. They make up about 15% of young smokers and said in the research in question that they see no sign of unconditional adherence to cigarettes. Unfortunately, this is a rather poor rate among all young smokers surveyed.

1.3.2 Excessive alcohol consumption, alcoholism

Alcoholism is clearly classified as a disease by the WHO (World Health Organization). It is considered a chronic disease whose onset has insidious, recognizable symptoms that are commensurate with the severity of alcoholism. Alcohol dependence manifests itself in physical and mental symptoms. Physical dependence is characterized by an increase in tolerance (drinking larger amounts to achieve the same effect) and withdrawal symptoms when there is no alcohol or less alcohol than usual. Mental symptoms include loss of control, i.e., drinking continues



despite its obvious detrimental effects on health. The concept of alcoholism is even associated with the deterioration of the social situation, which affects addicts and occurs in the life of their family. Regular consumption of alcohol is considered a disease when the physical, mental and social symptoms of alcoholism are already detectable. (Hegedűs 2018)

Researchers Emmanuel Kuntsche and Sarah Callinan of La Trobe University in Australia originally researched new types of treatment options for alcoholism, but other findings were made during the studies. They realized that in order to effectively treat alcohol dependence, it is also important to understand the motivations for drinking. Researchers were able to classify these motivations into four categories:

Social drinking: Among young people and teenagers, drinking most often has social reasons: in their case, alcohol is a practically indispensable part of partying and mood enhancement. Researchers have found that this type of drinking is usually associated with moderate alcohol consumption.

Adaptive drinking: They are people who consume alcohol at various social events just because they feel they are expected to do so and so they can integrate more easily. These people tend to drink less than those who have other motivations. It happens that all night they hold only a single glass of wine or champagne in their hands, thus avoiding receiving negative comments from their peers.

Pushing boundaries by drinking: People in this group are more likely to have risky, extroverted, impulsive, and somewhat aggressive personalities. They are usually young men who are specifically striving to feel as drunk as possible.

Bullfighting drinking: This group includes those who go through a difficult phase of life and try to use the drink to forget their problems. In addition to their alcohol problems, these people often struggle with depression or anxiety. (Kuntsche 2018)

2 Material and methodology

The topic of my research is how important it is for young people to stay healthy, how much they pay attention to what they do with their bodies, be it nutrition, physical activity or harmful passions. This is precisely why the main goal of my research is to conduct and evaluate a quantitative study based on the health-preserving habits of young people and the frequency with which their diseases appear. My survey was assisted by a questionnaire survey of the primary research methods. The questionnaire was available to respondents from 3 October to 26 October 2020. The questionnaire was distributed via the Internet and a social networking site. My research mostly affects people aged 15-30, so in the questionnaire I mainly split this interval, but I also gave people over 30 years of age



the opportunity to fill it out, because they are the ones who are more aware of their diseases.

My questionnaire was completed by a total of 159 people, of whom 107 were women and 52 were men. Thus, the percentage distribution between the sexes is 67.3% for women and 32.7% for men. This differs from the measurable proportions in Hungarian society, as 52.4% of women and 47.6% of men are present in the total population. In the population studied in my research, 3.8% of the respondents are aged 15-18, 44% are aged 19-24, 30.8% are aged 25-30 and the remaining 21.4% are aged 30 above.

The answers received in the questionnaire were processed with the help of the Microsoft Excel 2016 program and during the examination of the hypotheses I made statements and performed correlation analyzes.

I consider both the editing and the completion of the questionnaire to be effective, as I was able to evaluate and use the answers of each of the 159 respondents in my analysis. When editing the questionnaire, I paid attention to the appropriate rules of form and content, as well as to the logical order of the questions. To do the basic research, I felt it was enough to compile a self-made questionnaire in which I used both open-ended and closed-ended questions.

2.1 Hypotheses

- 1: Motivation of 25-30 year olds to play sports to maintain their health.
- 2: Usually, the one who has a higher body weight consumes more drinks.
- 3: Those who smoke regularly / a lot move less.
- 4: Those who play sports several times a week have already started before the age of 14.
- 5: Today, young people in their 20s are aware of the hereditary diseases of their ancestors.
- 6: Today's young people between the ages of 14-18 tried smoking for the first time.
- 7: Those who live in a larger settlement with less or no sport at all.
- 8: Those who play sports 5 or more times a week do so competitively and who do so less often for hobbies or for relaxation / stress relief.



2.2 Results

H1: Motivation of 25-30 year olds for sports is to maintain their health.

It is clear that most people (especially those over the age of 20) play sports for recreation / stress relief, which is supported by another question of the questionnaire, as one third of the respondents work almost every day at a stressful workplace or school.

It can also be observed that in addition to stress relief, the most common motivation for sports is to maintain their health and, as suggested, this was answered by most people over the age of 25 and then between the ages of 19-24. Similarly, hobby athletes are mostly over 25 years old. It is also clear that those who play sports competitively, perhaps on the recommendation of a doctor, or have other motivations are negligible.

The following table shows the correlation coefficients obtained from the two data sets of the hypothesis. Since the coefficient is positive, a positive correlation can be said between the two variables in the same direction. But since it shows a value close to 0, a relatively weak relationship can be detected.

	Age	Sport regularity
Age	1	
Sport regularity	0,114488783	1

Table 1. Correlation coefficient of Hypothesis 1

Source: Own editing based on questionnaire data.

From the correlation coefficient, I conclude that there is a correlation between age and sports mutation, but this relationship is weak. Thus, it is not necessarily only those between the ages of 25 and 30 who play sports to maintain their health and they may also have other motivations to exercise regularly.

H2: Usually, someone who is heavier weighs more drinks.

What is immediately apparent is that 67% of respondents consume 1 to 3 drinks 1 time and they are roughly in the middle range of adult body weight. For those who are outside this range, even with them, this amount of iatl is the most common. 22.5% of the remaining respondents consume 4-6 drinks 1 time and most of them weigh between 51-65 kg and 66-80 kg. It is also clear that the number of people who occasionally consume 7-9 or more than 10 drinks is quite negligible, but these options have been indicated mainly by those weighing more than 81 kg.



The second table shows the correlation coefficient of the relationship between body weight and the drink consumed during 1 occasion. This coefficient is also positive, so this relationship between the two variables is the same. Although a slightly higher value than the previous one, but even this can be said to be a weak relationship.

	Weight	Occasionally consumed drink
Weight	1	
Occasionally consumed drink	0,230741773	1

Table 2. Correlation coefficient of Hypothesis 2

Source: Own editing based on questionnaire data.

According to the hypothesis, a positive relationship can be said between body weight and the amount of alcohol consumed per application, but not very strong. So someone who is overweight usually consumes more alcoholic beverages occasionally.

H3: Those who smoke regularly / a lot move less.

The answers show well that most of them do not smoke, they just try, but among them they play sports at all or hardly. Furthermore, those who have never smoked among them are relatively few active athletes who would exercise at least 3 or more times a week. It can also be observed that those who smoke more daily are the ones who exercise the least and the number of those who smoke at least 1 can a day and exercise regularly alongside them is negligible.

The following table shows the coefficient between smoking and frequency of physical activity. This coefficient is not only close to 0, but also negative, so the opposite relationship can be said between the two variables.

	Smoke	Regularity of sports
Smoke	1	
Regularity of sports	-0,157793643	1

Table 3. Correlation coefficient of Hypothesis 3

Source: Own editing based on questionnaire data.



Contrary to my suggestion and belief, the correlation coefficient shows that there is an opposite relationship between when a person starts playing sports regularly and how regularly he or she continues to do so in later years. So it's not just those who start sports in their old age on a regular basis who already started in elementary school.

H4: Those who play sports several times a week started before they were 14 years old.

The answers show that those who play sports 1-2 times a month, their answer is not authoritative when they started playing sports, because they are almost equal. It can also be observed that anyone who plays sports 1-2 times a week started before the age of 14 and continues to this day. This result is equally observable that those who play 3-4 times a week or 5 or more times a week, they also started before the age of 14. Also, those who exercise 3 or more times a week started in negligible numbers after the age of 14. Furthermore, it shows that almost 54% of the respondents started some form of active sport before the age of 14 and have been pursuing it on a very regular basis ever since.

The coefficient of the following table differs from the previous one in only centuries, so here, too, a weak, opposite relationship can be described between the two variables.

	Beginning of sport	regularity os sport
Beginning of sport	1	
regularity os sport	-0,131107046	1

Table 4. Correlation coefficient of Hypothesis 4

Source: Own editing based on questionnaire data.

Contrary to my suggestion and belief, the correlation coefficient shows that there is an opposite relationship between when a person starts playing sports regularly and how regularly he or she continues to do so in later years. So it's not just those who start sports in their old age on a regular basis who already started in elementary school.

H5: Today, young people in their 20s are aware of the hereditary diseases of their ancestors.

It is clear that almost 85% of respondents have been aware for years of the diseases their ancestors have that they can inherit. As I suggested, it is mainly those over the age of 20 who are aware of this. The following figure shows that the most common



inherited diseases are high blood pressure, diabetes, one type of cancer, heart disease, and obesity.

For my hypothesis, I also calculated several correlation coefficients. It seems to be, but the relationship between how old someone is and whether they are aware of their illness is very weak. The relationship (or no relationship) between how old people are and how often they see a doctor is almost negligible, but the relationship between the two variables is when they were lasted by a doctor and that they are aware of their hereditary disease. Also, a comparison of all four variables shows either a very weak or opposite relationship.

	Életkor	Aware of your illness	Time of last doctor's visit	Purpose of the last doctor's visit
Age	1			
Aware of your illness	0,074349541	1		
Time of last doctor's visit	0,016550252	0,133761504	1	
Purpose of the last doctor's visit	0,023111921	0,021539051	-0,06861	1

Table 5 Correlation coefficient H 5

Source: Own editing based on questionnaire data.

Summarizing the correlation coefficient, it can be said that there is no (i.e., very weak) correlation between how old a person is and who is aware of their inherited illness, when they last visited a doctor, and for what purpose they visit their doctor. Furthermore, the relationship between him is weak as to whether he is aware of his illness and whether it would be his goal to see a doctor. Also, the relationship between the purpose and time of the doctor's visit is contradictory. There is a connection between it alone, but it is also weak that someone is aware of their illness and when they last visited a doctor, so whoever knows about their illness is more likely to see a doctor.

H6. Today's young people have tried smoking for the first time between the ages of 14-18.

We considered this study important because, according to my observations, young people nowadays ignite it for the first time earlier and thus, in my opinion, are much more likely to get addicted because people are the most susceptible at this age. In



this study, I was only able to consider 121 responses because only so many people tried smoking in their lives.

In line with my suggestion, only 13% of respondents were the first to try smoking when they could already legally do so. Furthermore, it can also be observed that 20 of the respondents tried it as early as primary school, which can be quite detrimental to people's health. Most of the fillers tried it for the first time between the ages of 14-18, according to my suggestion, while they are currently at the age to do so.

This table also contains several correlation coefficients. The first shows the relationship between age and regularity of smoking. There is a weak, opposite relationship between these two variables. The second coefficient shows what the relationship is between how old someone is and when they first tried smoking and it can be concluded that there is no relationship between these two variables. The last coefficient shows the opposite relationship between the two variables, when someone first tried smoking and whether they still smoke regularly today.

	Age	Smoke	Time of first smoking
Age	1		
Smoke	-0,028715524	1	
Time of first smoking	0,046639663	-0,070016646	1

Table 6 Correlation coefficient of H6

Source: Own editing based on questionnaire data.

From the correlation coefficients, it can be said that the relationship between the fact that someone lit it for the first time before or after the age of 18 and the fact that they still smoke today, as well as between the fact that a person is an adult or not and that he is currently smoke. There is only a very weak relationship between how old a person is and when he or she first tried smoking, so it is not true that people only smoke it for the first time before they are 18 years old.

H7: Those who live in a larger settlement with less or no sport at all.

Contrary to my suggestion, it is clear that residents of both the city and the capital play sports regularly in large numbers, but in addition, most of the people in these residences do not play sports at all. Furthermore, it is also well observed that most



of the people living in these types of settlements do sports, yet they mostly do it only 1-2 times a month or a week.

My suggestion is the same that the number of those who are big cities and play sports is a fraction of those who live and play sports in the city. It can also be seen that those who live in a village do not show a significant difference in terms of regularity. Finally, those living in a village or other settlement type are negligible in terms of active physical activity.

62.3% of the respondents usually get from A to B by public transport and in my opinion this is most possible in capitals and big cities because there are public transport networks built there. In addition, there are a relatively large number of people who travel by car and probably who does not have to travel more kilometers when traveling is more likely to go on foot or by bike, which does not rule out that they are not used to cycling in big cities, but in my opinion it is more typical.

This table shows the relationship between residence and regular sport. Since it is very close to 0 and has a negative sign, it can be said that there is a very weak, opposite relationship between the two variables.

	Residence	Regularity of sport
Residence	1	
Regularity of sport	-0,050088048	1

Table 7. Correlation coefficient of Hypothesis 7

Source: Own editing based on questionnaire data.

Based on the correlation coefficient, it can be said that there is a negative, opposite relationship between what kind of settlement someone lives in and how regularly they play sports, contrary to my hypothesis. So it is not true that those who live in larger settlements would play less sports.

H8: Those who play sports 5 or more times a week do so competitively and who do so less often for hobbies or for relaxation / stress relief.

40.77% of the 103 respondents mostly do active sports on a regular basis for recreation / stress relief. It can be seen if we don't take into account in the chart those who don't play sports at all out of four out of four in terms of regularity, they chose it the most. So, those who play sports for recreation 1-2 times a month, 1-2 times a week and 3-4 times a week.



Furthermore, it is also very common among respondents to play sports as a hobby or to maintain their health. They usually do some active physical activity 1-2 or 3-4 times a week.

The following table shows the correlation coefficient between sport regularity and sport motivation. Because it is close to 0 rather than -1, a weak relationship can be said and since its sign is negative, there is an opposite relationship between regularity and motivation.

	Regularity of sport	Sports motivation
Regularity of sport	1	
Sports motivation	-0,292296245	1

Table 8. Correlation coefficient of Hypothesis 8

Source: Own editing based on questionnaire data.

The correlation coefficient of this proposition shows a value around -0.3, so there is a weak, opposite relationship between the regularity and motivation of the sport. So it's not true that only those who run competitively do sports several times a week, but also those who move out for hobbies or for recreation.

Conclusions

From our research, the following can be seen: relatively few people walk or cycle to work / school, start smoking and drinking alcohol sooner than would be allowed, too much fatty food and irregular exercise.

People should recognize and teach young people to play sports regularly, which is most effective when they start early, they need to pay more attention to how regularly and what they consume, and they should leave and not give up harmful passions, that young people around them try smoking, drinking alcohol or drugs early. Avoiding these, exercising regularly and eating right can make a big contribution to maintaining our health and also avoiding the candidate diseases listed in the questionnaire. Regardless of this study, it can be seen that balanced, spiritually stable people are able to function healthily in a loving environment. Sports, proper nutrition, loving relationships, self-acceptance, love, hobbies, meaningful living help us to live long and healthy lives and make our lives a gift to our environment.

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Hidden Gambling Addiction in Online Video Games

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Abstract: With the wide availability of personal computers and smart phones, today's young generation are spending several hours a day playing online video games and socializing. The modern video game publishers are trying to take advantage of this rapidly growing industry by releasing new and new methods for players to spend their real money on video games. The loot boxes are a new type of treasure chests which can be bought for real money. After the purchase, players are getting a randomly selected item which most of the time is worthless, so they lost their spent money, but with a small chance it is very valuable, so they won the jackpot. This new method of moneymaking is working just the same as the classical slot machines or scratch cards which are strictly forbidden for children. So, the question is, can loot boxes cause the same type of gambling addiction as the classical forms of gambling? and if yes, why can the young generation freely purchase them in basically any video game?

Keywords: gambling, children, lootboxes, addiction

1 Introduction

In the last two decades video games are getting more and more attention from the young and the adult as well. Playing video games became a standard to spend our free time after tiring days, hopping into virtually created universes and chatting with our friends online. Most of the young generation is spending its free time online on social media sites and with playing online games with their friends. Even multinational corporations started to see the potential in the rapidly growing player base of online video games. These companies started to invest into the gaming industry by buying out smaller developer teams and starting to employ them in their huge projects. These large companies' main goal was not anymore to create fun and entertaining games but to search for methods in order to make the biggest revenue possible on this very fresh field.

These companies started to reformat the gaming industry by starting to sell more and more content to games which could be purchased separately from the base game. In-game virtual money and other accessories appeared which could only be



bought by spending real money on them. Developing new and quality games is a very long and consuming process for developing teams so the goal was to keep players playing with the given game as long as possible by releasing new and new content overtime which had to be bought separately. In 2016 we finally reach the base of this research and the newest invention of the gaming industry which legality for young children is considered undecided to this very day.

2 Lootboxes

To better understand the researched topic, let us see a small example how this new sales technique works. Let us imagine that we are walking in an ordinary clothes store. We can see the clothes that can be purchased in every size and color. There are cheap T-shirts, skirts and leggings and there are very expensive dresses and suits as well. The catch is that we cannot try the clothes on anymore nor can we decide which one we would like to buy in which color. The only option is to buy a locked box on a given price which will contain one of the clothes from the store. The cloth which we will find in the box is chosen completely randomly. There is no way to predetermine which cloth are we going to get. With a very high chance we get a cloth from the cheap section and we lose our money because the cloth worth less than the money we spent on purchasing box, but with a very low chance and luck we can get one of the expensive clothes and we made profit because this one is worth lot more than the box.

Even though we got the most expensive skirt, there is a chance that we did not want that one or we wanted it in another color, so we must keep spending money and opening boxes until we get the one, we wanted in the first place. This overall, leads to spending more money on getting the wanted piece of cloth than we would have spent if we could just buy it straight up.

Lootboxes, first appeared in online video games in 2016 and they work exactly just like the example above. In most of the games, players could already spend real money in order to buy virtual items for their in-game characters but the lootboxes locked these purchasable items into boxes so players have to roll the wheel of fortune every time they want to get something new for their characters.

This means that young children who are still very far away from the age of eighteen can spend their or their parent's hard-earned money in online video games to open crates without exactly knowing that what will be inside them. The boxes will most likely contain a worthless item so the player lost its money or there is a very low chance the player will find something expensive and useful in them. The value of these items contained by the boxes based on their rarity are spreading out between completely worthless and more thousand real life dollars.



So, the question is given, can we call the lootboxes an official form of gambling based on the facts that the player is paying real money on a chance to win something. The lootboxes found in online video games has the same aspects in every way just as the classical and well-known lottery tickets which purchase is strictly forbidden for children under the age of eighteen in Hungary. How is it possible then, that the lootboxes do not fall in any kind of gambling regulation? Is it possible for them to cause addiction in young children just as the classical forms of gambling can even in responsible adults?

3 Secondary research

The topic researched by me was closely inspected by Professor Mark D. Griffith in the last three years in England. He started his research in order to find an answer to the fact that in Great Britain after several years of decreasing, the number of young children suffering from gambling addiction started to grow again in 2017. The correlation was very hard to prove between the appearance of lootboxes in 2016 and the growing number of young gambling addicts, but he continued his research, and the connection is obvious by now. Professor Griffith states that children who are able to get their hands-on games which contains features of gambling are more likely to return to the classical form of gambling when they get older. The problem is that despite the virtual world, forms of classical gambling are much less forgiving, and these people can find themselves in a very bad situation, very fast. Its sadly proven that gambling addiction can lead to problems of financing and aggression problems, tearing families apart and destroying lives. (Griffith, 2018)

In several countries the questionable side effects of lootboxes had been inspected by the government and worried groups of parents. Survey's asking children in the United Kingdom about their gaming and online spending habits, showed that 93% of the young generation spends their time playing with video games every day of the week. The asked more than seven thousand children spends 300 pounds on average on video games annually. (Parentzone, 2019)

Children had the opportunity to share their thoughts on the topic as well and I found it important to highlight two children from this sea of very interesting opinions because these two children showed me the biggest problems with lootboxes. The 10 years old Nina feels like that spending money on video games is basically mandatory for her, because she feels like that her friends and other players are looking down on her if she does not play with one of the newest available accessories all the time. The 16 years old, FIFA player (Soccer game), Tim is completely aware of what he is doing is gambling. He spends money and he gets something useful or he just completely wasted it. Every week the game provides



him lootboxes that are free to open. On these days he cannot think about anything else in the school until he gets home and get to know what he got from the boxes.

3.1 Motivation to spend money

The method of opening lootboxes is often like rolling a wheel of fortune. The players can see the items that could have been won, but of course the wheel in the end stops on something very common and worthless. The system got perfected through the years, every aspect of opening lootboxes motivates players to purchase more and more of them. The players constantly ask themselves, what if the next one will contain something good? In the end the constant urge to spend money on something unsure can be already titled as gambling addiction. The rare and expensive items owned by other players can cause envy and desire in the other team members. The players admire rare virtual items, just as men cannot look away if they see an expensive sports car on the street.

Large game publishers are taking advantage of holidays and special events through the year to sell rare items that are only available under given periods. This means that gamers under these holidays are even more motivated to spend money on these special boxes, because these items will not return to the shops again. Players can get quantitative discounts if they are willing to buy large numbers of boxes at the same time. This would seem like that the player saved money, but this just involves them in gambling even more. They will most likely open the already purchased boxes even faster than they would have been if they had to buy them individually.

The randomness of getting items from these mysterious boxes gives the players a type of constant excitement and hope of getting something valuable. There is always a slight chance to get one of the rarest items of course, as there is a chance to win the lottery as well in real life, but this chance is so slight that it can be tagged as basically giving false hope to most people. After opening hundreds and hundreds of boxes the player will only remember the one crate which contained the most desired item for them. The cognitive dissonance means that the player will convince themselves that money spent on the item was worth it even though the spent amount is much higher than the value of it. This is the biggest threat of purchasing lootboxes, the player is never precisely aware of the value earned from the boxes and it is very hard to keep track of the spent amount of money overall.

3.2 Steps in order to protect children

In many countries, like in Belgium the government already decided and banned lootboxes from online video games. Games that contain lootboxes that can be purchased for real money cannot be published in Belgium. Germany and many other countries started their own investigation in the Lootbox topic in late 2019 and 2020,



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but in Hungary there is still no precise regulation about this new form of gambling. The Hungarian law of gambling still does not contain anything about online forms of gambling in video games not even at the level of mentioning.

4 Primer research

So, the problem is given, summarizing the secondary research, it turned out that the younger generations spend several hours playing video games daily and socializing with online friends. Capitalizing on the growing number of video game players the publisher's companies moved from selling separate games on fix prices to micro-transactions, side contents, and other marketing techniques to keep the players playing the same game and make them spending money on it on a regular basis. The appearance of lootboxes caused the biggest disagreement in gaming history yet, and it is still undecided in several countries that they can cause harms to children or not. They could be responsible to the again growing number of gambling addiction in Great Britain. Based on the described research above, the children can be in huge danger because most likely their parents do not even know about this new kind of threat nor about what are their children spending money on exactly. The bases of the problem could be the lack of communication between children and parent about the online world and the lack of information that parents have about this dangerous virtual universe.

My goal was to discover the gaming and spending habits of children and the amount of communication with their parents about given topics within the subject of online video games. My other aim was to question the parents about their knowledge and experience in the online world and to see whether they heard about the expression "lootboxes" at all. In the end the sent-out survey managed to get more than 980 children's answers and information from up to 120 adults with smaller children.

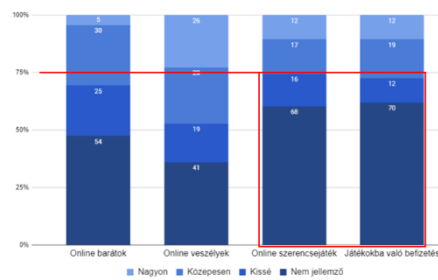
4.1 The results

From the results it can be said in general that 99,5% of the people completed the survey plays with video games on a frequent basis. Up to half of them plays video games several hours a day and about 25% of them spends real money on video games at least once a month. 31,2%, so about the third of them used to purchase lootboxes.

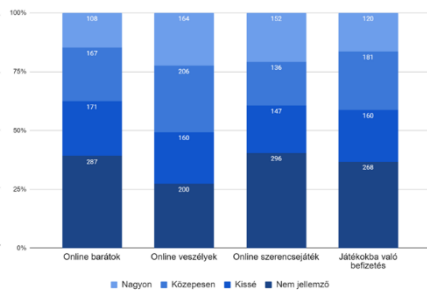
4.2 Parental control

The survey examined in detail the parental awareness and the frequency of communication with their children. The given topics in which they could rate themselves between not informed and well informed were, online friends, online threats, online gambling and purchasing in game content in video games. The results were shocking. In the most important, online gambling and purchasing in game content topics, 75% of adults checked in the not or very a little bit informed options and the children valued their parents experience about the same as well. 85% of parents never heard about the expression “Lootbox” ever before.

3. ábra: A kérdőívet kitöltő gondviselők tájékozottsága a kutatáshoz kapcsolódó témakörökben



4. ábra Gondviselők tájékozottsága a kutatáshoz kapcsolódó témakörökben gyermekek véleménye alapján



1. picture: Parental knowledge on the given topics

1. Source: Own editing

4.3 Frequency of communication

Children who completed the survey could rate the amount of communication between them and their parents about the topics given before. From the answers from 980 children from Hungary it turned out that at least 65% of them in every given topic is never or very rarely communicating with their parents. This most likely means that parents in most cases do not know precisely what their children are playing, who are they playing with, or what they are spending the money on which they ask for from time to time.

With a correlation analysis I searched the strength of the connection between parent’s amount of information in the given topics and the frequency of communication with their children. Based on the answers the Cramer coefficient gave a 0,2339 value. This value means that the connection cannot be proven only based on this analysis, but from the perspective of the research this number is significant and indicates a clear connection between the two examined aspects. If the adult does not have the necessary information about the online world and its threats, there is a bigger chance that the adult will not communicate with the



children about it. Of course, how could we defend someone from a threat we do not even know existed. How could the parents defend their children from the dangers of lootboxes if they never heard about them before?

4.4 Motivation to spend money

The third series of questions in the survey were focusing on the motivation of spending money on online video games. From the research it was given that players often spend money to lower the envy and longing for given objects that they see in the game owned by other players. In contrast, analyzing the answers given by the Hungarian players it seemed like this is not the case in Hungary. Most of the players are spending money on video games to get one given item they want or to try their luck in making profit from opening boxes. This was obvious that the survey was mostly answered by children who clearly knew what they wanted to get, and this factor motivated them mostly to spend money on given games.

It is important to mention that about 5% of children felt like they are being pressured to spend money on lootboxes. These players feel a constant urge to purchase loot boxes and open them in order to get something rare and valuable. This group of children may be getting closer and closer to gambling addiction and would require immediate help from their parents, but the case was here the same as well as earlier. Filtering the multitude by these children it turned out that more than 60% of their parents has zero or very little experience and knowledge about online games and the online universe in a whole.

4.5 Lessons learned

From the answers of the survey, it turned out that the amount of information that the parents have about the researched topics is by far from satisfactory. The results from the questionnaire pointed out that in most of the cases parents are not informed well about the trends of the online world and they tend to communicate very rarely with their children about what is happening exactly in their online games. There is no doubt that the young generation knows the online universe the best, but sadly this does not mean they can already protect themselves from every danger that are threatens them. The frequent communication with children and the constant interest in the gaming world from the parent's side could be the solution for parents to get information about this rapidly changing environment and with their experienced knowledge reveal the threats that may have a huge impact on their valets and their child's life later.



5 Conclusion

After several years of opposition and studies against lootboxes, countries started to ban them from video games, but the publishers still say that lootboxes cannot be called gambling because players always get something from the boxes even if its worthless in contrast to the classical forms of gambling. This long-lasting argument between worried parents, the government and game publishers still put the lootboxes in an undecided position where their purchase is allowed even for the young. The goal of this research was to open the eyes of the parents in Hungary and direct their attention to this new kind of threat that dangers their children. Frequent and curious communication with the children about their games they are playing, would be the easiest and at hand solution to protect them and to reveal the dangerous catches of online games. In order to alert parents this research was already presented on several Hungarian and foreign conferences as well as published in magazines for parents with young children.

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Customer Relationship Management (CRM) in Serbian banking sector: Case study of Bank's customer support improvement

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Abstract: Customer Relationship Management (CRM) strategy is extremely important in the banking sector, given the number of customers and their needs that are rapidly changing and evolving. The goal that banking organizations want to achieve is to gain potential customers, and maintain their loyalty over a long period of time, thus improving their competitive position. The process in which the potential customer becomes real, and improves banks' business results with his loyalty, is based on Customer Relationship Management (CRM) concept. The aim of this paper is to present the advantages and disadvantages of CRM concept of sales promotion, through its analysis in the banking sector of the Republic of Serbia. The process of customer support improvement will be analyzed through a case study investigation of Addiko bank AD. The findings of this study can benefit banks to provide better and faster services and achieve sales growth.

Keywords: Customer Relationship Management, banking sector, CRM, Republic of Serbia

1 Introduction

The core value of a business organization derives from the value of their clients, who represent the users of products and services, and the basis for profit creating and organizational survival. The modern age is characterized by informed clients, they recognize quality, follow the competition; they are informed about the advantages and disadvantages of products and services. If client gets the product or service he/she wants, accompanied by quality customer experience, then he/she will be satisfied and remain loyal to business organization. This is exactly what the business organization strives for, to serve its client in such a way as to ensure a long-term business relationship and loyalty, which will lead to survival and profitable business in the long run. The fact that the cost of acquiring new clients is five times higher than the cost of retaining existing ones have to be seriously considered [11].

Customer Relationship Management (CRM) is a business strategy aimed at creating and maintaining long-term profitable relationships with customers. According to



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Carroll, CRM is based on managing product sales and managing the delivery of services, and these are the key tasks of business organization [4]. The literature also defines CRM as a strategic approach that develops and improves relationships with key customers, and thus increases customer value and shareholder value [10]. Strategic CRM generates value for stakeholders, developing customer relationships [6]. The basic dimensions of CRM that serve to improve the competitive position of business organization are, according to [13, p.1]: Customer selection; Customer acquisition; Customer retention; Customer growth.

CRM business strategy is a significant feature of modern financial services sector, which serves a large number of clients, and their needs are not constant but are characterized by a high degree of variability. The implementation of CRM strategy in the financial services sector is carried out with the aim of gaining a wider base of new clients, as well as retaining existing ones, achieving high level of their loyalty in the long run, in order to achieve profitable business and strengthen competitive position. In future time, which is characterized by increasing competition, the application of CRM in business strategy will be “a point of differentiation between successful and less successful banks” [8, p.107]. CRM and client value management is of great importance in the financial services sector, because with its help the commercial banks can focus on critical moments during the relationship with clients, where they can create added business value. Focus of commercial banks on customer demands will be in future “crucial for the growth of their revenues, as well as the precondition for their sustainability and survival in the market” [9, p.39].

2 Customer Relationship Management in financial services sector

Banking is a business sector that has been active for centuries. The business model has not fundamentally changed since the emergence of banks, and although modern technology has been inevitable in financial institutions for many years, they are traditionally slower when it comes to change. However, the modern business environment, and especially consumer habits, has changed significantly in recent years. This forces the rapid change of banking business. The implementation of CRM strategy is carried out with the aim of increasing sales, which can be achieved by winning new, potential customers from various sources (promotions, social networks, digital marketing, contact center, blog from the website ...), as well as maintaining existing loyal clients.

The benefits of applying CRM concept are many, and according to [7, p.11] they can be classified into the following segments: financial, customer, product/service, processes, strategic, marketing and social. These authors conclude that the decisive



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factors for the success of CRM strategy are as follows: strategy, resources, business processes, products/services, customers and external factors [7, p.12].

Research on the application of CRM strategy in European business organizations has shown that organizations that have implemented CRM “grow 60% faster than the competition, expand the market by 6% per year, achieve ROI higher for 12%, charge 10% more for their products, compared to organizations which do not have CRM” [12, p.186]. The advantages of CRM are especially pronounced if the management is committed to the practical application of this concept, and employees are adequately educated. By persistently emphasizing the advantages of CRM concept and insisting on it, commercial banks will soon see the benefits of the process in which the potential client becomes existing one. Then the existing satisfied customer becomes loyal, and with his/her loyalty improves the business of commercial bank.

Successful implementation of CRM in the banking sector requires appropriate business processes that will contribute to value creation [3]. Resources that are important for the successful implementation of CRM in commercial banks are the following [2, p.111]:

- Human factors, that include the quality of human resources in bank, teamwork and support of top management
- Organizational resources, that include organizational structure, organizational culture, organizational processes, corporate governance, partnership with other sectors, identification of market opportunities
- Technological resources, that include the application of information and communication technologies that will lead to the creation of innovative products and distribution channels to customers, with the help of human and organizational resources

The application of CRM in commercial banks largely depends on adequate organizational culture, and on continuous education of employees, because it is important that each employee understands and accepts the importance of improving customer experience, as well as the importance of retaining and increasing loyal customers. Important factors of the bank's business success are the employees and adequate organizational culture, and they are of great importance for the success in the application of CRM concept. The implementation of CRM concept in a commercial bank depends on the bank size, organizational culture, the bank's focus on a particular business segment, as well as the development of market in which the commercial bank operates. The modern multidimensional approach to client orientation implies strategic, operational and analytical CRM [5]. In commercial banks, which are characterized by a very intensive process of digital transformation, CRM contains: Client analytics & modeling, Campaign management and Operational CRM (Figure 1).



Figure 1 Analytics, Campaign, oCRM in commercial banks [1]

Source: Addiko Bank Digital Transformation Experience. (2018). *Microsoft Sinergy 18*, www.slideshare.net/VladoB/addiko-bank-digital-transformation-experience-microsoft-sinergija-18

3 Specifics of Customer Relationship Management in Addiko Bank AD

Addiko Bank AD Belgrade is part of the Addiko Group, a banking group specializing in retail and small and medium enterprises in Central and Southeast Europe. Addiko Group consists of Addiko Bank AG, the fully-licensed Austrian parent bank registered in Vienna, Austria, listed on the Vienna Stock Exchange and regulated by the Austrian Financial Markets Authority, as well as six subsidiary banks, registered, licensed and operating in five CSEE countries: Croatia, Slovenia, Bosnia & Herzegovina (two banks), Serbia and Montenegro. Addiko Group, through its six subsidiary banks, services approximately 0.8 million customers in CSEE, using a well-dispersed network of 178 branches and modern digital banking channels. Addiko Bank AG manages its subsidiary banks through group-wide strategies, policies and controls and manages Addiko Group's liquidity reserve [14].

In the last 10 years, Addiko Group has implemented modern technological solutions in its business processes, as part of its digital transformation, with part of these solutions aimed at improving the customer experience. The goal of improving the business of Addiko Group is innovation in terms of providing simpler products, practical and fast services that are in line with customer needs. For Addiko Group customers, the introduction of CRM means that any direct communication with the bank is based on the existing business of clients with the bank. Regardless of whether the client visits the branch, sends a message through one of the digital

channels, or calls the contact center, based on the information from CRM system, they will receive the best possible support or response, as well as get offer for the appropriate product or service. This increases the value not only for customers, but also for Addiko Group, because it improves the experience of customers, changes their opinion about the bank, and this leads to an increase in value and profitability.

If CRM process is approached seriously, and it is not understood as a mere automation of sending e-mails, but as the use and consequent enrichment of data provided by CRM, then this process can significantly save resources, provide the client with a quality user experience, and high indicators of bank's business success. That is why Addiko Group has continued the process of its digital transformation with the desire to put the emphasis on improving the customer experience [15]. The main goals of the introduction of advanced CRM process in Addiko Group are presented in Figure 2:

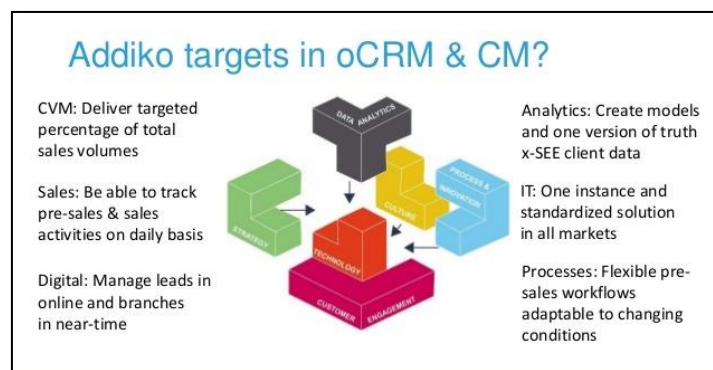


Figure 2 Main goals of introducing advanced CRM in Addiko Group [1]

Source: Addiko Bank Digital Transformation Experience. (2018). *Microsoft Sinergy 18*, www.slideshare.net/VladoB/addiko-bank-digital-transformation-experience-microsoft-sinergy-18

The specificity of the application of CRM in Addiko Group lies in the analysis of all direct and indirect channels of communication with clients, both those used for campaigns and those less formal. In doing so, Addiko Group acquires knowledge about potential clients who communicate through various channels, so the improvement of their customer experience is done in accordance with their preferences. A well-managed user experience process creates a sense of understanding and respect for the potential and existing client. The CRM database enables the Addiko Group to collect all customer interactions, so that it is very easy to spot customers who already have a particular product, and customers who need to be offered a cross-sell or up-sell product. Based on the data and information obtained by applying CRM, Addiko Group performs quality targeting, segmentation of its clients, offers the products it wants to sell, or uses this data to



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improve products, services and communication with clients. The importance of unique view of each client is given in Figure 3:

Challenges and Needs for the Single View				
Long Turnaround Time	Error Prone & Manual processes	Lack of Cross-sell & Up-sell	Neglected Prospects & Opportunities	Lack of Monitoring Tools
Application turn-around time is quite long due to paper-based processes, and lack of streamlined and standard flows. Many times customers are contacted again to gather information that was missed in initial contact.	Errors are likely to occur in processes where data is entered and forms are filled manually. Lack of automation of processes and checks on the customer increases errors and returns in the process.	Lack of insight into customer's wallet and not knowing what to sell to the customer and when, results in losing many cross-sell and up-sell opportunities.	Lack of prospect management processes, SLAs, escalations and proper routing and assignment results in neglect and loss of many prospects and sales opportunities.	There is no visibility into how sales teams are spending their time, what they are selling, who they are visiting. Without real-time reports and dashboards, timely actions and performance analysis is difficult.

Figure 3 Importance of unique customer view in Addiko Group [1]

Source: Addiko Bank Digital Transformation Experience. (2018). *Microsoft Sinergy 18*, www.slideshare.net/VladoB/addiko-bank-digital-transformation-experience-microsoft-sinergy-18

As shown in Figure 3, the advantages of a unique view of each client in Addiko Group are significant because they shorten the time of communication with the client, while in a smaller number of contacts sales of banking products are realized, and the client's needs are met. With the traditional way of communicating with the customer, bigger mistakes happen, this can jeopardize the sales process and the customer experience. The application of CRM process in Addiko Group enables quality monitoring of the results of sales staff, in terms of encouraging and rewarding good results, and improving poor performance.

After the introduction of CRM in Addiko Group in 2018, significant attention has been paid to retail segment (private individuals and SME clients). Proper and adequate communication has led to a better sales result, which was also contributed to by the greater commitment of sales staff, due to transparent measurability of their results and rewarding for achieved sales goals. Table 1 shows the change of loan portfolio in Addiko Group.

Table 1 Change of unique loan portfolio in Addiko Group 2018-2019 [16]

Gross performing loans by segment in EUR mil.	2018	2019
	YE	YE
Consumer & SME	2.116	2.401
Consumer	1.188	1.342
SME	928	1.059
Retail business volume in EUR mil.	2018	2019
	YE	YE
Loans and receivables	2.048,2	2.063,1
Gross disbursements	589,6	646,1

Source: www.addiko.com/static/uploads/20200305-Addiko-Group-Key-Financial-Data-YE19-1.xlsx

As presented in Table 1, after the introduction of CRM in Addiko Group, growth was achieved in Gross performing loans, Consumer & SME, as well as in Gross disbursements (rise from 589,6 mil EUR in 2018 to 646,1 mil EUR in 2019).

The contribution of CRM to the improvement of key financial data, in Addiko Group in 2019, is shown in Table 2.

Table 2 Key financial data of Addiko Group 2018-2019 [16]

Selected items of the Statement of financial position in EUR mil.	2018 (YTD)			
	1Q	2Q	3Q	4Q
Loans and advances to customers	3.697,7	3.772,2	3.776,4	3.787,3
Deposits of customers	4.916,4	4.907,1	4.959,9	4.836,7
	2019 (YTD)			
	1Q	2Q	3Q	4Q
Loans and advances to customers	3.864,9	3.896,6	3.904,2	3.871,9
Deposits of customers	4.855,5	4.864,7	4.908,9	4.831,2

Source: www.addiko.com/static/uploads/20200305-Addiko-Group-Key-Financial-Data-YE19-1.xlsx

As presented in Table 2, key financial data were improved in Addiko Group in each quarter of 2019. The growth has been achieved from quarter to quarter during 2019, in the Loans and advances to customers, as well as in Deposits, and at the same time the growth in relation to 2018 was accomplished.

Conclusions

The financial services sector, in order to maximize its business performance, is making maximum efforts to gain new and retain existing customers. Various technologically advanced platforms are of great importance for the financial



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services sector, which encourage the exchange of information with clients, service users, and improve the user experience, all in order to increase the value and achieve business goals. In order to improve and technologically modernize its way of doing business, the banking sector has been applying various technological innovations in the process of customer relations for the last ten years. These technological innovations enable quality communication and relationships with all categories of clients, even those who are insufficiently available or very demanding.

Through the application and strengthening of CRM techniques, Addiko Group improves its business process, identifies the needs of its clients and provides them with a better service. In this process, the integration of the complete organizational structure of Addiko Group is of the utmost importance, so that all employees involved in a particular business process have the same information, which allows for better improvement of the relationship with the client in a short time.

Based on the above analysis, it can be concluded that most commercial banks in the Republic of Serbia use CRM techniques to improve the customer experience of their customers and increase sales of their own products and services. In this way, commercial banks in the Republic of Serbia focus on the needs of their clients, try to achieve long-term profitable business relationships with them, which increases the value of clients and achieves the set goals, i.e. profitability and competitiveness in increasingly demanding markets. It can be concluded that CRM techniques enable commercial banks to manage the value of their customers, and to increase business value by increasing their customers' value.

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Corporate Social Media Strategy in Central and Western Hungary

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Abstract: The aim of our study is to present the role of corporate social media strategy in the hungarian SME sector with the help of domestic and international literature. The significance of the topic is extremely wide. The topicality of our study is reflected in the fact that the importance of social media has greatly increased, especially in the sector we are examining. In the first part of our research we present the development of social media, and today's most popular social platforms. Furthermore our aim is to provide a comprehensive picture about the practical benefits of the platforms under investigation. In the practical part of our study we place great emphasis on the analysis of the effects of social media. Our research covers the SME sector in Central and Western Hungary. Our main goal with this study is to provide answers to the leaders of small and medium-sized enterprises in terms of why it's worth using social media for them, especially nowadays.

Keyword: social media, corporate strategy, Hungary, health crisis, small- and medium-sized enterprises

1. What we know about social media?

“Social media is a set of media that users fill with content. Anyone can participate in social media, as it is a community where users have open dialogues with each other without control, mainly to connect.” [5]

Social media is thus a complex and extremely fast-growing digital platform that includes:

- community interfaces (pages, spaces)
- Internet forums
- image, music, video sharing sites
- blogs published on the Internet (blog)
- audio materials shared on the Internet (podcasts)
- web pages written by users, edited or managed (wikis)



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- news gathering websites
- as well as link databases

Social media has been specifically designed to fill this online interface exclusively with users with content that they can connect with each other, thus generating additional content. Another advantage is that it is free for customers and cost-effective on the corporate side. [5]

In addition to the concept of social media, it is important to mention social networking sites, which are web-based services that allow users to create a public or semi-public profile within a limited system to compile a list of users they want to connect with. [3]

Among the information tools, we can define so-called traditional as well as social media. In the event that the opportunity to comment is limited, sharing is unsupported, we can talk about traditional media. Other features include the fact that the archives are finalized, unalterable, difficult to access, and the publication itself is finite or group. In contrast, the defining elements of social media are characterized by seamless updating, unlimited real-time commenting, and freedom. Furthermore, archive materials are immediately available to users, publishing is done individually, endless, and sharing and participation are supported. [5]

1.1 The most common social media platforms

The beginning of the history of Facebook can be traced back to February 2004. This year the four founding members, Mark Zuckerberg, Dustin Moskovitz, Chris Hughes and Eduardo Saverin, created a community platform that was still known as “thefacebook”. The name was changed in September 2005. From then on the website operated under the name Facebook, and by October it became fully international. Its uniqueness was further enhanced by the fact that after a year the “mobile version” was also released and the service became available to everyone. The year 2009 can also be considered as a turning point, as the so-called “like” feature was introduced at that time, and by 2010 it already had more than 500 million users. Nothing proves its unbroken development better than the fact that Instagram was acquired in 2012 and WhatsApp in 2014. [18]

Currently, the number of active users per month reaches 2.38 billion, and it has 1.56 billion active users per day, 47% of whom use the service exclusively on their mobile phones. There are currently 5.9 million profiles registered in Hungary. According to statistics, 26.3% of the online population uses Facebook. [10]

The beginning of Twitter’s history can be traced back to 2006, when four friends, Jack Dorsey, Noah Glass, Evan Williams, and Biz Stone sought answers to the question of how to create a kind of community mini blog. The platform provoked extreme dissatisfaction. It was only due to luck, namely a conference held in Texas in 2007 that the company “escaped” where guests could communicate with each



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other and organize their programs exclusively through Twitter messages. Despite the initial difficulties, what made the platform really big and unique was that it became popular in political circles, which is still true today. The real milestone in the life of the company came when it was listed on the stock exchange and thus became a large company. [2]

The company achieved a good result in terms of revenue in 2018, however, considering the change in the number of users, this cannot be said at all. In terms of the number of active users, it can be said that 9 million fewer people use the platform's services per month compared to the previous year. Internationally, this value has changed from 262 million to 255 million. From this it can be concluded that in 2018 the active user base showed a continuously decreasing trend. [7]

Instagram, as one of the most popular platforms today, started operating in October 2010 on Apple-powered iPhones. The app was created by Kevin Systrom as well as Mike Krieger. Its popularity has been and continues to be due to its simplicity as well as the uniqueness of its creative photographs. By December of its founding year, it already had 1 million users worldwide, which had grown to 5 million in less than a year. The service will be available on Android devices from April 2012 and on mobile phones running Windows Phone from November 2013. Its development is unbroken, with the update of the new version released on the market in 2013, each user has the opportunity to create a video of up to one minute, to which (similar to photos) a caption, location tag and sharing pages can be added by the user. [8]

Today, the number of active Instagram users is more than 1 billion per month, of which nearly half are daily active users. With regard to the companies present on the platform, it can be said that more than 25 million companies have a company profile, which shows a constantly growing trend. [14]

LinkedIn, the largest business social network in the social media market, was created on May 5, 2003 by Allen Blue, Konstantin Guericke, Eric Ly, and Jean-Luc Vaillant. The company has now become the biggest dream of startups, and has played and continues to play a major role in the emergence of professional life paths on social media platforms. Compared to previous founders, the primary goal of the founders of LinkedIn was to show people new opportunities to do business. LinkedIn is a good example of companies hunting for social recommendations on social networks these days. In ten years, it has grown into an international company with more than 3,700 employees. [6]

The company currently has 590 million users, half of whom are active monthly users. And 91% of individual corporate executives believe LinkedIn is the best social website to publish professionally relevant content. [4]



1.2 The opportunities they provided by social media

The importance of social media in business is growing at an extremely rapid rate. As more and more businesses feel the need to connect to social media platforms and use these websites regularly and effectively, the social media industry is expected to become increasingly popular in the coming years. As a result, individual businesses need to take advantage of the opportunities offered by their presence in the online space. With this level of growth and development, companies must make the best possible use of the appropriate social media channels. Not just because it's a kind of expectation, much more because a large portion of the target audience is present on one of the social media mentioned earlier, so they are able to connect with individual consumers. As a result of the presence of the business brand on the mentioned websites, it generates and realizes more businesses and is able to satisfy the needs of the customers at a higher level, thanks to which it facilitates the digital marketing activities of the company. According to research conducted by Ambassador, 71% of consumers are more likely to recommend a brand to another consumer if they have a positive experience on social media. It is vital for companies to take advantage of websites like Facebook, Twitter, Instagram, LinkedIn in case they want to stay competitive or just build an advantage over their competitors. Here are some social media statistics that fully demonstrate the appreciation of the role of social media in business.

- According to statistics released in 2019, there are currently 3.2 billion users in the world, representing 42% of the total population.
- 77.5% of Generation X and 90.4% of Generation Y are active social media users.
- A user spends an average of 2 hours 22 minutes a day on their social media account.
- 73% of online marketing professionals in businesses agree that their efforts to implement a social media marketing strategy for their business have been successful. [9]

The next step is to examine the importance of social media in business by analyzing their benefits. The first notable benefit is the promotion of community advertising. As more and more businesses experiment with digital advertising, they are realizing that this type of advertising strategy has enormous benefits. These include significantly lower advertising costs, targeted, and real-time performance analysis, meaning you can continuously monitor your ad performance. The next big benefit of social media is that it proves to be an effective tool to increase brand awareness. Businesses that reject this way of branding leave a kind of open space for competitors. But what tasks can be done to accomplish this step? The number one activity is that a given company needs to find its target audience. In addition, it is a key step to make the content it creates spectacular. At the same time, communication is important, as social media is about building conversations, but it is important that their goal is to create two-way communication. Companies are also able to measure their performance across individual platforms (e.g., using Facebook



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Page Insight). In this way, they acquire knowledge that, by understanding and analyzing it, they are able to build a stronger brand. Use the steps listed to build the authority of a company. [9]

The goals of well-designed marketing campaigns by a business will only be successful if its strategy focuses on triggering activity. This is necessary because, on the one hand, it is the basis of the conversion, i.e. the consumer most often buys online by contacting the brand in advance, and on the other hand, the algorithms of each platform support content that encourages consumers to be active. So-called influencers, who are popular online personalities today with a large number of followers, can be of great help in the stimulation. If the target audience of the company and the selected influencer coincide, then the mediated marketing message can be successful. Nowadays, there are a huge number of novice community platforms where the organization can meet new target audiences and which offer them significant opportunities. These communities are usually made up of people who show an active interest in a topic. It is recommended to get acquainted with these platforms as soon as possible, as sooner or later competitors will follow their target audience to the interface to which they are just moving. A key factor is also for the company to offer a “story” to its consumers, as in today’s world, the emphasis is on human relationships. However, consumers have expectations of this content. Most people would like to see posts related to different promotions or videos about a new product / service that are funny or instructive. While compliance may seem like a difficult task, if a business is able to weave a story into its strategy, it will meet these criteria. To do this, however, managers need to acknowledge that some platforms are forced to pay the price to be visible to their target audience. [12]

2. Purpose of the research and the methodology

The main aim of our study is to provide an insight into the role of social media within the marketing strategy of small and medium enterprises. In our research, we would like to point out the important role of social media as a marketing communication tool in the life of small and medium-sized enterprises, and what opportunities it provides for them in terms of positive development. Regarding the practical part of the research, our aim is to provide the reader with a comprehensive picture that gives them an insight into the role of social media in the marketing strategy of small and medium-sized enterprises by examining two regions of Hungary, Central Transdanubia and Western Transdanubia. In this context, the following sub-objectives have been formulated:

- Examining the current situation of the Western Transdanubia and Central Transdanubia regions from an economic point of view.
- Examining the correctness of the formulated hypothesis.



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- Assistance to small and medium-sized enterprises in the study area in involving social media platforms in their marketing strategy.

The answers obtained during our primary data collection, which were made possible by the application of a quantitative, questionnaire method in the studied regions, greatly contribute to the achievement of our goals. With the help of these data, the authors highlight the appreciation of the role and importance of social media in Hungary as well.

With the aim of achieving the main goal of the study, the following hypothesis was formulated in connection with the examined problem: The size of a business is related to the importance of being present on social media. We assume that if the size of the business is small, it's presence in social media is more important to it.

In the theoretical part of our study, social media and its role in relation to enterprises were presented with the help of domestic and international literature. To perform our practical research, we performed primary data collection. The query lasted from November 2019 to February 2020, and the implementation took the form of direct mail. With the help of a questionnaire, we examined the small and medium-sized enterprise sector for the two regions of Hungary. As the next step of our research plan, we examined the Western Transdanubia and the Central Transdanubia regions separately with the help of secondary data collection. The last step was the evaluation process, during which we compared the information used during the primary and secondary data collection and performed a regional analysis for the two regions. In the processing of secondary data, the applied analysis methods were basically divided into groups of simple descriptive statistical methods and methods that allowed deeper statistical data analysis. While the first methods mentioned include distribution, crosstab analysis, the second group includes standard deviation as well as Pearson's correlation. The PSPP program we used was a great help to us in the evaluation process. During the examination of the formulated hypothesis, we used a descriptive statistical method, and within that, our hypothesis was analyzed with the help of cross-tabulation analysis. A significance level of 5% was determined during the evaluation. In the course of our hypothesis, we also examined the closeness of the relationship between the variables based on the sample, which is represented by the so-called symmetric indicators, which include Fi, Cramer's V, and the Contingency Coefficient.

3. Central Transdanubia and Western Transdanubia regions

The Central Transdanubia region with an area of 11,116 km² is located in the central part of Transdanubia. The region consists of Komárom-Esztergom, Fejér, Veszprém counties, and after the 2004 micro-regional amendments, 26 micro-regions. Furthermore, it can be said that it can be considered the third most developed region

of Hungary. In terms of the geographical characteristics of the settlement, tourism is of paramount importance, as it has extremely favorable transport conditions and individual large cities play an important role in socio-economic life. The area we examined is 1.1 million people, the fifth most populous and the second most populous region among the seven regions of Hungary. Examining the data of small and medium-sized enterprises, it can also be said that the Central Transdanubia region is in the fifth place with about 65,509 enterprises, which shows a continuously increasing trend compared to previous years. [16]

From the point of view of economic development, due to the infrastructure of the Komárom and Fejér county regions, it has been favorable for foreign investors so far. In the future, it can be expected that the current industrial capacity will produce at a higher intensity. The long-term goal is also to build Hungarian centers connected to logistics centers in Europe. [1]



Figure 1.
Central Transdanubia region

From an economic point of view, the Central Transdanubia region can be classified as a moderately developed region of Hungary. The economic location of the region did not change from 1994 to 2010. This should be assumed to be followed by a four / five year strengthening period followed by a four / five year weakening period. [11]

In terms of human infrastructure, the region is characterized by shortages of care associated with dynamic development and immigration, and unfortunately the health care and education systems find it difficult to keep up with innovation, and

some parts are struggling with local crisis problems. The cities around the Bakony region and Tatabánya play a prominent role in the Central Transdanubia region in terms of employment rates. [1]

The Western Transdanubia region, which covers an area of 11,328 km², includes Győr-Moson-Sopron, Vas and Zala counties. The uniqueness of the area is that it is bordered only by four countries: Slovakia, Austria, Slovenia and Croatia. As a result, it can be said to have a large international turnover. Its characteristics include significant tourism and the important role played by forestry in its economic life, which results in serious tourism, wood processing and renewable energy. With an extremely large number of settlements (655), it is the region with the largest number of settlements in Hungary. From an economic point of view, it is important to mention that its most developed regions are the micro-regions of cities with county status. The Győr and Szombathely micro-regions, for example, have ideal income indicators, and the Keszthely-Hévíz micro-region stands out from other cities with its extremely strong tourism. [17]



Figure 2
Western Transdanubia region

From an economic point of view, the value of GDP per capita in the region was approximately HUF 2.7 million. This value is exactly the same as the national average, and it is important to point out that one tenth of the country's gross domestic product was generated here. There was no change in the economic position



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of the region between 1994 and 2010. In terms of GDP per capita, it can be said that all three counties of the region had values around the average, which only Győr-Moson-Sopron county was able to surpass over time. In contrast, the values of Vas and Zala counties fell to 80% of the national average. [11]

Future developments in the region include, for example, the mechanical engineering (automotive component manufacturing), the establishment of various supplier networks, the establishment and development of incubators and technology centers for the small and medium-sized enterprise sector. In order for the Western Transdanubia region to have research and education centers, the significant development of Győr, Sopron and Szombathely is absolutely necessary. In addition, with government subsidies, Sopron and Győr would have the opportunity to build logistics centers that would be connected to the European network. The role of tourism in the region is significant, which means that the development of infrastructure also plays an important role, and its future role is largely determined by the cross-border cooperation. In terms of human infrastructure, almost the same can be said as in the Central Transdanubia region, ie there are shortages of care associated with dynamic development and immigration, and the health care system is unable to keep pace with the pace of development. [17]

4. Research results

4.1 Questionnaire research

During our primary data collection, we conducted a questionnaire survey on the presence of small and medium-sized enterprises operating in the Western and Central Transdanubia region in social media. Our questionnaire contained 27 questions. In the course of our study, 591 responses were received from the 3,000 questionnaires sent out and processed, of which 61% came from the Western Transdanubia region and 39% from the Central Transdanubia region. Regarding the number of employees, it can be said that in the Central Transdanubia region 70% of the respondents are micro enterprises, 21.4% are small enterprises and 8.6% are medium-sized enterprises. According to the nature of the activity, it can be stated that the majority of micro, small and medium-sized enterprises operate in the service sector, followed by the commercial sector and then the manufacturing sector. The size distribution of companies is shaped by favoring Facebook in all categories, followed by Twitter with the exception of medium-sized businesses. Nowadays, in the case of Instagram, which is popular among individual users, it is most often used by micro-enterprises in terms of the number of employees, not by chance, as it is currently the leading social site in increasing the number of target audiences. With regard to LinkedIn, it is preferred to medium-sized enterprises over small ones. Our



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questionnaire shows that the primary goal for micro-enterprises is to increase revenues, create a competitive advantage and increase the number of target audiences. For small businesses, this is how breaking into new markets and providing information is their primary mission. Regarding medium-sized enterprises, it can be stated that the main goal is to build brand awareness and break into new markets. Reaching a new consumer base, creating a competitive advantage over competitors and taking advantage of favorable advertising opportunities are priorities for micro-enterprises. Building customer loyalty and effective communication with consumers play an important role in the life of small businesses. In the case of medium-sized enterprises, the examined results are such that building the company's "brand", taking advantage of favorable advertising opportunities, and effective communication with consumers are important aspects for them. When asked what percentage of their marketing activities and marketing costs their presence on social media accounted for, the largest number of respondents in the surveyed sector was only 0-25%, which is surprising as they suggest that they are probably unaware of the possibilities offered by social media. We then wondered whether there was a change in the lives of individual companies using the platforms mentioned earlier and, if so, in what direction. Only 0.7% of respondents felt the negative impact of this, 35.2% said there was no change, and 64.2% said it brought a clear positive change in the life of their company. The positive effect was seen in the increase in the number of addressed and persuaded individuals belonging to the target audience, as well as in the increase in revenues. We continued to place great emphasis on the future of the SME sector in question, in terms of whether there are plans to expand our presence in social media. Unexpected results were obtained, as 56.7% answered in the negative and 43.3% answered in the affirmative. The following questions were limited to companies that answered yes. Of the 253 companies selected, 149 would be willing to spend more capital on this. In their view, the most obvious solution is to appear on new social platforms, followed by the launch of various media campaigns. Similar answers were received to the question of how to expand the presence on social media. Both the small and medium-sized enterprise sector consider the involvement of influencers and youtubers to be the best option, followed by the involvement of external companies specializing in social media in the case of small enterprises, and the involvement of well-known persons in the case of medium-sized enterprises.

4.2 Hypothesis analysis

The hypothesis we set up was formulated in a deductive way, the meaning of which suggests that we started from theoretical theorems and formulated our statement for the practical application of these assumptions.

In formulating the hypothesis, we hypothesized a correlation between the marketing costs of enterprises and their presence in social media. Significance can be found among the variables, as the value of Pearson's Chi-square in this case is less than the determined significance level.

Based on the value of F_i , the relationship between the two variables is one-way, and based on Cramer's V and the Contingency coefficient, it can be stated that the relationship is stronger than average. From this, translated into common language, the smaller the size of a business, the more important its presence on social media in its life, i.e. more important for a micro-enterprise to be present on each social media platform than a small business. The main reason for this is that it is the most accessible and economical method for them, as one of the biggest benefits of social media presence is cost-effectiveness, consumer engagement, community building and brand awareness, which are key factors in the life of a micro-enterprise.

Chi-square rehearsals					
Statistics	Value	df	Asszimp. szig.		
Pearson's Chi-square	608,89	15	,000		
Likelihood ratio	40,00	15	,000		
N / number of valid cases	588				
Symmetrical measurements					
Category	Statistics	Value	Aszimp.sztd	About T.	About szig.
Nominal-nominal	F_i	1,02			
	Cramer's V	,59			
	Contingency coefficient	,71			
N / number of valid cases	588				

Table 1

Chi-square tests and symmetric measurements belonging to the hypothesis

In conclusion, the presence of the SME sector in social media has an impact on their marketing activities, micro-enterprises spend a large part of their marketing costs on social media appearances, and small enterprises place a high emphasis on the use of individual social platforms.



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4.3 The problem that is waiting to be solved

In our view, it is essential to address the current global health crisis. The coronavirus has hit its head everywhere, and its topicality is ambivalent, as in addition to a complete reorganization of the market and uncertain current outcomes, the role of community platforms is becoming more important. Its impact not only threatens our health, but also poses a long-term economic threat that affects and will affect the lives of all of us! Let's examine the most severe economic consequences of the coronavirus in chronological order of epidemic spread. Clearly, tourism, hospitality and the various related service industries are clearly involved. The world will also suffer a huge loss in terms of unemployment, because if we take Hungary as an example, it can be said that hundreds of thousands of jobs will be lost. In addition, work in car factories, which make up a significant part of Hungary's GDP, has stopped indefinitely. In addition to them, the construction industry is in an extremely difficult situation due to delays, which are mainly caused by border closures and delayed freight transport. As a result, the forint weakened significantly, and a huge change took place in a short time. [13]

Due to the crisis, there has also been a big change in the way you manage your day-to-day shopping. This is because the usual daily routine is increasingly being replaced by visiting and using online webshops. The role of food delivery companies has greatly increased, which has led to more consumer needs being met than usual. The main problem, however, was the lack of preparation. At the same time, interest in webshops dealing with manufactured goods has come to the fore. [19]

In Hungary, it can be stated that consumer habits have completely changed, as due to the introduction of emergency provisions, some people started to panic and others sought a solution online. Based on this, companies need to develop a new e-commerce strategy that takes into account maintaining consumer confidence. Growww Digital encourages businesses to re-evaluate their ads on social media and to place great emphasis on so-called remarketing campaigns. The uncertainty that can be discovered between the coronavirus and e-commerce is unfortunately very complex. We could think that online shopping could be a good solution, but issues around the supply chain as well as changing uncertain consumer needs are a big problem. Digital Commerce conducted a survey asking businesses how much they think the current situation will affect their future. 47% of e-retailers say it will have a big impact on revenue, 33% say it's too early to answer, but 58% of retailers say they think it will all affect consumer confidence. [15]

Conclusions

The questionnaire for the research shows that the majority of the small and public enterprise sector in the regions studied (70%) is present on a social media platform, however, the remaining 30% still do not have the opportunity to take advantage of social media. In our opinion, the reason for this is that they are afraid of change, do not want to innovate, are satisfied with old, proven methods, and are unaware of the



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benefits of social media. We encourage them to take advantage of these opportunities. Make the first impression in the hands of the business. Having an online presence makes your business visible, makes your target audience easy to find, communicates with potential customers, and provides up-to-date information about changing consumer needs. Internet advertising contributes greatly to the growth of a company, but for this they need to constantly analyze the results, which they need to use. It is often heard that advertising is expensive, but in our opinion, advertising and online advertising are even more expensive in the long run, and that is nothing if the organization does not advertise. In order to achieve continuous improvement, they need to set more and more goals. We also recommend companies to use the platforms on which they have the largest target audience. For young people, we recommend using Instagram. However, LinkedIn is best suited for creating professionally relevant content. Our critical remark extends to the fact that the SME sector employs only a very small percentage of individual person (s) / external company to ensure presence in social media. If they don't want to outsource this task, they have three options: educating or training their own employee, hiring a new employee, or hiring young, ambitious trainees with up-to-date information in the world of social media. In our opinion, this is essential, as the employment of a specialist specializing in this task would greatly contribute to increasing efficiency and speeding up the process. Our questionnaire shows that building customer loyalty plays a very important role for the sector under investigation, one of the most important elements of which is reliability. Among the critical remarks, it is worth mentioning that, based on data collection, most companies do not monitor the presence of their competitors on social media at all. This is a problem because it often happens that a business can learn from the mistakes made by the competition, or even from their successes. In addition, if they get to know them well, organizations can get a comprehensive picture of what can give them their uniqueness, not to mention that the competitor encourages them to perform better day by day, and in terms of budget, this step does not involve capital expenditure. With regard to feedback from the target audience, we recommend that feedback be taken into account and used in all cases, as they need to adapt to ever-changing consumer needs if they want to be present in the market and this step contributes to efficiency. Takes into account and uses the proposals, in the long run it will also have the opportunity to increase the existing consumer base. Monitoring is free of charge, and the change in use contributes to achieving market leadership. We conclude that businesses are not fully satisfied with the benefits of being present on social media platforms because they do not spend a sufficient percentage of their marketing costs or marketing activities on this factor. As a result, most of them believe that no level of change is taking place since they have been present in the online space. This short-term thinking suggests that most of them will have a negative opinion and thus will not reap the benefits, returning to the marketing and advertising tools previously used. Interestingly, on the question of what the change itself will look like, none of the companies chose the possibility that their revenues would have decreased and only two percent of them thought they would discover that their target audience had started to decline. From this we conclude that most of



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them are simply afraid to spend time, energy and capital on presence on each platform due to uncertainty, and many think that the current situation is right for them and they do not want to change. This is clear from the fact that nearly 50% of respondents do not plan to expand their presence in social media. We recommend that they also appear on other social platforms and, in terms of implementation, involve so-called influencers (using influencer marketing), which are a great help, for example, in launching a targeted media campaign. This, in turn, will only be a successful activity if the company incorporates the selected influencer into its current campaign. However, we recommend that business leaders should not be afraid to move into the online space, and it is not too late to start an active presence on social media. The fact that the opportunities that come with this are still successful to this day can be demonstrated by the fact that organizations are less satisfied with the success of pre-release marketing advertising tools on each platform. It's never too late to start! In our opinion, in the regions under study, the SME sector is moving in a slightly good direction, as the number of businesses present in the online space is higher than those not found on any social platform.

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Customer Relationship Management (CRM) in Serbian banking sector: Case study of Bank's customer support improvement

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Abstract: Customer Relationship Management (CRM) strategy is extremely important in the banking sector, given the number of customers and their needs that are rapidly changing and evolving. The goal that banking organizations want to achieve is to gain potential customers, and maintain their loyalty over a long period of time, thus improving their competitive position. The process in which the potential customer becomes real, and improves banks' business results with his loyalty, is based on Customer Relationship Management (CRM) concept. The aim of this paper is to present the advantages and disadvantages of CRM concept of sales promotion, through its analysis in the banking sector of the Republic of Serbia. The process of customer support improvement will be analyzed through a case study investigation of Addiko bank AD. The findings of this study can benefit banks to provide better and faster services and achieve sales growth.

Keywords: Customer Relationship Management, banking sector, CRM, Republic of Serbia

1 Introduction

The core value of a business organization derives from the value of their clients, who represent the users of products and services, and the basis for profit creating and organizational survival. The modern age is characterized by informed clients, they recognize quality, follow the competition; they are informed about the advantages and disadvantages of products and services. If client gets the product or service he/she wants, accompanied by quality customer experience, then he/she will be satisfied and remain loyal to business organization. This is exactly what the business organization strives for, to serve its client in such a way as to ensure a long-term business relationship and loyalty, which will lead to survival and profitable business in the long run. The fact that the cost of acquiring new clients is five times higher than the cost of retaining existing ones have to be seriously considered [11].



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Customer Relationship Management (CRM) is a business strategy aimed at creating and maintaining long-term profitable relationships with customers. According to Carroll, CRM is based on managing product sales and managing the delivery of services, and these are the key tasks of business organization [4]. The literature also defines CRM as a strategic approach that develops and improves relationships with key customers, and thus increases customer value and shareholder value [10]. Strategic CRM generates value for stakeholders, developing customer relationships [6]. The basic dimensions of CRM that serve to improve the competitive position of business organization are, according to [13, p.1]: Customer selection; Customer acquisition; Customer retention; Customer growth.

CRM business strategy is a significant feature of modern financial services sector, which serves a large number of clients, and their needs are not constant but are characterized by a high degree of variability. The implementation of CRM strategy in the financial services sector is carried out with the aim of gaining a wider base of new clients, as well as retaining existing ones, achieving high level of their loyalty in the long run, in order to achieve profitable business and strengthen competitive position. In future time, which is characterized by increasing competition, the application of CRM in business strategy will be "a point of differentiation between successful and less successful banks" [8, p.107]. CRM and client value management is of great importance in the financial services sector, because with its help the commercial banks can focus on critical moments during the relationship with clients, where they can create added business value. Focus of commercial banks on customer demands will be in future "crucial for the growth of their revenues, as well as the precondition for their sustainability and survival in the market" [9, p.39].

2 Customer Relationship Management in financial services sector

Banking is a business sector that has been active for centuries. The business model has not fundamentally changed since the emergence of banks, and although modern technology has been inevitable in financial institutions for many years, they are traditionally slower when it comes to change. However, the modern business environment, and especially consumer habits, has changed significantly in recent years. This forces the rapid change of banking business. The implementation of CRM strategy is carried out with the aim of increasing sales, which can be achieved by winning new, potential customers from various sources (promotions, social networks, digital marketing, contact center, blog from the website ...), as well as maintaining existing loyal clients.

The benefits of applying CRM concept are many, and according to [7, p.11] they can be classified into the following segments: financial, customer, product/service,



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processes, strategic, marketing and social. These authors conclude that the decisive factors for the success of CRM strategy are as follows: strategy, resources, business processes, products/services, customers and external factors [7, p.12].

Research on the application of CRM strategy in European business organizations has shown that organizations that have implemented CRM “grow 60% faster than the competition, expand the market by 6% per year, achieve ROI higher for 12%, charge 10% more for their products, compared to organizations which do not have CRM” [12, p.186]. The advantages of CRM are especially pronounced if the management is committed to the practical application of this concept, and employees are adequately educated. By persistently emphasizing the advantages of CRM concept and insisting on it, commercial banks will soon see the benefits of the process in which the potential client becomes existing one. Then the existing satisfied customer becomes loyal, and with his/her loyalty improves the business of commercial bank.

Successful implementation of CRM in the banking sector requires appropriate business processes that will contribute to value creation [3]. Resources that are important for the successful implementation of CRM in commercial banks are the following [2, p.111]:

- Human factors, that include the quality of human resources in bank, teamwork and support of top management
- Organizational resources, that include organizational structure, organizational culture, organizational processes, corporate governance, partnership with other sectors, identification of market opportunities
- Technological resources, that include the application of information and communication technologies that will lead to the creation of innovative products and distribution channels to customers, with the help of human and organizational resources

The application of CRM in commercial banks largely depends on adequate organizational culture, and on continuous education of employees, because it is important that each employee understands and accepts the importance of improving customer experience, as well as the importance of retaining and increasing loyal customers. Important factors of the bank's business success are the employees and adequate organizational culture, and they are of great importance for the success in the application of CRM concept. The implementation of CRM concept in a commercial bank depends on the bank size, organizational culture, the bank's focus on a particular business segment, as well as the development of market in which the commercial bank operates. The modern multidimensional approach to client orientation implies strategic, operational and analytical CRM [5]. In commercial banks, which are characterized by a very intensive process of digital transformation, CRM contains: Client analytics & modeling, Campaign management and Operational CRM (Figure 1).



Figure 1

Analytics, Campaign, oCRM in commercial banks [1]

Source: Addiko Bank Digital Transformation Experience. (2018). *Microsoft Sinergy 18*, <https://www.slideshare.net/VladoB/addiko-bank-digital-transformation-experience-microsoft-sinergija-18>

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3 Specifics of Customer Relationship Management in Addiko Bank AD

Addiko Bank AD Belgrade is part of the Addiko Group, a banking group specializing in retail and small and medium enterprises in Central and Southeast Europe. Addiko Group consists of Addiko Bank AG, the fully-licensed Austrian parent bank registered in Vienna, Austria, listed on the Vienna Stock Exchange and regulated by the Austrian Financial Markets Authority, as well as six subsidiary banks, registered, licensed and operating in five CSEE countries: Croatia, Slovenia, Bosnia & Herzegovina (two banks), Serbia and Montenegro. Addiko Group, through its six subsidiary banks, services approximately 0.8 million customers in CSEE, using a well-dispersed network of 178 branches and modern digital banking channels. Addiko Bank AG manages its subsidiary banks through group-wide strategies, policies and controls and manages Addiko Group's liquidity reserve [14].

In the last 10 years, Addiko Group has implemented modern technological solutions in its business processes, as part of its digital transformation, with part of these solutions aimed at improving the customer experience. The goal of improving the business of Addiko Group is innovation in terms of providing simpler products, practical and fast services that are in line with customer needs. For Addiko Group

customers, the introduction of CRM means that any direct communication with the bank is based on the existing business of clients with the bank. Regardless of whether the client visits the branch, sends a message through one of the digital channels, or calls the contact center, based on the information from CRM system, they will receive the best possible support or response, as well as get offer for the appropriate product or service. This increases the value not only for customers, but also for Addiko Group, because it improves the experience of customers, changes their opinion about the bank, and this leads to an increase in value and profitability.

If CRM process is approached seriously, and it is not understood as a mere automation of sending e-mails, but as the use and consequent enrichment of data provided by CRM, then this process can significantly save resources, provide the client with a quality user experience, and high indicators of bank's business success. That is why Addiko Group has continued the process of its digital transformation with the desire to put the emphasis on improving the customer experience [15]. The main goals of the introduction of advanced CRM process in Addiko Group are presented in Figure 2:

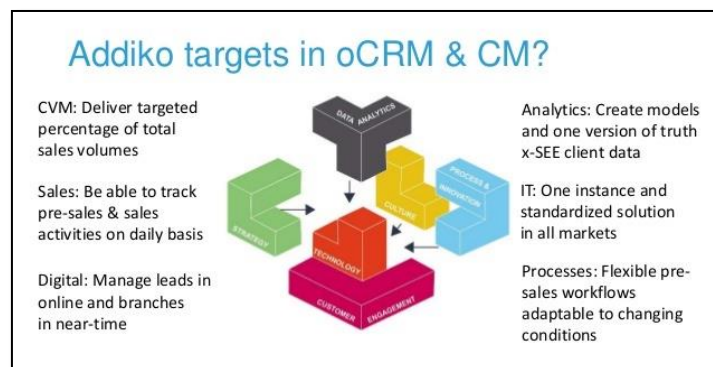


Figure 2

Main goals of introducing advanced CRM in Addiko Group [1]

Source: Addiko Bank Digital Transformation Experience. (2018). *Microsoft Sinergy 18*, <https://www.slideshare.net/VladoB/addiko-bank-digital-transformation-experience-microsoft-sinergija-18>

The specificity of the application of CRM in Addiko Group lies in the analysis of all direct and indirect channels of communication with clients, both those used for campaigns and those less formal. In doing so, Addiko Group acquires knowledge about potential clients who communicate through various channels, so the improvement of their customer experience is done in accordance with their preferences. A well-managed user experience process creates a sense of

understanding and respect for the potential and existing client. The CRM database enables the Addiko Group to collect all customer interactions, so that it is very easy to spot customers who already have a particular product, and customers who need to be offered a cross-sell or up-sell product. Based on the data and information obtained by applying CRM, Addiko Group performs quality targeting, segmentation of its clients, offers the products it want to sell, or uses this data to improve products, services and communication with clients. The importance of unique view of each client is given in Figure 3:

Challenges and Needs for the Single View				
Long Turnaround Time	Error Prone & Manual processes	Lack of Cross-sell & Up-sell	Neglected Prospects & Opportunities	Lack of Monitoring Tools
Application turn-around time is quite long due to paper-based processes, and lack of streamlined and standard flows. Many times customers are contacted again to gather information that was missed in initial contact.	Errors are likely to occur in processes where data is entered and forms are filled manually. Lack of automation of processes and checks on the customer increases errors and returns in the process.	Lack of insight into customer's wallet and not knowing what to sell to the customer and when, results in losing many cross-sell and up-sell opportunities.	Lack of prospect management processes, SLAs, escalations and proper routing and assignment results in neglect and loss of many prospects and sales opportunities.	There is no visibility into how sales teams are spending their time, what they are selling, who they are visiting. Without real-time reports and dashboards, timely actions and performance analysis is difficult.

Figure 3

Importance of unique customer view in Addiko Group [1]

Source: Addiko Bank Digital Transformation Experience. (2018). *Microsoft Sinergy 18*, www.slideshare.net/VladoB/addiko-bank-digital-transformation-experience-microsoft-sinergy-18

As shown in Figure 3, the advantages of a unique view of each client in Addiko Group are significant because they shorten the time of communication with the client, while in a smaller number of contacts sales of banking products are realized, and the client's needs are met. With the traditional way of communicating with the customer, bigger mistakes happen, this can jeopardize the sales process and the customer experience. The application of CRM process in Addiko Group enables quality monitoring of the results of sales staff, in terms of encouraging and rewarding good results, and improving poor performance.

After the introduction of CRM in Addiko Group in 2018, significant attention has been paid to retail segment (private individuals and SME clients). Proper and adequate communication has led to a better sales result, which was also contributed to by the greater commitment of sales staff, due to transparent measurability of their results and rewarding for achieved sales goals. Table 1 shows the change of loan portfolio in Addiko Group.

Table 1

Change of unique loan portfolio in Addiko Group 2018-2019 [16]

Gross performing loans by segment in EUR mil.	2018	2019
	YE	YE
Consumer & SME	2.116	2.401
Consumer	1.188	1.342
SME	928	1.059
Retail business volume in EUR mil.	2018	2019
	YE	YE
Loans and receivables	2.048,2	2.063,1
Gross disbursements	589,6	646,1

Source: <https://www.addiko.com/static/uploads/20200305-Addiko-Group-Key-Financial-Data-YE19-1.xlsx>

As presented in Table 1, after the introduction of CRM in Addiko Group, growth was achieved in Gross performing loans, Consumer & SME, as well as in Gross disbursements (rise from 589,6 mil EUR in 2018 to 646,1 mil EUR in 2019).

The contribution of CRM to the improvement of key financial data, in Addiko Group in 2019, is shown in Table 2.

Table 2

Key financial data of Addiko Group 2018-2019 [16]

Selected items of the Statement of financial position in EUR mil.	2018 (YTD)			
	1Q	2Q	3Q	4Q
Loans and advances to customers	3.697,7	3.772,2	3.776,4	3.787,3
Deposits of customers	4.916,4	4.907,1	4.959,9	4.836,7
	2019 (YTD)			
	1Q	2Q	3Q	4Q
Loans and advances to customers	3.864,9	3.896,6	3.904,2	3.871,9
Deposits of customers	4.855,5	4.864,7	4.908,9	4.831,2

Source: <https://www.addiko.com/static/uploads/20200305-Addiko-Group-Key-Financial-Data-YE19-1.xlsx>

As presented in Table 2, key financial data were improved in Addiko Group in each quarter of 2019. The growth has been achieved from quarter to quarter during 2019,



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in the Loans and advances to customers, as well as in Deposits, and at the same time the growth in relation to 2018 was accomplished.

Conclusions

The financial services sector, in order to maximize its business performance, is making maximum efforts to gain new and retain existing customers. Various technologically advanced platforms are of great importance for the financial services sector, which encourage the exchange of information with clients, service users, and improve the user experience, all in order to increase the value and achieve business goals. In order to improve and technologically modernize its way of doing business, the banking sector has been applying various technological innovations in the process of customer relations for the last ten years. These technological innovations enable quality communication and relationships with all categories of clients, even those who are insufficiently available or very demanding.

Through the application and strengthening of CRM techniques, Addiko Group improves its business process, identifies the needs of its clients and provides them with a better service. In this process, the integration of the complete organizational structure of Addiko Group is of the utmost importance, so that all employees involved in a particular business process have the same information, which allows for better improvement of the relationship with the client in a short time.

Based on the above analysis, it can be concluded that most commercial banks in the Republic of Serbia use CRM techniques to improve the customer experience of their customers and increase sales of their own products and services. In this way, commercial banks in the Republic of Serbia focus on the needs of their clients, try to achieve long-term profitable business relationships with them, which increases the value of clients and achieves the set goals, i.e. profitability and competitiveness in increasingly demanding markets. It can be concluded that CRM techniques enable commercial banks to manage the value of their customers, and to increase business value by increasing their customers' value.

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Attitudes of Generation Z Towards Instagram & Facebook – A Comparative Study

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Abstract: Social media plays a significant role in our everyday lives and shapes our interpersonal relationships and interactions. Millennials and mostly Generation Z spend more time online than any generation before. This study aimed to determine if there any relationship between personality and social media platform preference. Instagram and Facebook users have been compared regarding the motives of usage and the intensity of the attachment.

Keywords: Generation Z, social media, Instagram, Facebook

1 Introduction

Social media sites (SMS) have become unavoidable worldwide for the past nearly 20 years. According to a survey, nearly 4 billion people actively use at least one social media interface, approximately half of the world's population (48%) [1]. Although Facebook's fragility has waned a bit over the past few years, it is still one of the most popular and most used platforms [2]. In terms of social media platforms, Instagram is also taking a unique path, which has started to grow rapidly in the last few years and is still one of the fastest-growing platforms. As a result, it has 1 billion active users, 89% of which are non-US users [1]. However, unlike Facebook, Instagram is mainly popular among the younger age group (18-34 years old) [3]. To understand why these platforms are so popular, we need to know individuals' motivations to use social media [4]. The problematic internet/smartphone use have been studied widely [5;6]. Very few studies investigating the connection between



personality and Facebook or Instagram use motive [7]. The aim of this study was to find answers for the following research questions related to the Generation Z:

- What are the primary motivator factors that affect Instagram and Facebook usage, and are there any significant differences between the two platforms?
- What is the level of attachment to both social media sites?
- Is there any difference in the level of attachment, based on gender?
- What are the main aspects of the attachment to SMS?
- Are there significant differences between any personality dimension between females and males?
- What is the connection between personality traits and SMS intensity and attachment?
- What is the connection between personality traits and motives of SMS use?

2 Social media sites (SMS): Facebook & Instagram

Social media platforms/sites (SMS) been defined as “web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system” (p. 211) [8]. The most popular SMS in the Western world are Instagram, Facebook, Twitter, Snapchat, WhatsApp, Youtube and Google [9]. The primary motivation includes establishing and maintaining relationships [10].

As mentioned earlier, of the social media platforms, Facebook has the most extensive user base, at about 2.7 billion [2], and is also significantly represented across ages in terms of age groups [3]. Numerous studies address social media platforms’ effects and the motivations behind their use [4;11;12]. Motivations for using social media are diverse: the need for social interactions, information seeking, spending time, having fun, relaxing, expressing opinions, sharing information, observing or getting to know others [13;14]. Besides sharing photos and videos and status updates, there is a strong demand for entertainment-related content when using Facebook (one of the most popular sites) [15]. People use social media to obtain information about others [16] and thus facilitate the maintenance of relationships despite potentially less frequent interactions [17]. While members of Generations Y and Z have socialized in the digital world and are entirely natural to online contact, for example, those over 60 use social media (especially Facebook) mostly to keep in touch with family members, out of compulsion [18]. There are differences in use not only between generations but also in terms of gender. Women join the Facebook and Snapchat community to track family and friends’ lives, while men are encouraged to be members of a network of contacts and meet new people [19].



2.1 Generation Z and social media use

Generation Z already prefers to nurture its relationships online, especially on social media platforms. Its members are open to providing active feedback on the brands or services they use and evaluating others' opinions [20]. In many cases, this generation is already more strongly involved in virtual communities than in offline groups and is also a critical consumer of online content [21]. What significantly differentiates Generation Z from Y is their attitude to the online world: they no longer only want to know everything, they want to share everything, especially their best moments, or at least the edited versions of their experiences [22]. They trust their friends more than their predecessors [23]. They are the first global generation (thanks to technological advances), who can be in regular contact with each other on social media, regardless of geographical affiliation [24]. Looking at the data for the past few years, Generation Y reduced the time spent on social media interfaces, while Generation Z further increased it. Generation Z members have, on average, nearly ten different social media profiles [25]. They prefer Instagram over Facebook, and their lives are more intertwined with social media platforms, they require more attention in online communities, and they are more courageous to express their emotions and problems in a virtual group of peers [26]. This age group is a regular mobile phone user, nearly 40% have a feeling of FoMO (Fear of Missing Out) daily in their lives (so they are reluctant to stay away from their phone for long), and 5.5% are particularly concerned about not being able to check their mobile phone at any time [27].

2.2 “Big Five” personality traits and SMS use

Personality cause relevant individual differences which affect the SMS use motivations [28]. The present study examines personality based on the Big Five personality traits, displayed in Figure 1 [29].

The Big Five personality traits model is based on several independent researchers' results. Allport and Odbert collected 4.500 terms relating to personality traits in 1936 [30]. A few years later, Cattell and his colleagues used factor analysis to reduce the items, and they identified 16 traits. Fiske and his colleagues reduced these dimensions to five factors. McCrae and Costa confirmed the model's validity and the following factors (traits): openness, conscientiousness, extraversion, agreeableness and neuroticism (known by the acronym CANOE or OCEAN). Personality traits are influenced by genes and the environment as well. Each trait represents a continuum and encompasses other facets, as displayed in Figure 1. Most individuals are somewhere between the two polar ends [31].

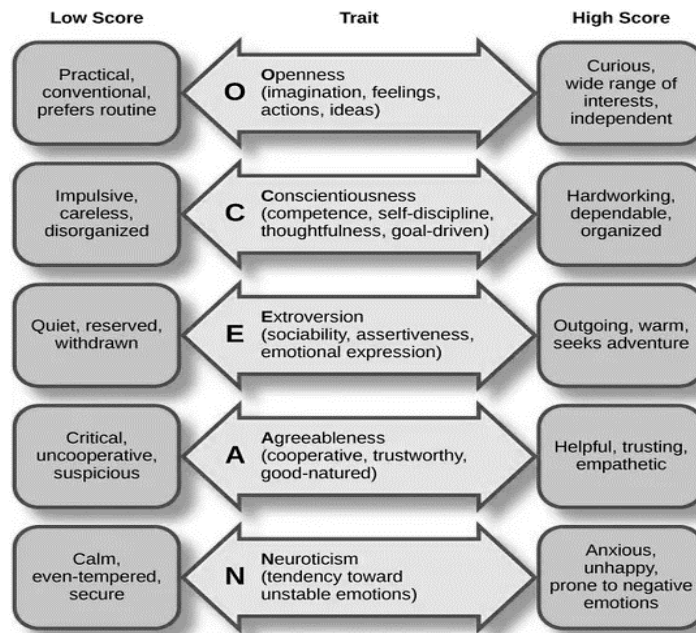


Figure 1
The Big Five personality traits [32]

Previous studies connect personality differences to social media use. For example, neurotic SMS users are more involved in the feedback of others on their selfies [33], spend more time on Facebook [34] and prefer to use SM passively [35]. Extraverted individuals post more photos and selfies [36]. Agreeable individuals are more interested in shared content and comment, and like others' posts more frequently [33]. Unconscientious individuals prefer to use SMS for information and news [35], while individuals scored high on openness to experience, share more content (photos, posts, selfies, location info) [37]. Personality traits related to preferred leisure and social activities [38;39], and notably impact the quantity of time an individual spends on SMS [40]. For example, who scores higher in the extraversion dimension, that is more inclined to initiate phone calls and sends more text messages [41]. Personality traits affect predisposition to problematic or addictive mobile phone behaviour [28;42;43] and have a remarkable influence on social media use as well, based on previous studies [44].



3 Results and discussion

3.1 Measure and Method

The data has been collected anonymously by an online questionnaire, which took 10-15 minutes to fill in. The questionnaire contained demographic questions (gender, age, educational level) and validated scales translated to Hungarian. The respondents were encouraged to share the survey via Facebook. Different statistical tests have been used for the analysis, made in SPSS 26 and ROPStat [45].

Facebook and Instagram attachment was measured by the altered version of Facebook Intensity Scale by Ellison et al. [46]. This scale defines the different aspects of the attachment to Facebook or Instagram (e.g., “I am proud to tell people I’m on Facebook.”). The respondent could answer the six statements on a seven-point Likert scale. In this study, the items related to the time spent online and a number of friends have been excluded. The Cronbach's alpha was 0.86 in the case of Facebook and 0.91 in the case of Instagram. *Facebook and Instagram motivation* was measured by twelve items that were defined by Alhabash and Ma [47]. The respondents had to answer on a seven-point Likert scale, based on their agreement to the item's statement (e.g., “I use [SMS] to share information”). The scale's Cronbach's alpha was 0.82 in the case of Facebook and 0.89 in the case of Instagram. *Personality traits* have been measured by Big Five Inventory [48] which contained 44 items and measures an individual on the Big Five dimensions of personality. The respondent had to apply their answer on a five-point Likert scale (where 1 = strongly disagree and 5 = strongly agree) about characteristics. The dimensions' Cronbach's alpha was between 0.73 and 0.85

3.2 Sample

The number of submitted online forms was 168. Respondents, who were younger than 15 years old, or older than 25 or gave incomplete or inaccurate answers have been excluded (23.22%). After the database cleaning, the final sample contained 129 Hungarians' answer (76.78%). The average age was 19.19 ($SD = 3.197$, $min = 15$, $max = 25$). Based on the result of the Kolmogorov-Smirnov test, the normality of the age variable was not confirmed. The sample contained 116 females (89.9%) and 13 males (10.1%). Due to the disproportioned gender distribution, a robust statistical test (Yuen-Welch test with 20% trim) has been used in the comparative analysis [49;50]. Most of the respondents still hold student status (91.5%), 3.9% studied at primary, 38,8% at secondary, 48.8% at higher education. Our sample is not representative.

3.3 Motives for social media use

Table 1 displays the different motives for SMS use. Significant differences have been found in the motives of Facebook and Instagram. Generation Z prefers to share their personal information via Instagram ($p = 0.009$), but in case of general information (which is essential for anybody else), no significant differences have been found ($p = 0.106$). They frequently use Instagram instead of Facebook when they bored or want to disengage from the environment (the effect size is bigger than 0.408). Facebook and Instagram are equally used if the individual wants to connect to similar people ($p = 0.921$) or establish a connection with others who have similar interests or tastes ($p = 0.566$).

Table 1
Differences in motives in the case of Instagram and Facebook use

Motives for use	Facebook		Instagram		<i>p</i>	Cohen- <i>D</i>
	Mean	SD	Mean	SD		
Share personal information	2.74	1.873	3.35	2.171	0.009	0.327
Record life events	2.29	1.572	4.31	2.117	0.000	1.287
Connect due to similar interests	3.63	1.931	3.57	2.091	0.566	-0.049
Spend time	4.36	1.923	5.37	1.837	0.000	0.520
Share relevant information	2.39	1.699	2.68	1.867	0.106	0.156
Record experiences	1.98	1.493	2.38	1.791	0.024	0.251
Connect to similar people	4.13	1.976	4.03	2.136	0.921	-0.059
Nothing better to do	3.88	2.087	4.75	2.110	0.000	0.408
Express personal interests	2.72	1.861	4.26	2.112	0.000	0.819
Record visited places	2.30	1.811	3.99	2.234	0.000	0.923
Get to know new people	2.60	1.781	3.09	1.966	0.008	0.263
Disengage from environment	3.70	2.067	5.20	2.055	0.000	0.722

When Gen Z wants to record and share experiences, life events, or visited places, the preferred platform is Instagram ($p = 0.000$). The effect size for this analysis ($d = 1.287$) was found to exceed Cohen's convention for a large effect ($d = 0.80$).

3.4 Attachment to social media platforms

The attachment score ranged between 7 and 42. The respondents' average Facebook attachment score was 23.29 ($SD = 8.852$), and their Instagram attachment score was 27.22 ($SD = 10.249$). The difference is significant ($p < 0.001$); the respondents are more attached to Instagram than Facebook. No significant differences have been found between males and females.

Table 2
Differences in attachment items in case of Instagram and Facebook

	Facebook		Instagram		<i>p</i>	Cohen- <i>D</i>
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>		
Part of habitual mobile use	5.22	1.855	5.46	2.000	0.193	0.125
Pride	4.08	1.943	4.64	2.038	0.001	0.291
Base of daily routine	4.43	2.132	4.92	2.071	0.013	0.233
Fear of missing out	2.57	1.806	3.23	2.044	0.000	0.354
Connected to the community	3.00	1.772	3.84	2.083	0.000	0.472
Importance	3.99	2.108	5.19	2.011	0.000	0.565

Table 2 displays the differences between Instagram and Facebook. Both platforms play an important role in the daily, habitual mobile use; no preference has been found. The respondents are more proud to be the user of Instagram ($p < 0.001$) and feel connected to the community of Instagram more than Facebook ($p < 0.01$). Instagram causes more anxiety, because if the respondent cannot connect to the site, they feel FoMO quickly, much quicker than in the case of Facebook ($p < 0.001$). The importance of Instagram is significantly higher than Facebook ($p < 0.001$), and this aspect displays the most significant difference. As the respondents said, life would be more miserable without Instagram than without Facebook. The importance of Instagram over Facebook in case of Generation Z is unambiguous. Instagram became part of their daily routine. It offers more opportunity to quickly check the others' new stories, upload fresh photos, and avoid the text-based posts of Facebook.

3.5 Relationship between SMS use and personality traits

3.5.1 Personality traits differences between males and females

Table 3 displays the five dimensions of the BI5 personality test. Due to the unbalance between males ($N = 13$) and females ($N = 116$) and the small sample size, Yuen-Welch test (with 20% trim) has been used which is the combination of trimmed Means *t*-test and Welch's *t*-test [50;51]. Regarding personality traits, a significant difference has been found between males and females at the *extraversion* dimension, $Y(9,4) = 2.370$, $p = 0.0408$. Males scored higher than females, $CI(95\%) = (0.34; 10.80)$, which means they are more outgoing, sociable and energetic. Regarding the other dimensions, no significant differences have been found.

Table 3
 Average personality dimensions scores and their differences based on gender

	Males		Females		<i>p</i>	Cohen- <i>D</i>
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>		
Extraversion	30.38	6.199	25.20	5.905	0.041	1.273
Conscientiousness	30.00	5.276	30.26	6.203	0.819	0.110
Agreeableness	32.23	5.688	31.79	5.635	0.907	-0.047
Neuroticism	22.69	8.469	26.69	5.648	0.194	-1.014
Openness	35.77	6.03	37.49	5.499	0.243	-0.491

3.5.2 Connection between personality traits and SMS intensity and attachment

Extraversion, *conscientiousness* and *openness to experience* dimensions do not correlate with SM attachment or intensity of use, but others show a significant relationship. Those who are high in *agreeableness* can be described as empathic, trusting, forgiving, and enjoying helping others. The higher this sensitivity to the others' need, the higher the intensity of Facebook usage ($r = 0.178, p < 0.05$). Active and symmetrical communication at Facebook is easier than at Instagram because Facebook has plenty of features that help engage with others (e.g., groups). *Neuroticism* shows the overall emotional stability of an individual, how likely they interpret events. Who score high on *neuroticism* often feel irritable, anxious, vulnerable and stressful. *Neuroticism* score significantly correlates with Instagram attachment ($r = 0.174, p < 0.05$) and Instagram use intensity ($r = 0.179, p < 0.05$). Thus, the more anxious and shy a person, the more they attached to Instagram, which allows passive following of others' life events without any engagement, and they use it more intensively.

3.5.3 Connection between personality traits and motives of SMS use

Table 4 displays the significant correlations between the personality traits and motives of Instagram use. *Conscientiousness* shows a person's ability to regulate their impulses in order to engage in goal-directed behaviour. These dimensions' high score describes competence, self-discipline, and dutifulness, while a low score confirms disorganized, careless, impulsive, and incompetent personality. Respondents who scored high on this dimension are less likely to use Instagram for spending time and disengage from their environment. Who scored higher in activities which related to boredom or disengagement, scored higher on *neuroticism* as well. Thus the more emotionally stable and individual, the less time they spend on Instagram while they have the chance to do other activities.

Table 4
 Correlation coefficients based on personality traits and Instagram use

Personality traits	Motives of Instagram use	Spearman rho
Conscientiousness	Nothing better to do	-0.2463**
	Spend time	-0.2221*
Neuroticism	Nothing better to do	0.2512**
	Disengage from environment	0.2292**
	Spend time	0.2163*
Extraversion	Get to know new people	0.1935*
	Share personal information	0.1823*
Openness	Get to know new people	0.1740*
	Express personal interests	0.2525**

Notes: * $p < 0.05$, ** $p < 0.01$

Extraversion shows the tendency to wish someone seeks social interaction. Who scores high in this dimension are excitement seekers, energized by social interactions and sociable persons. The more extrovert a person, the more information they share on Instagram, and they seek new connections with the platform's help. The more reserved, introvert personalities share less personal information and not as brave with new connections. *Openness to experience* refers to a person's willingness to try new things and engage in new activities and intellectual challenges. Individuals who score higher in this dimension express their personal interests more freely and are more open to new connections.

Table 5
 Correlation coefficients based on personality traits and Facebook use

Personality traits	Motives of Instagram use	Spearman rho
Conscientiousness	Nothing better to do	-0.2911**
Neuroticism	Nothing better to do	0.1777*
Extraversion	Share relevant information	0.2533**
	Share personal information	0.2020*
Openness	Connect to similar people	0.1752*
	Connect due to similar interests	0.1922*
	Express personal interests	0.2062*

Notes: * $p < 0.05$, ** $p < 0.01$

In the case of Facebook, small differences can be seen (as displayed in Table 5). The pattern for *conscientiousness* and *neuroticism* is similar to Instagram's. Individuals who score higher in *extraversion* share more personal information and post about information relevant to others. Due to this difference (Instagram is more likely to seek new connections and self-expression), Facebook is the place for symmetrical interactions. The higher the individual's *openness* score, the more active they are foster their social connections via Facebook and express their personal interests.



4 Conclusion and recommendations

In order to explore the motives of Instagram and Facebook use and Generation Z's attachment to these SMSs, quantitative methods have been used. Based on 129 respondents (aged between 15 and 25), significant differences have been found between the two platforms. Generation Z prefers Instagram in case of sharing personal information and record their life events or their travels. When they are bored or want to disengage from the world, Instagram is a better alternative than Facebook, due to the relatively text-free timeline. It consumes less energy to scroll over hundreds or thousands of photos, and Instagram's algorithm helps them by offering accounts with similar content to their interests. This young generation is more attached to Instagram; the platform plays an essential role in their daily routines and provides belongingness as well. Both SMS became part of their everyday habitual mobile phone use, but Instagram is more important for them.

Regarding the personality traits, we found no significant differences between the genders (except the extraversion dimension, which scored higher to males). Individuals who are higher in agreeableness prefer Facebook, which allows easier symmetrical communication between the parties, who are more stressful and anxious, prefer Instagram and use it more frequently than the balanced individuals. This kind of passive SMS use, especially when an individual is bored, is linked to personalities with a lower self-regulation level. Extroverts freely share their most personal moments and interests and do not wait for too much reciprocity. Individuals who are open to new experiences easily engage with establishing new connections, they express their emotions and interests and glad to maintain relationships with others; they prefer Facebook, which is the place for symmetrical interactions.

While both social media sites attract more and more users, Instagram is more important for the Generation Z. They use it against boredom and self-expression, and it is an excellent platform to "stalk" others without real interactions. Facebook is the place for maintaining relationships because it has more features which help symmetrical communications and provide more privacy. Another important (but previously did not mention) aspect is the anonymity. Facebook does not allow to use simple usernames, but on Instagram, anybody can stay anonymous and fake even a whole life for themselves.

Overall, this study's findings with Hungarian Generation Z strengthen the previous findings regarding the significant relationship between personality traits and social media use. Knowing the SMS using patterns of the young users might help to detect their main personality traits, which tremendously helps personalization which is an emerging field of sales and marketing activities [51]. More sophisticated human-computer interactions and personalization of user experience without more comprehensive knowledge of the users' attitudes and traits is unimaginable [52].



There are two major limitations in this study that could be addressed in future research. First, the sample size was small ($n = 129$). Even if Yuen-Welch test - a robust statistical method - has been used, the results are subject to biases. Second, the sample does not reflect the general population due to the lack of balanced gender distribution and the snowball selection method. Thus, the inability to generalize the research findings could be an issue.

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Assessment of the Impact of Entrepreneurship on Economic Growth: A Ghanaian Case Study

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Abstract: It is interesting to note that entrepreneurship is contributing immensely towards the economic growth and development of most nations. Particularly in less developed economies where it is somewhat difficult to get jobs in the public or private sectors, we see a lot of people trying to start-up their own small businesses and in the long run these business contribute their quota towards economic growth and development. The objective of this write up is therefore to assess the impact of start-ups and own businesses on economic growth and development using Ghana a case study. To achieve this, the Ease of Doing Business data which is measured by the score of starting a business from the world bank databank and the Self-Employment which is also measured as a percentage of total employment are used as proxies for entrepreneurship. To test if the data obtained is authentic and that it is not going to produce any spurious results, a stationary test is conducted using the Augmented Dickey Fuller (ADF) test. After, the study employs the Fully Modified Ordinary Least Square (FM-OLS) to examine the relationship amongst the variables of interest. Using Ghana as the case study and a period between 2000 to 2020, the results from the FM-OLS indicate that the respective dependent variables have a significant and positive impact on economic growth.

Keywords: Entrepreneurship, Economic growth and Development, Ghanaian context

1 Introduction

A recent research work, by Awlaqi and Ayah (2019), has thrown more light on the issues of entrepreneurship and growth. According to them, entrepreneurs do not only obtain wealth from entrepreneurial ventures as individuals, but they also create jobs which provides employment opportunities for others in the society and this has a long run effect on growth. The dynamic role of entrepreneurs and small business owners in emerging economies has contributed to vast development opportunities



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in the emerging economies. The International Monetary Fund (IMF) Regional Economic Outlook for Sub-Saharan Africa (SSA) has in fact reiterated that small and medium-sized enterprises (SMEs) create over 80% of the region's employment. Over the past decade, the evolution of entrepreneurs has been at the heart of Africa's growing economy. It is worthwhile to zoom the telescope on Sub-Saharan African, specifically on the Ghanaian economy to assess the impact of entrepreneurship on economic growth.

Although, through entrepreneurship the entrepreneur is made better off, there are some extended effects on the population and the planet as a whole. McClelland (1962), throws more light on the aspect of social entrepreneurship. In his theory of the "Achievement Motivation Theory" he explains how entrepreneurship aids economic growth and development by influencing other aspects of the economy. Transferring this theory and knowledge into the Ghanaian context, we can postulate that, entrepreneurship will not only lead to economic growth and development, but the general wellbeing of the of the people and even the planet could be affected. It is of vital importance to pay attention to issues of entrepreneurship.

2 Literature Review

The nexus between entrepreneurship and growth has been approached differently by different stakeholders. This sections takes a critical look at some works on entrepreneurship and growth which have been done in past by some proponents.

For instance, Thanti and Kalu (2018) illustrate how institutions and human capital facilitate entrepreneurship, which in turn aids economic growth and development. It is interesting how Thanti and Kalu (2018) first create a robust support for the well-known notion by Adam Smith and Joseph Schumpeter, that for the economy to grow in the long run there is the need to improve human capital and institutions. With the Generalised Method of Moments as the base model, they develop the Entrepreneurship Orientation (EO), which consist of innovativeness, risk taking and



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proactiveness. With a sample of 93 countries and a period between 1980 and 2008 they use the Generalised Method of Moments (GMM) to examine institutions and human capital as potential determining factor of the so called Schumpeterian entrepreneurship.

Studying the impact of entrepreneurship on growth, Salgado-Banda (2005) uses data on self-employment and productive entrepreneurship as the two main measures to examine how entrepreneurship affects economic growth. Using 22 OECD countries, the author finds out that, self-employment has a negative relationship with economic growth where as productive entrepreneurship has a positive relationship with economic growth. According to Salgado-Banda (2005), productive entrepreneurship is simply the degree of innovativeness of the entrepreneur as inspired by Baumol (1990), while self-employment is starting up or owning a new business. Due to the nature of his research questions he employs different methods to undertake each specific objective. For instance, he uses the Ordinary Least Square (OLS), Two-Stage Least Square (TSLS) and the Generalized Method of Moments (GMM) to make a cross-sectional analysis using the data from 22 OECD countries within the period 1980-1995.

Another interesting paper on the entrepreneurship-growth nexus is the work of Stark (2012) where he used the Granger causality methodology to examine the causal relationship between entrepreneurship on economic growth in Alabama. To achieve this aim, he first provides a conceptualized meaning of economic growth and entrepreneurship. In the context of his work, employment growth was used as a proxy to represent the growth of the economy and the measures for entrepreneurial activity were sole proprietorship and patent activity. The former could be owning a business entity which already exist and the owner does not have a legal right to that property while the latter is creating something new and transforming it into a business and having the legal right to own that property. Using data from 1990 to 2008 from the Bureau of Economic analysis, Stark (2012) first test the stationarity level of his variables and then uses the granger causality test to examine the nexus between entrepreneurship and growth.



Dilanchiev (2014), in his work “Relationship between entrepreneurship and unemployment” used regression analysis to examine the impact of entrepreneurship on unemployment using Georgia as a case study. Although in recent years, the link between entrepreneurship and economic growth has become somewhat popular, the relationship between entrepreneurship and employment is gaining immense attention as well. From this assertion, it was determined that the nexus between entrepreneurship and unemployment was analyzed by two main factors; the Schumpeter’s effect and Refugee effect (Audretsch D., 2007) (Varheul et al., 2006). From the refugee effect, it can be concluded that, unemployment encourages entrepreneurship and from the Schumpeter’s effect, entrepreneurship has a negative relationship with unemployment. Activists of refugee effect claim that the high unemployment rate reduces the possibility to get satisfying level of income and decreases the opportunities to get gainful job places, hence, this two conditions “pushes” the individual to start business activity (Tervo H., 2002). Schumpeter’s effect on the other hand assumes that growth of entrepreneurship and new start-ups will offer employment opportunities and ultimately influence the formation of employment in other existing firms. Using these major variables, Dilanchiev (2014), uses simple Ordinary Least Square (OLS) regression analysis to establish a relationship between these variables with data from 2003 to 2013. Two main hypothesis are tested; the first hypothesis is that, higher rate of entrepreneurship decreases unemployment rate and the second hypothesis is that with higher rate of unemployment, more people will start entrepreneurial activity.

3 Methodology

3.1 Augmented Dickey- Fuller (ADF) Test

The first test required in estimating a time series data is the unit root test. This test is done in order to know the order of integration of each variable used. In cointegration process, it is very important to test the order of integration for



econometric model specification. Again, most variables according to economic theories should be integrated or have a random walk. In such a situation, it is important to perform this test in order to find exact estimated values. For the purpose of this study this test is done with the help of the Augmented Dickey Fuller (ADF) procedure. The objective of the unit root test is to ensure that the variables are stationary before proceeding to estimate the coefficients of the variables. The tests were conducted at the levels and at the first difference to ensure that the respective variables of interest are all stationary. After making sure that all the variables are stationary, the next step is to examine the relationship among the dependent variable, (GDP per capita, which is used as a proxy for economic growth) variable and the independent variables.

The ADF test may be expressed by the following equation:

$$\Delta Y_t = \alpha_1 + \alpha_2 t + \alpha_3 Y_{t-1} + \sum_{i=1}^p \beta_i \Delta Y_{t-1} + \varepsilon_t \quad (1)$$

Where Y_t represents the time series variable, t is the time/trend variable, α_1 and α_2 are the estimated parameters, Δ is the first difference operator, β_i denotes the various estimated parameters of the differenced values of the lagged variables and ε_t is the white noise error term.

3.2 Fully Modified Ordinary Least Square (FM-OLS)

Since most of the variables are stationary at the first difference $I(1)$, the Fully Modified Ordinary Least Square (FM-OLS) can be used to examine the relationship among the dependent and independent variables. To demonstrate how to estimate a time series analysis using FM-OLS there is the need to ensure that the variables are stationary and that they will not produce spurious results. Phillips and Hansen (1990) initially designed the Fully modified least squares (FM-OLS) regression to provide optimal estimates of cointegration regressions. According to them, “the



method modifies least squares to account for serial correlation effects and for the endogeneity in the regressors that results from the existence of a cointegrating relationship”. The FM-OLS method produces reliable estimates for small sample size and provides a check for robustness of the results. In Ordinary Least Square (OLS) estimation, the estimates may suffer from serial correlation and heteroscedasticity since the omitted variables might be captured in the residuals. This may produce biased and unreliable results. Therefore, the FM-OLS take care of endogeneity by adding the leads & lags and in addition. It is interesting to note that the Fully Modified (FM) procedure can be applied to models with cointegrated regressors and even stationary regressors without losing the method’s good asymptotic properties.

The foundation model upon which the FM-OLS is built is specified as follows;

$$y_{it} = A_1x_{1i} + A_2x_{2i} \dots A_nx_{ni} + \beta x_{it} \dots \beta nit. + uit \quad (2)$$

where y_{it} is the dependent variable, A_1x_{1i} and A_2x_{2i} represents the independent variables and βx_{it} represents the controlled variables to be used in the equation.

Following the original version of the FM-OLS model by Phillips and Hansen (1990) the model to be used in the model is specified as follows;

$$GDP_{it} = A1STARTUP + A2SELF + \beta 1EDUC + \beta 2GRO_SAVINGS + uit \quad (3)$$

The dependent variable in the model is economic growth and for the purpose of this study the Gross Domestic Product (GDP) per capita is used as a proxy to represent growth. The independent variable is entrepreneurship and for the purpose of this study, the (STARTUP) and the (SELF) variables are used as proxies to represent entrepreneurship. From the literature, the following controlled variables are selected; Human Capital (HC) which is used as a proxy for education, and the gross saving (GRO_SAVINGS) variable which also represents private investment. The private investment variable was specifically included in the model because most entrepreneurs after acquiring financial capital either start up a business or invest it in financial institutions. A1 and A2 are the coefficients for the main explanatory



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variables (startups and self-employment) while β_1 and β_2 represents the coefficients for the controlled variables (education and gross saving respectively).

3.3 Description of Data

This study consists of 5 variables over the period 2000-2020 using Ghana as the case study. The study period is chosen based on the availability of data in the respective macroeconomic databases and the variables of interest are selected based on evidence from the literature. In all, the variables of interest include, Gross Domestic Product (GDP) per capita, Start-Up, Self-employment, Education and Gross savings.

The dependent variable is economic growth as proxied by Gross Domestic Product per capita. GDP per capita is chosen because it is a good measure of economic wellbeing (Global Economic Prospect Report, 2018). For the purpose of this study the GDP per capita growth (annual %) obtained from World Bank national accounts data, and OECD National Accounts data files was used. This variable shows the annual percentage growth rate of GDP per capita based on constant local currency.

Start-ups is one of the explanatory variables used in the model. It consists of the score for starting a business. It is the simple average of the scores for each of the component indicators: the procedures, time and cost for an entrepreneur to start and formally operate a business, as well as the paid-in minimum capital requirement. Data for this variables was obtained from World Bank Group, Doing Business project (<http://www.doingbusiness.org/>). Economies are ranked on their ease of doing business, from 1–190. A high ease of doing business ranking means the regulatory environment is more conducive and relatively easy to the start and operate a new business or a local firm.

Self-employment are those workers who are working on their own account. Typically, they work as sole proprietors or pair with one or a few partners or in cooperative. They represent a percentage of the total employment that is owned by



the private individuals. For this variable data was obtained from the International Labour Organization, ILOSTAT database.

The controlled variable Education measures the gross enrollment ratio, from primary to tertiary for both sexes. It shows the total enrollment in primary, secondary and tertiary education, regardless of age, expressed as a percentage of the total population of primary school age, secondary school age, and the five-year age group following on from secondary school leaving. Data was obtained from the UNESCO Institute for Statistics.

Gross domestic savings are calculated as GDP less final consumption expenditure (total consumption). It is measured by the percentage of the GDP that did not go into consumption. Data is obtained from World Bank national accounts data, and OECD National Accounts data files.

4 Results

4.1 Unit root test results

The null hypothesis (H0) for the stationarity test states that; the variable in question has a unit root while the alternate hypothesis (H1) states that the variable in question does not have a unit root. If the probability value is greater than 0.05 then we accept the null hypothesis, however if the probability value is less than 0.05 we reject the null hypothesis. At the level the probability values for the variables; GDP per capita, Startups, Self-employment and gross domestic savings are all greater than 0.05. This means we accept the null hypothesis that the variable has unit root, and it means that at the levels these variables are not stationary. The education variable however is stationary at the levels and hence it is integrated to order zero. To make the rest of the variables stationary so as to prevent biased and spurious results we test for unit root again at the first difference. At the first difference, we clearly observe that the rest of the variables; GDP per capita, Startups, Self-

employment and gross domestic savings have become stationary and hence they are integrated to order one I(1). This results pre informs us on the best method to use for the estimation. One of the best estimation technique which can be used to conduct the analysis in this instance is the Fully Modified Ordinary Least Square (FM-OLS). The FM-OLS method also produces reliable estimates for small sample size and provides a check for robustness of the results. As the sample size for the study is relatively small (2000-2020; n = 20), the best technique to be used is the FM-OLS

Table 1: Unit Root Test Results

Variables	Critical values	Levels + Intercept		Critical values	First Difference + Intercept		Integration Order
		t-statistics	Prob*		t-statistics	Prob*	
Dependent & Controlled variables	(5% significance level)			(5% Significance level)			I(0) / I(1)
GDP per Capita	-3.029970	-2.05872	0.0762	-3.040391	-5.017235	0.0010***	I(1)
Start_Up	-3.081002	-2.139257	0.2336	-3.119910	-3.860399	0.0141**	I(1)
Self_Emp	-3.052169	-0.029614	0.9429	-3.065585	-3.660525	0.0164**	I(1)
Education	-3.212696	-3.851954	0.0192**	-3.144920	-8.192738	0.0000***	I(0)
Gross_Saving	-3.029970	-0.619818	0.8440	-3.040391	-4.374696	0.0035***	I(1)

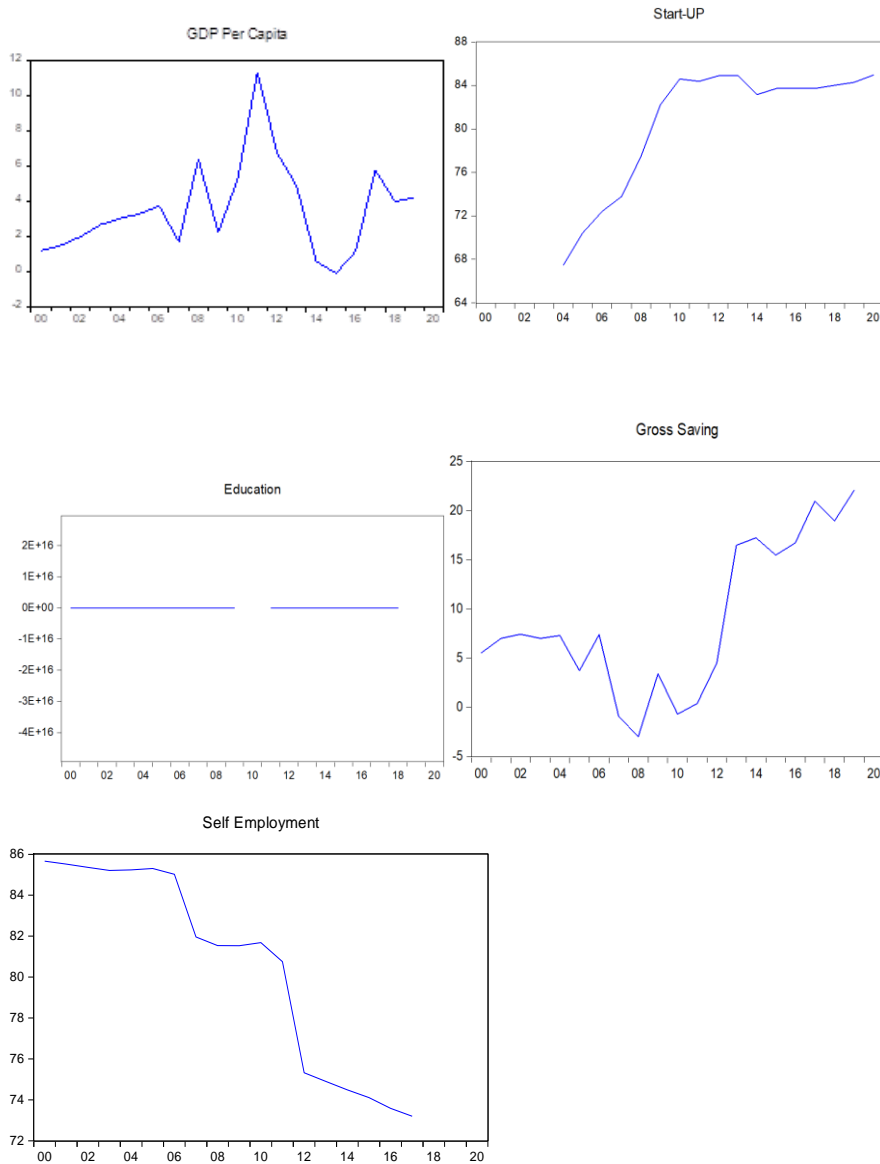
Note: **and *** denote rejection of the null hypothesis at 5% and 1% significance level respectively

4.1.2 Graph of Variables at the level

The graphical analysis of the variables helps to identify the behavior of the series over time. This is important to the study as it provides the trends in the variables and also an alternative way to check the level of the stationarity of the variables.

Figure 1

Trend Analysis of Variables



4.2 Results of Regression Analysis

Method: Fully Modified Least Squares (FMOLS)

Dependent variable: LNGDP

Sample (adjusted): 2005 2017

Included observations: 8 after adjustments

Cointegrating equation deterministic: C

Long-run covariance estimate (Bartlett kernel, Newey-West fixed bandwidth = 3.0000)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNSELF_EMPLOYMENT	48.99389	63.14751	0.775864	0.0373
LNSTART_UP	3.427591	46.32020	0.073998	0.0434
LNGROSS_SAVING	2.925606	1.434608	2.039307	0.7875
LNEDUCATION	10.82593	37.90256	0.285625	0.0848
C	282.7611	380.9176	0.742316	0.4859
R-squared	0.796571	Mean dependent var		3.860928
Adjusted R-squared	0.712618	S.D. dependent var		3.259796
S.E. of regression	2.672997	Akaike info criterion		5.107233
Sum squared resid	42.86948	Schwarz criterion		5.288094
Log likelihood	-23.08978	Hannan-Quinn criter.		4.993225
F-statistic	2.218124	Durbin-Watson stat		1.798516
Prob (F-statistic)	0.048173			

Substituting the results into the model (as shown in equation 3) we generate the following (as shown in equation 4):

$$GDP_{it} = A1STARTUP + A2SELF + \beta1EDUC + \beta2GRO_SAVINGS + uit \quad (3)$$

$$GDP_{it} = 3.43STARTUP + 48.99SELF + 10.83EDUC + 2.93GRO_SAVINGS + uit \quad (4)$$



From the coefficients of the results, we can generally observe that all the variables have a positive impact on economic growth. The main explanatory variables which also serve a proxy for entrepreneurship are the startup and self-employment variables.

As we can see in equation 4, when startup increases by one unit, GDP increases by 3.43 units, holding all other variables constant. This means when the score for starting a business is high, it is relatively easier for people to start a business and they contribute to the growth of the economy positively. The score of starting a business consists of the general procedures involved to startup, like the time and cost for an entrepreneur to start and formally operate a business, as well as the paid-in minimum capital requirement. Also the variable is significant as it has a probability value of 0.0373, which is less than 0.05. This means the independent variable startup explains the dependent variable in a good way.

It can also be observed that the self-employment variable plays a very important role in the economic growth and development of the Ghanaian economy. From the results we see that when self-employment increases by one unit, GDP increases by 48.99 units holding all other variables constant. This results was not surprising as it depicts a real picture about the Ghanaian situation. Within the Ghanaian context most people who do not find jobs in the public or private sectors venture into own business, typically Micro and Small and Medium Scale Enterprises (SME's). The percentage of total employment that is owned by the private individuals is very huge in Ghana. According to data from the Ghana statistical service more than 80 percent of the employed are working in the informal sector (SME's). Over half of the employed (55.9 %) are own-account workers (self-employed); 20.4 percent are employed in family enterprises and 17.6 percent are wage employees. (Ghana Statistical Service reports, 2018).

The controlled variables education and gross savings have a positive impact on economic growth. As we see in the results, if education increases by one unit, GDP will increase by 10.83 units and if gross savings increase by one unit, GDP will



increase by 2.93 units respectively. Within the Ghanaian context, the more people are educated the higher their chances of acquiring jobs or starting up their own businesses. Through education, people are able to contribute their own quota to the Gross Domestic Product (GDP), in the form of jobs. Savings on the other hand contribute positively to the economic growth and development within the Ghanaian context. The higher the level of income the higher the level of savings and higher incomes and savings level portray higher GDP growth.

5 Conclusion

To assess the impact of entrepreneurship on economic growth using Ghana as a case study, the variables startup and self-employment have been used as a proxy to represent entrepreneurship. Both show a positive and significant impact on economic growth. Hence, it is worthwhile for government to make policies which will boost entrepreneurship. For instance, policies to reduce long bureaucratic procedures before starting up a business could be implemented. This will increase the score of starting a business index and make it relatively easier to start up a business in the Ghanaian context.

Also, the government should create a conducive environment which will encourage more people to startup their own businesses. For instance, giving out financial aids, tax exemptions for businesses which are less than two years and inculcating entrepreneurship into the education curriculum could boost self-employment within the Ghanaian context. Currently in Ghana, the National Board for Small Scale Industries (NBSSI) is restructuring to provide the needed assistance to SMEs. This is indeed a step in the right direction if an economy wants to use entrepreneurship as a bait for economic growth (<https://nbssi.gov.gh/>).

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Lessons from the Pandemic: Strengthening Neighbourhood Self-dependency Through SMEs

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Abstract: The Covid-19 lockdown-induced supply side disruptions highlight the need for developing a robust manufacturing and agriculture production for each region. The Gandhian development approach and the concept of rural self-sufficiency emerge relevant in this context. The development approach based on the concentration of manufacturing and production in a few industrial hubs is weakening the small and medium enterprise sector, whose strength lies in catering and providing for the local markets and ensuring that the needs of the neighbourhood markets are taken care of. Strengthening SMEs and their capacity to produce and meet the needs of local-neighbourhood economies is critical to rebounding from the current crisis. In this context governments may consider introducing local manufacturing policies with a significant role for local government institutions to manage essential goods production by SMEs operating within its jurisdiction.

Keywords: SMEs; regional development; International trade; policies

1. SMEs, Covid-19 induced lockdown and supply chain disruptions

Small enterprises have an important role in economic development in terms job creation, manufacturing of goods, providing services as well as trade and commerce. Though there is a common perception about small and micro enterprises (SMEs) that they cater to the local markets and produce for the same, with the integration of markets and globalization, SMEs too moved into that bandwagon of global market paradigm. SMEs started thinking of producing and exporting to the global consumers and to the distant lands. However, often the success of such agenda was not smooth for all. Many have failed to reach out and market their globally for various reasons. Small enterprises, artisans and handicrafts and rural cottage industries have to face severe competition from the global supply chains and thereby significant shrinkage of their market size due to cheap supply of alternative goods from the global manufacturing hubs. Therefore, there has been slowdown of production and shrinkage of local small scale/cottage sector as a result



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of such huge competition from the large global players. Covid-19 induced lockdowns and resulting supply chain disruptions and can have its positive implications for SMEs and entrepreneurial prospects for ventures that cater to the local markets need to be evaluated in this context.

The present paper argues that the Covid-19 pandemic-induced lockdown worldwide underscores the need to revisit the current economic development approach, which is based on the concentration of manufacturing and production in a few industrial hubs. This approach is weakening the SME sector, whose strength lies in catering and providing for the local markets and ensuring that the needs of the neighbourhood markets are taken care of. Strengthening small enterprises and their capacity to produce and meet the needs of local-neighbourhood economies is critical to rebounding from the current crisis, creating more jobs and ensuring self-dependency for essential goods in each region. A balanced development and overall progress of all regions with a focus on essential goods production within each region seems to be the main takeaway from the Covid-19 pandemic.

Mahatma Gandhi believed that every region has its own specialization and its own resources. His concept of gram swaraj is the idea of self-reliant village economy. For him villages can be self-sufficient in the matters of their primary requirements. According to him, in the villages, the means of production of elementary necessities of life must be available to all. (Datta, n.d.;Phansalkar, 2018) With the cases of zoonotic diseases on the rise, it may be appropriate to revisit Gandhi's concept of Grama Swaraj and his development approach. There is a need to have more local self-sufficiency in every region with regard to essential food items and consumer goods (Gosalia, 1979). Probable supply chain disruptions, even if it occurs in the future, should not hamper normal life. The local production of fruits and vegetables, food processing units, consumer goods and essential medicines and many other products can be done within a region (Koshy, 2020).

1.1 About the study: objective, methodology and sources (Primary and Secondary)

This study is an attempt to review the performance of SMEs and entrepreneurs that cater to the needs of local communities and markets, which do not do have much linkage with markets outside their region or the global market. Some of the aspects/questions that are being addressed are: How local enterprises and entrepreneurs respond to lockdowns; some of the challenges faced by them and strategies and approaches adopted by them and suggestions, particularly policy interventions, needed to strengthen local market driven SMEs. The inputs for the study have come from both primary as well as secondary sources. Primary sources/data and inputs in this study are derived from the discussions and interviews on web-online platforms, with entrepreneurs, SME managers, NGOs supporting artisans and handicrafts as well as SMEs. In addition, online discussions(webinars)



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on two occasions held with groups of entrepreneurs, NGO functionaries and experts also supplemented the study. Perceptions and opinions expressed by these entrepreneurs both at the one-to-one discussions that were held during pandemic days and the following two webinars are reflected in the paper. The secondary sources used in the study helped develop the context, background and other relevant statistics to supplement and strengthen the arguments.

1.2 How the paper is organized?

The present paper is divided into six sections. The first section is introduction and explains the study objective in brief, the research methodology adopted for primary research and other sources of data for the study. In the second part consist of the background and the context. The third section is the main part and presents the results of discussion conducted over a digital platform during lockdown days with a group of entrepreneurs, experts and NGO-associations that support the sector. It also consists of few case studies developed on the basis of interactions, discussions and data/information provided by them. The fourth section looks at Strategies and approaches to strengthen SMEs, rural cottage sector. And in the fifth section there are cerin suggestions and recommendations. And the final and the sixth part is conclusion.

2. Self-dependent neighbourhood markets vs global market

With governments around the world imposing lockdown and social distancing, the post- COVID-19 pandemic world has to accept the role of small enterprises in ensuring the smooth supply of essential commodities during all kinds of emergencies and the need for developing a self-dependent neighbourhood economy rather than global supply chain driven operations and import dependence. While MSMEs compete for a share in the global market, it is critical that products and services are available for local consumption. During the Covid-19 induced lockdown, local markets in several regions around the world faced shortages due to supply chain disruptions, particularly in areas where little manufacturing and agriculture cultivation happens. Across the global value chain, from manufacturers and distributors, down to consumer- and packaged-goods companies and retailers alike, all faced its fall out and consequences. (Felix, et al., 2020)

When the pandemic induced lockdown hit hard, there was a need for production and locally manufactured good are available in each of the local markets in each region. There has been a serious challenge to village cottage and micro industries,



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various handicrafts and artisan enterprises from the global giants, who have access to markets. Thereby decline of these rural enterprises in fact contributed to migration of rural workers to urban construction sector and industrial hubs. In the seasons of pandemic, which may be more frequent in the upcoming days as points out in the UNEP report (2020), there is a strong case for developing a robust manufacturing base with a focus on essential goods and items that people consume on a day to day basis, essential products, consumer goods and food and beverages.

2.1 Supply chain disruptions: need to focus on local self sufficiency

The Covid-19 lockdown-induced supply side disruptions highlight the need for developing a robust manufacturing and agriculture production for each region or locality. The Gandhian development approach and the concept of rural self-sufficiency emerge relevant in this context. (Bhujimali, 2004; Gosalia, 1979) A more decentralized manufacturing strategy is the need of the hour, which calls for reducing dependency on global manufacturing hubs. Similar lockdowns can happen again, where there can be major disruptions in supply chains. While interdependence between different regions of the world will remain, local self-reliance with regard to consumer goods, essential medicines and food products need to be strengthened.

Although the lockdown proved to be a boon for e-Commerce businesses, orders were often delivered late. In many cases, e-commerce companies even refused to accept orders. If the supplier is in the same region or trucks and couriers were still in operation, the delivery was smoother. But when the product had to arrive from another region/state or country, there was a major disruption in delivery. In some cases, interstate- intra-regional truck movement too was affected.

Here comes the need for strengthening local self-reliance. Village micro and cottage industries as well as small enterprises contribute by way of supplying goods to the local markets, but they often encounter several challenges in their operations: lack of demand, competition from cheap imported products, high labour costs and power disruptions are just a few (Koshy, Time to revisit MSME Reservation policy, 2020)

2.2 High dependency on global manufacturing hubs

There is a high level of manufacturing concentration in certain pockets of the world. For instance, China leads the world in terms of manufacturing output, with over \$2.01 trillion in output, followed by the United States (\$1.867 trillion), Japan (\$1.063 trillion), Germany (\$700 billion), and South Korea (\$372 billion) (West & Lansang, 2018). The Covid-19 pandemic has exposed the practical issues related to

such high concentration of manufacturing in a particular region alone. During the time of emergencies these become more evident, more so during the kind of shortages witnessed during the lockdown. In case of the Indo-China economic relationship, India depends heavily on China for the supply of a wide range of products—from simple ones like nails/tacks and umbrellas—to sophisticated electronic products and pharmaceutical intermediates. (Dhar & Rao, 2020) The following table shows the dominance of China, US and Japan in the global manufacturing output.

Table1: Top 10 manufacturing destinations

Country	Manufacturing Output (USD in billions)	Percent of National Output	Percent of Global Manufacturing
China	\$2,010	27%	20%
United States	1,867	12	18
Japan	1,063	19	10
Germany	700	23	7
South Korea	372	29	4
India	298	16	3
France	274	11	3
Italy	264	16	3
United Kingdom	244	10	2
Taiwan	185	31	2

Source: UNCTAD 2015; Brookings Report, Global manufacturing scorecard

The supply shock that started in China in February and the demand shock that followed as the global economy shut down exposed vulnerabilities in the production strategies and supply chains of firms just about everywhere. Temporary trade restrictions and shortages of pharmaceuticals, critical medical supplies, and other products highlighted their weaknesses. (Shih, 2020) A more decentralized manufacturing strategy that aims to reduce dependency on global manufacturing hubs is the need of the hour.



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3. Discussions and case studies: Post COVID-19 development approach with focus on local self-sufficiency: Strengthening local industries and local jobs/income generation

Primary data and inputs were derived from two group discussions dated 27 August 2020 and 27 September 2020 with entrepreneurs in agrotech, IT/Digital technology, artisans SME stakeholders and NGOs working for rural artisans. This was followed by set of interviews with select entrepreneurs and different stakeholders of small industries catering to local markets. A total of ten people were interviewed who were either entrepreneurs/ SME managers or NGO/associations that support the entities. Their responses helped in understanding the general trend, approach and perceptions in the sector.

3.1 Highlights of the focussed group discussions

Following is a highlight of the focused group discussion held with entrepreneurs, SME stakeholders, NGOs that support artisans and handicraftsmen who highlighted various issues:

3.1.2 Rural economies to benefit from returning migrants

Covid-19 induced lockdowns forced a large number of migrant workers to return to their villages from urban and industrial sites that they were employed in. With the intensification of restrictions during the lockdown, workers had to remain in their abode with little space, facilities and often limited ration. And as they remained indoors for many days, they were determined to get back to their villages at any cost. However, with no trains or buses or any form of transport to get back to their villages, they launched an exodus on foot for several thousand kilometers.

3.1.3 Efforts to restore their former livelihood

The exodus of these workers and their arrival in the villages forced them to restart their former livelihood options, particularly in cottage industries. With workers returning to their villages from the industrial hubs and cities, many started taking steps to restore their previous avatars as artisans, farmer, farm-workers and agro-farm support solution providers.

3.1.4 Handicrafts, handloom and agriculture

Kishore Chatter, who is associated with an NGO called New Culture Society, which is working among weavers-communities and Bamboo workers in Sambalpur, Odisha, said these villagers who returned were formerly weavers, artisans, handicraftsmen, potters and such other entrepreneurs involved in cottage industries.



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He opined that there would be a revival of rural manufacturing activities. Kishore also, stated that there is now a strong feeling among these workers to stay back in their villages. They suffered during the lockdowns, particularly during their exodus on foot, covering thousands of kilometers.

3.1.5 New development paradigm

C.K Vishwanath said the crisis has indeed forced people to think about a new development approach. They now believe that the little money and food they can produce at home is better than living in urban slums or at labour camps of construction companies. It is being reported that most of these workers who returned home during the lockdown period would stay back in their village doing activities like fishing, agriculture in their own farms or of others as well as by restarting their traditional livelihood options, like weaving or bamboo work. These artisans and weavers were mainly working in the urban construction sites. They migrated to cities looking for better income. But often they ended up in the construction sector as unskilled construction workers. Life for them is harsh and they and prefer to restart their traditional vocation.

3.1.6 IT and digital transformation in Rural economy

Kalesh Prasad, a Rural IT company founder observed that there has been a significant growth in demand for IT and digital solutions from small and micro ventures, trading companies to setup a e-commerce platform, e-learning apps for schools and help to set up video streaming or such other digital solutions needed for a digitally driven market, especially after the lockdown

3.1.7 Returning migrants to expand local economies

Migrants who returned to their home state Kerala from the middle east-Gulf countries during the lockdown ventured into poultry, fish farming, honey bee, food processing and organic farms. There is a significant growth in interest in agro-tech businesses from educated youth according to Akhil Raj of Arya Aggrotech solutions, an agriculture and technology solutions firm based in Kerala, India.

3.1.8 Development is self-sufficiency in terms of food, clothing, housing

The crisis created by the lockdown can be a blessing in disguise for millions of unemployed youth, women and others. The rural Indian economy, as well as the vast South Asian region needs more jobs and this can only happen with the rise of crafts and artisans. These activities can accommodate and engage thousands of workers. According to Vignesh Jha who participated in the discussion, development is self-sufficiency in terms of food, clothing, housing, agro-equipment and income to meet additional emergencies. The rural economy can accommodate a vast



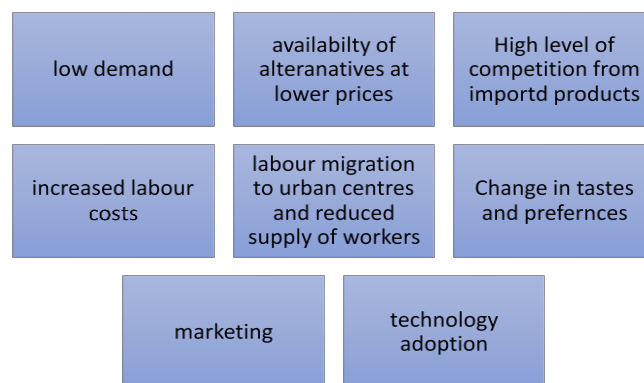
number of people and meet their basic requirements as well as produce for other markets as well.

3.1.9 Challenges faced by cottage industries and handicrafts sector

These rural entrepreneurs (craft and artisan segments) face a number of challenges, according to the participants of the focused group. Though they can produce for their immediate needs, they should also be able to sell at regional markets and now everything is connected through digital and online platforms. What they need is demand for their products, according to Vignesh Jha. Many of the products of these artisans are aesthetically appealing, colourful and of immense use in our daily lives, but they lack the appropriate tools, digital marketing expertise and strategy to market.

3.1.10 Digital platforms and digital marketing to connect with the buyers globally

Village micro and cottage industries as well as small enterprises contribute by way of supplying goods to the local markets, but they often encounter several challenges in their operations. Hundreds of traditional arts and crafts have vanished. According to Vignesh Jha who promoted an online platform call “WE the Artisans (Ham-Shilpakar)” approximately nine hundred and fifty traditional crafts are on the verge of collapse, which used to provide jobs for a large number of workers, sectors that use labour intensive technologies such as handloom, handicrafts, pottery, wooden toys, metal-based for instance Aranmula mirror; Leather jute-based crafts, Banarasi and Sambalpuri silk works, pottery, leather sandals and shoes of Kolhapur & Jaipur. There are both demand and supply factors for the decline of traditional village industries, leading to lack of employment opportunities in each region, villages as well as growing dependency of each region for essential products to industrial-manufacturing hubs. Following are some of the factors that cause a decline in rural industries and self-sufficiency:





It is a reality that there has been a steady decline in demand over a period of time for products of traditional-labour intensive sectors. The labour-intensive technologies used in cottage-rural industries make their products more expensive. The higher prices of these labour-intensive products make them unattractive. The cost of production per unit is higher compared to mechanised-technology intensive sectors. Tastes and preferences of consumers has also been changing as the younger population demand better designs and more trendy products. In addition to that cost of labour is another aspect. And labour migration to urban industrial hubs also contributed to the decline in traditional industries. Technology adoption has been very slow and these entrepreneurs used to find it difficult to market their products beyond a regional market.

3.2 Case studies: Locally market driven SMEs experiencing revival

Each of the sectors has their own unique characteristic, and the challenges vary. In the following section some of the cases of local market driven entrepreneurial ventures are explored and how they performed and responded to the scenario in the aftermath of the lockdowns. These case studies are based upon interactions with entrepreneurs, SMEs, NGOs and associations of micro enterprises. Discussions were conducted in September-October 2020. Following are the sectors covered, subcategory and key highlights:

Broad Sector	Sub category	Highlights
IT/Digital technology business	Web designers; IT products Computers/laptops Products for work from home	Significant growth in business and profit despite lock down Demand for new website creation by businesses Boost in digital transformation effort by
Agriculture/Agri-tech	Agri-tech-farming (Technology intensive agriculture) Agri-E-retailers	Agriculture and farming sector witnessed growth Technology intensive farming and startups providing technology options to farmers came up

Handloom(Cottage Industry)	Weavers	Slow recovery of activities by weavers and those cottage industries in this sector, particularly during the lockdowns
Handicrafts and Artisans		This is an area that has significant potential. Social media marketing is a tool that they use to reach out.
Environmental services/Waste Management	E-Waste management	Digital adoption leading to enhanced consumption of electronic goods/computers/laptops/android. This would lead to more business opportunities in e-waste

3.2.1 IT/ Digital technology SMEs

Information and communications technology solutions became significantly important during the Covid-19 induced lockdown days. As part of the study, discussions were conducted with five IT-digital technology solution providers. Three of them were entrepreneurs offering web designing solutions in rural India. All the three noted that they experienced significant growth both in terms new clients as well as profit they could earn. New website and an android app development were the main activity to be conducted. Their clients were rural enterprises, educational service providers like schools & training institutes and e-commerce ventures. In addition to these three entrepreneurs, two IT firms from urban centers also responded and according to them, despite the initial silence, there was significant growth in demand for their services particularly for video streaming, webinar products, app development and e-learning portal development.

3.2.2 Agriculture, Agro-tech and technology intensive farming

Rural India has witnessed a revival in agriculture activities. Technology graduates turning to agri-tech has been a trend for some time. As part of the study, a detailed discussion was held with an agro-tech firm, Arya Agro-tech solutions. During the lockdown days, Arya Agri-tech solutions, which is also a technology solutions



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provider for farmers, started cultivation using high-tech methods. They have started delivering agriculture produces on the basis of online orders that they received in places near to Kozhencherry, a small town in the Pathanamthitta district of Kerala, India. The Arya Agro-Tech venture was launched by a team of technology graduates and they focus on smart farming as they think that is the only way to make farming a sustainable and profitable activity for farmers. They provide farmers with marketing support and procures vegetables after evaluating farms for good agricultural practice (GAP). According to them lockdown has made them expand and enabled them to popularise farming as a entrepreneurial opportunity to many youth.

3.2.3 Handloom sector

The handloom sector used to be labour intensive sector and weavers are mainly from the weaker sections. They used to make clothes for household needs as well as for meeting the needs of the village, and their markets used to be limited. However, there has been a decline in the number of active units due to various reasons such as low productivity, low income, low wages, lack of social protection are other issues. According to volunteers at New Culture Society, Sambalpur, Orissa, there has been not much activity in the sector as youngsters find the income from this traditional activity too low to sustain themselves. As a result of which migration to industrial hubs by the youth seeking jobs in the cities. According to Mr. Bal Kishore of the society, with the Covid-19 pandemic and closure of construction sector in the cities, these youth have now started coming back. Along with agriculture, fishing and other occupations that they can involve in for income generation, they have also re-started weaving activities thus there is a slow and gradual revival of the handloom sector. However, the sector needs critical support from the government agencies with regard to marketing and finance for procuring raw materials says Mr. Kishore. Some of the challenges that they traditionally face is competition from lookalikes, and similar designs from large textile sector are bringing down the cost of original weaver made products.

3.2.4. Artisans/potters/handicraftsmen

While there is no sector that is unaffected either positively or negatively, handicraft sector is also not an exception. According to Vignesh Jha, marketing their products has been a challenge and social media platforms will have a significant role to play in marketing and reaching out to the customers. The Indian handicrafts industry is fragmented, with more than seven million regional artisans. Metalware, woodware, hand printed textiles, embroidered goods & shawls, carpets and bamboo products are a few of the select sectors. Traditionally, the ability to respond to the market demand is limited for them according to Harpreet Alhuwalia, entrepreneur and



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founder of Earthen Creations, Noida, near Delhi. Her work is focused among potters from across India. It has been estimated that over 40 lakhs rural potters still work with the help of conventional pottery wheels. Of the 15 lakhs traditionally skilled potters, about 95% are involved in the work of conventional red local pottery. During the pandemic, they found it extremely challenging to find a way to market their products. While the products have demand in overseas markets, the artisans do not get much benefit from the exports and remain poor. According to Harpreet Ahulwalia, technology, better designs and responding to market demands are crucial.

According to Kishore Chatter, often artisans and rural industries have only limited resources, knowledge, finance and experience. “They have only their bamboo and few products made with those resources”. Though it will be a significant aspect and mission to connect them with the rest of the affluent markets globally, it will not be that easy to achieve this task. How to market their well-made products; How will they deal with digital market and e-commerce technologies are all a challenge for them. But how to tide over this crisis is critical for them. If no one buys their products survival will be difficult. They need finance, mentoring as well as critical marketing support. We the Artisans the digital platform initiated by Mr. Vignesh Jha, who has taken initiative in this regard to set up and promote this platform said in order to serve the local markets and other distant markets, digital marketing tools and online platforms are essential. In this platform “artisans can post their products (with image, size, colour and product description and price) so that those interested can order them online”. This particular venture called took shape in response to the pandemic, according to Mr. Jha.

3.2.5. E-Waste Management

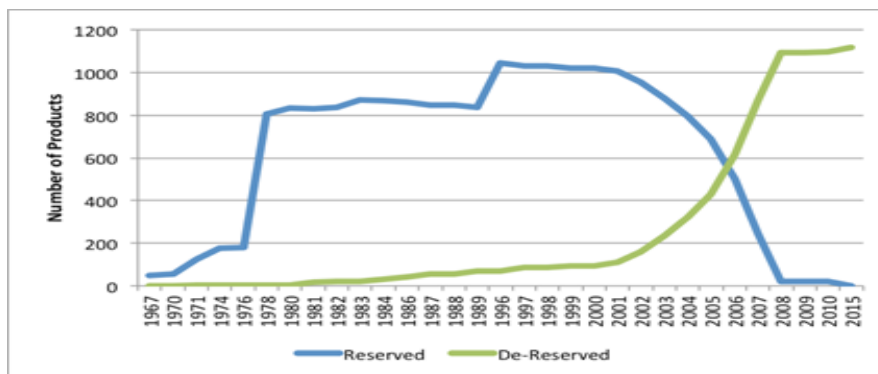
Waste management particularly Electronic Waste management is yet another sector that is particularly emerging relevant in the post-pandemic days. Amar Singh Yadav CEO & Founder of *Aseries Envirotek* India Pvt. Ltd says protecting environment and focusing on a green oriented development agenda is critical for sustainability. The venture A series has witnessed good business during the pandemic. In addition to e-waste management services and consultancy in the field A-series focus on providing assistance on Extended producer responsibility (EPR) for manufacturers in the electronic segment. He says with the rise in use of computer and digital tools and products, there is going to be significant proliferation of e-waste, which creates tremendous opportunities for e-waste and environ-tech companies in India in the coming days.

4. Strategies and approaches to strengthen SMEs, rural cottage sector

4.1 Reservation of products for manufacturing in small scale sector

It is critical for the sector to get all possible assistance. The small industries need to be protected. In this context, it is appropriate to mention the reservation policy that existed till recently for production within small scale industries. The Industries (Development and Regulation) Act which statutorily comprised a reservation policy covering products for exclusive manufacture in the MSME sector, which was provided for in the Act. The Reservation policy was meant to ensure the increased production of consumer goods within the MSME sector. (DC-MSME, GOI, n.d.) Introduced in the year 1967 with 47 items, the list gradually expanded to include more than 800 items. This policy had a legal backing when the Industries Development and Regulation Act 1951 was amended in March 1984, empowering the Government to reserve items. Policy of reservation has contributed in the growth of SME sector, employment and promotion and encouragement to new enterprises and a culture of entrepreneurship. This policy was helpful and acted as a protective measure for the sector and helped large scale enterprises and corporates from encroaching into the MSME space. As a result of improved balance of payment situation, India was under obligation to remove quantitative restrictions (QRs) by 1st April 2001. (DC-MSME, GOI, n.d.) India removed QRs on over 700 items in 2001 after it lost a case in WTO against the US which had challenged these restrictions on import of large number of industrial and agricultural items. (Economic Times, 2010) Keeping up with the trend of liberalization and reforms, the government abolished the Small Scale Sector Product Reservation Policy by 2015 (DIPP, 2015). The figure below shows how the policy of reservation and then de-reservation in the small scale sector evolved.

Figure: Policy of SSI product reservation and de-reservation





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Note: Data for 1967 through 1989 taken from Table 6.3 in Mohan (2002). Data for 1996 onward taken from various publications of the Government of India, Ministry of Micro, Small, and Medium Enterprises (Source: Martin et.al 2017)

However, with the changing scenario, with the need to create more jobs locally and develop local self-sufficiency, there is a need to protect small enterprises that cater to the local markets. The need to revisit reservation policy emerges more so in the context of strengthening the local manufacturing base and empowering and helping SMEs to sustain themselves. The time has come to reintroduce a reservation policy for exclusive manufacturing in the MSME sector, with a focus on labour intensive technologies, to ensure local self-sufficiency and employment generation.

4.2. Role of local government institutes

Local government institutions (LGIs) can also play a role in this context and encourage small enterprises to make for their regions so as to make goods available for local communities. In this context, governments have to revisit their policies on protecting MSMEs. With the small-scale sector primarily catering to local markets and regions, local government institutions and regional authorities such as grama panchayats and municipal governments can play a better role in protecting and promoting micro, small and village industries.

4.3. Support to digitalization and adoption of technology and particularly IT

It is important for local manufacturing industries to enhance their productivity. Appropriate technology adoption is critical. Also, digital platforms such as that of Hum Shilpakar, is also important for local manufactures to operate in a digitally driven environment.

5. Suggestions for protecting SMEs

- A new broad list of products needs to be identified for small scale sector manufacturing, that must be brought under reservation for exclusive manufacturing. Each local government in the region may be given authority to identify and decide upon products that are essential for that particular region, from that broad list.



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- Each local government or regional authority may be authorized to formulate policies, promotional programmes, incentives and support for these lists of sectors/products which are in demand and needed for that region.
- Central government MSME schemes and programmes for the sector must be routed through LGIs in order to ensure better implementation.
- Technology relevant for the region and industries suited for the locality, with potential for job creation needs to be identified and encouraged at the local level.
- Mandatory procurement policy for retail shops from local manufactures: A reservation policy for retail shops in the region to procure and sell a certain percentage of products manufactured within that Panchayats or in the area falling under that particular regional government.

5.1 This approach will have the following advantages

- More jobs within region itself
- Products that are in demand are promoted, therefore their availability is ensured.
- Mandatory procurement requirement from local manufacturers will ensure demand for local manufacturing industry.
- When people can find jobs within the region/local areas, migration in search of employment may come down
- Less global supply chain exposure and dependency on essential supplies from other destinations

To conclude

Strengthening SMEs and their capacity to produce and meet the needs of local-neighbourhood economies is critical to rebound from the current crisis. While MSMEs compete for a share in the global market, it is critical that products and services are also available for local consumption. The Covid-19 lockdown induced supply side disruptions highlight the need for developing a robust manufacturing and agriculture production for each region or locality. The Gandhian development approach and the concept of rural self-sufficiency emerge relevant in this context. Governments could consider introducing a local manufacturing policy with significant role for local government institutions to manage essential goods production for SMEs operating in its jurisdiction. Further, such a policy will ensure uninterrupted trade and availability of goods for consumption even when major disruptions occur.



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Conflicts and Information Security Challenges in the IT Bidding Process

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Abstract: The basic document of the business is the commercial offer². The offer sets out the scope, professional contents, terms of trade and the price. Many times 10-15 specialist members can take part in the process of finalizing the offer. In this situation, both the supplier and customer side are in-house. Conflicts of interest are inevitable. The details of the commercial offer are strictly confidential, similarly to the alternative dispute resolution (mediation) process.

In this study, I present the conflicts that typically arise during the lifecycle of an IT-focused commercial bidding process. I examine where there may be information security vulnerabilities in that process which a given company must respond to. The study builds on real corporate processes with a scientific approach.

Keywords: information security, conflicts, IT bidding, business process, SAP

1 Introduction

“In 2020, the Covid had a negative impact on the economic field. Mainly the affected companies were multinational automotive suppliers in Hungary. They were not the only one but other companies went bankrupt or had to decrease the production volumen.” [1]

The importance of trade offers has increased in this economic situation. Following a successful bid, the parties contract and the performance of the contract brings in revenue.

It does matter under what circumstances, in what quality and in how long the offer is made, as this is both the cost of the organization and possible conflicts that can make it hard or even prevent a successful business offer.

Conflicts in the bidding process arise in a heightened and interest-saturated situation. Conflict cannot be averted, but it is in the company’s interest to have a convenient process and a commercial offer.

² In this study the „bid”, „proposal” and „offer” words I use as synonyms of each others.



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A risk factor in delivering a successful bid is a matter of information security. In business, it is extremely important that the content described in the offer does not fall into wrong hands. It is important to look at where there are information security holes where the process can be compromised and how a company can respond to these challenges.

This study examines, in turn, the conflict situations that affect the application of information security principles in the business bidding process, different type of stakeholders, that are emerging in terms of human factors.

2 Conflicts in the IT bidding process

“The conflict is everywhere. Can be found in human relationships and in business relationships. The businesses involved in the formal conflict are, of course, interested in the effective resolution of the conflict.”[2]

A company is set up mainly to make profit for the owner. In order to make a profit, it is essential to make commercial offers. Managing the bid process is a serious challenge for companies.

Many times a team of 3-15 (or more) specialists can take part in the process of finalizing the offer. In this situation, both the supplier and customer side are in-house. Conflicts of interest are inevitable because it must be guaranteed that the offer is completed on time, with good quality and appropriate content. That puts huge pressure on the company.

2.1 Bidding process

The bidding process consists of many components but it is relatively easy to map this process. The main steps are the same virtually in every company.

Based on my research, the process can be written in 55 steps. This is a typical sample used by IT SAP consulting SME companies. Elsewhere, the process may be much more chiseled or even simpler. In the present study, I present only the main steps. These are:

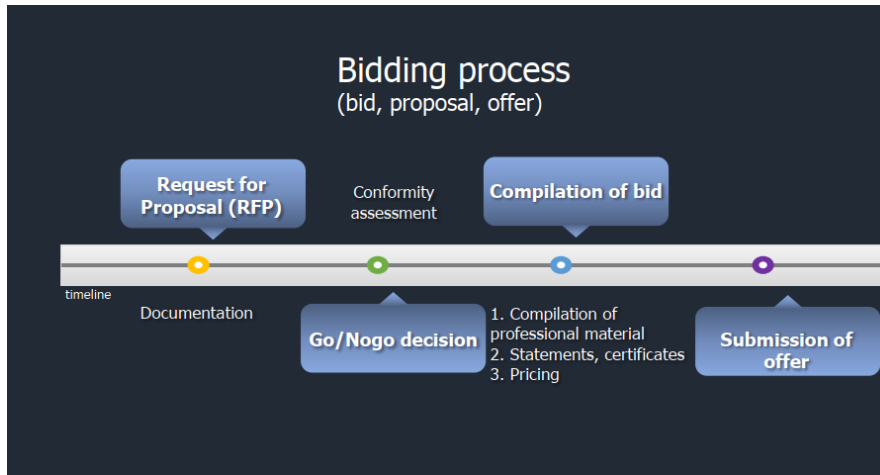


Figure 1 - author's own editing
 Main steps of bidding process

The main steps of simplified bidding process by typical IT SAP consulting companies are:

Main steps	Notes
Request for Proposal (RFP)	Usually it is a digitalized paper document or a system document created by using a bidding system.
Go/Nogo decision	Conformity assessment, decision of willingness to submit a bid or not
Compilation of bid	1. Compilation of professional material 2. Statements, certificates 3. Pricing
Submission of offer	Need to ensure the delivery of the completed offer.

2.2 Key players in process

"Successful companies are characterized by optimizing operational flexibility, resource rationalization, increasing efficiency, and eliminating unproductive activities (resources)." With this in mind, the bidding process is organized. [3]

The key players in the bid process and what interest they have. These are:

1. Owner and Chief Executive Officer (CEO): company management who is interested in profit. The profit comes from the business. And the business comes from the offer.



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2. Sales or key account manager (KAM): the goal is to sell the given portfolio. The more successful deals you make, the higher will be your individual bonus. The deal is preceded by an offer.
3. Delivery manager / IT project manager: whoever brings together the professional side of the offer-in-hand. Assess and compile the need for what type of Consultant or developer are needed.
4. Bid manager: brings together and manages the bidding process and actors. He is a kind of project manager.
5. Human resource manager: Based on the proposal of the project manager and the bid manager, assesses the resources required for the project, that is, consultants and developers. He looks at the needs and assigns the names of the consultants. Contacts them.
6. Consultants and developers: SAP professionals with specialized knowledge. In their field, they can suggest how to implement it based on the needs. What needs to be done and how long they can do. Price depends on number of days.
7. Subcontractors: external consultants and developers. mostly freelancers working in a very specialized field.

2.3 Confrontative situations

It is important to note that in this situation, the supplier and customer side are in-house.

2.3.1. Go/no go decision

Should there be an offer? That is, the go/no go decision. Where are the counter-interests?

- CEO vs. Capacity of bid staff: the management wants to make a profit, the bid manager wants to deliver the proposals in best quality. There may be a degree of workload, such as when multiple bids are submitted when a decision needs to be made on an additional aspect. Do I really want this offer? Is the chance of winning real? Because then we would rather not give a proposal.
- Sales/KAM vs. capacity of bid staff: the good KAM see business everywhere. Even where there is nothing to look for. Because why not? On the other hand, He does not see the amount of administrative work involved in compiling an offer. We can say that Sales is the dreamer, bid manager is the reality.
- Sales vs. project manager (PM): the situation is almost the same as before, only here the PM represents the professional reality.

2.3.2 Bid management

The next confrontational situation when a decision is made: yes, the company makes an offer. In this case, the bid manager is responsible, he is the manager in this bid project. Everyone is guided by him: project manager, consultants, admin areas and even the CEO.

In this situation, both the supplier and customer side are in-house too. Conflicts of interest are inevitable.



Figure 2 - author's own editing
Confrontative situations in bidding process

Customer side:

- Bid manager who compiles the material, reads it and, if necessary, returns it for rectification or modification, with a deadline.

Supplier side:

Another factor is that in order for a high quality offer to come together, a time schedule, also known as a project plan, is required. For example, in the next 1 month / 2 weeks to 1 week, who has to do what, when.

- Bid manager vs. project manager: Many times, in addition to your several tasks, you also need to create material relevant to the offer which is extra work in addition to your existing tasks, in addition the bid manager is the owner in that area.
- Bid manager vs. consultants: consultants don't like offer writing. the offer is additional work to your existing ones and, moreover, is it questionable whether it is successful?
- Bid manager vs. subcontractor: the offer is extra work in addition to your existing jobs, plus they are in a much more casual position than an employee.



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- Bid manager vs. KAM: a very serious project process begins with a strict deadline. You can't push days for weeks here. "Oh sorry I still need some time"... If November 20, 10:00 on the administration deadline then there is no alternative. There is very strong pressure on the person of the bid manager and here the importance of the sales colleague can lead to personal conflict.
- Bid manager vs. time management: the pressure of time. As the deadline approaches, the pressure intensifies.

It can be stated that it is created in the process a bid vs. others role confrontation.

3. Security challenges in the IT bidding process

"Information security is based on three principles. One of the principles is that information should be intact, it should remain accurate, and should not be distorted. Second, the authorized user should always have access to the information and related values. The third principle is the question of authorization or confidentiality, meaning that only the eligible or authorized person should have access to the information." [4]

Sensitive data in bidding process are,

- specialized professional knowledge
- most sensitive data: price (estimated number of days).

These informations have to be protected. This is IT security challenges during bidding process.

3.1 Where is security gap?

Premature leakage of the content of a commercial offer with the right quality and content can be fatal.

The value of an offer can be several million forints. That's too much money to lose a bid.

The stakes are high. A faulty administrative statement or poor professional material can make a bid a loser. Price information is most important. In a public procurement, if the competition is only 1 forint cheaper, then the bid fails. Millions of forints are lost, but most of all the business will be lost. Even a business of hundreds of millions.

What would happen if the offer went to a competing company?

What happens to the document?

Human factors is a key role in this process.

Key players	Risks and roles in terms of information security
Owner and Chief Executive Officer (CEO)	The interest of management, he is silent
Sales or key account manager (KAM)	The own bonus depends on success of bid, so he is silent.
Delivery manager / IT project manager	This player sees the professional offer, not the price.
Human resource manager	This player doesn't see the final version of proposal.
Bid manager	This player is a weak link because of position of trust. He sees the final offer and price.
Consultants and developers	This player doesn't see the final version of proposal.
Subcontractors	This player doesn't see the final version of proposal.

This form of examination of actors is interesting because whoever sees the last completed version of a commercial offer is in possession of the value of the entire offer. If the process is damaged, valuable information may come to light.

We can see that the bid manager is in the most dangerous situation. Other players are either interested in success or have no insight into sensitive data.

3.2 Possible ways to defend bid's data

In this study I present 3 possible ways to defend the business offer. According to my research this 3 ones are the most common tools.

Way 1 - Use of closed system software e.g.: SAP ARIBA[6], Electool Fluenta Sourcing[8] through which you can bid after a security login. The system ensures equal opportunities and a level playing field.

Way 2. - The ISO27001[9] ensures the information security protection of IT systems in-house the closedness of the bidding process.

Way 3. Document marking by *Data Leak Prevention (Protection)*[10] - watermarking of the tender document. Which stores all changes and makes them traceable.

4. Conclusions

In my information security research, my goal is to examine the tools and tool systems that are available in several areas. It is important that scientific research



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covers real organizational and business processes as valuable data is available on this basis.

In the present study, I have examined the conflicts that arise in the process of commercial bidding and can affect the information security of the bid's products.

The study also includes examples of the most commonly used tooling systems in my research to help companies prevent data corruption when making a commercial offer.

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Hybrid Warfare and Disinformation in the Post-truth Era

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Abstract: In this paper I explain hybrid warfare and its methods, focusing on disinformation as one of the most effective and actual way of weakening and destabilising one entity's adversary, mostly other states and belligerents. I give a quick overview of how this mean of warfare has been currently used by states, focusing on Russia, China, and Iran. I come up with the concept that this tool of warfare is significantly effective and its targets are particularly vulnerable these times, often labeled as the post-truth era.

Keywords: hybrid warfare, information warfare, disinformation, Gerasimov-doctrine, post-truth, fake news

1 Hybrid warfare

1.1. How the concept has evolved

Hybrid warfare is an emerging, but ill-defined notion in security studies. It refers to the use of unconventional methods as part of a multi-domain warfighting approach. These methods aim to disrupt and disable an opponent's actions without engaging in open hostilities, and by keeping the level of conflict under the threshold of war.

While the concept is fairly new, its effects and outcomes are often in the headlines today. Russia's approach to Ukraine is an example of this form of warfare. It has involved a combination of activities, including disinformation, economic manipulation, use of proxies and insurgencies, diplomatic pressure and military actions.

The term hybrid warfare originally referred to irregular non-state actors with advanced military capabilities. (For example, in the 2006 Israel-Lebanon War, Hezbollah employed a host of different tactics against Israel. They included guerilla warfare, innovative use of technology and effective information campaigning.)



First notion of the term was in the early 2000's, when William Nemeth observed the tactics of operations carried out by local warriors in the Chechnyan wars. He recognized that the archaic social order of Chechnya resulted in a way of waging war in which the modern military discipline and tactics (based on the Soviet training and education) assimilated with the forms of armed violence from the era before early statehood. Modern weaponry and technology was used by the Chechnyan rebels, blended with warfare without any legal or moral restrictions. [1]

In 2007, American defence researcher Frank Hoffman [2] expanded on the terms "hybrid threat" and "hybrid warfare" to describe employing multiple, diverse tactics simultaneously against an opponent.

Hybrid warfare carried out by Russia or any other actors are different from that of Chechnyans, however, the use of legal and illegal acts of violence plays a key role in all of them, in terms of both theory and practice. [3]

The meaning of the term was later expanded by John J. McCuen, who observed, based on the experience of the theaters of war in Vietnam, Iraq and Afghanistan, that the USA's strategic aim should be the victory in not only in the physical, but also in the mental dimension. To reach this aim to convince the local population in the war theater and also maintaining the moral support of the homeland's citizens are necessary. [4]

Istvan Resperger noted that hybrid warfare was a flexible use of conventional, linear methods along with unconventional and non-linear ones. The aim of this mixed usage is to destabilize the adversary's state, make its armed forces non-operational, along with keeping the level of violence under the threshold of war.[5]

A. Jacobs and G. Lasconjarias think that there is a wide range of various tools available apart from conventional military power to reach the strategic aim; these are economic pressure, humane and religious means, intelligence services, sabotage and disinformation. Combination of these forms up a highly effective, yet almost invisible ability to destabilize the opponent – and this powerful set of non-conventional weaponry does its damage operating mostly in the non-physical sphere.[6] This paper focuses on the disinformational aspects of hybrid warfare, its methods and effects.

1.2. The Gerasimov doctrine

In February 2013, General Valery Gerasimov—Russia's chief of the General Staff, comparable to the U.S. chairman of the Joint Chiefs of Staff—published a 2,000-word article, "The Value of Science Is in the Foresight," in the weekly Russian trade paper *Military-Industrial Kurier*. Gerasimov took tactics developed by the Soviets, blended them with strategic military thinking about total war, and laid out a new theory of modern warfare—one that looks more like hacking an enemy's society

than attacking it head-on. He wrote: “The very ‘rules of war’ have changed. The role of nonmilitary means of achieving political and strategic goals has grown, and, in many cases, they have exceeded the power of force of weapons in their effectiveness. ... All this is supplemented by military means of a concealed character.”

The article is considered by many to be the most useful articulation of Russia’s modern strategy, a vision of total warfare that places politics and war within the same spectrum of activities—philosophically, but also logistically. The approach is guerrilla, and waged on all fronts with a range of actors and tools—for example, hackers, media, businessmen, leaks and, yes, fake news, as well as conventional and asymmetric military means. Thanks to the internet and social media, the kinds of operations Soviet psy-ops teams once could only fantasize about—upending the domestic affairs of nations with information alone—are now plausible. The Gerasimov Doctrine builds a framework for these new tools, and declares that non-military tactics are not auxiliary to the use of force but the preferred way to win. That they are, in fact, the actual war. Chaos is the strategy the Kremlin pursues: Gerasimov specifies that the objective is to achieve an environment of permanent unrest and conflict within an enemy state.[7]

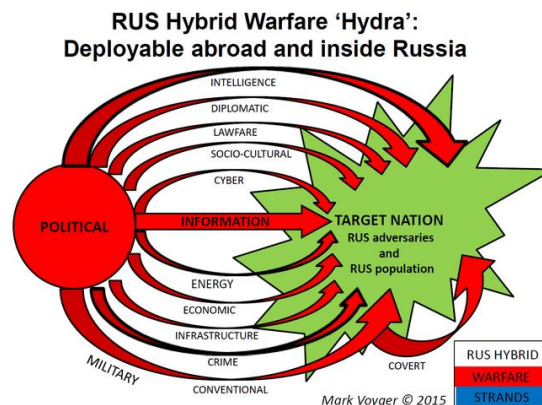


Figure 1
Various tools of hybrid warfare (Russia)



2 Disinformation and propaganda as a tool in interstate conflicts

2.1. Terminology

Much attention has been given recently to the Russian informational warfare activity since the beginning of the Ukrainian conflict, and especially since there were allegations that Russia interfered into the 2016 US elections. Since there is an increased media attention regarding the subject matter, I find it useful to give some thought to the terminology itself, and make an attempt to underline the differences between the terms information warfare and disinformation.

Information warfare: information warfare was originally an American military term. It got into wide use in the early 90's at the time of the Gulf war – it meant the struggle for the possession of information, informational systems and the use of info as a weapon. Now it is used to refer to the activity that includes battleground informational activity, cyber-warfare, propaganda, ideological warfare, also influencing through mass media and “big data” info collecting.

Disinformation: on the contrary, disinformation is a term originating in Soviet military language. Vasilij Mitrohin, a dissident and a former KGB librarian explained that it meant deception through false information, and active intelligence measures too. General Mihail Pacepa, a dissident from Ceausescu's Romania noted that even the name is misleading: Stalin intentionally gave the activity a French-sounding name, thereby suggesting that it was a Western invention. [7]

2.2. Psychological factors

The success of psychological warfare lies in the way the recipient consumes and processes information. Christina Nemr and William Gangware made an excellent study what psychological characteristics, cognitive processes work in the background of disinformation's significant effectivity:

- selective exposure leads the individual to prefer information that confirms their already existing perception;
- confirmation bias makes information consistent with the preexistent beliefs of one individual more credible;
- motivated reasoning works in the inverse way and initiates higher scrutiny to the information that is nonconsistent and with the individual's beliefs;



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- naïve realism leads the recipients to believe that that their perception of the reality is the only accurate one, and those who disagree are irrational and disinformed. [8]

2.3. Impact points of disinformation

False information can mostly recognized related those subjects, that are dividing, polarising, contradictory ones within the public opinion of a population. That means that the fake news industry very often disseminates information that flows along the dividing lines of societal cleavages. These typical dividing subjects are the following:

- national identities vs. cosmopolitan identities;
- EU sceptics vs. EU optimists;
- nostalgia towards communism vs. advocates of economic liberalism (especially in former Eastern bloc countries);
- non-educated segments of society vs. well educated elites;
- urban vs. rural population;
- anti-racist vs. strong right wing population;
- anti-migration vs. open society supporters.[9]

What is the exact purpose? As we can see the fake news industry – especially Russian fake news industry – is aimed to reshape social and identitarian groups, to strengthen polarisation and to raise the level of dividedness within a society, by emphasizing the already existing societal cleavages. Also, it can be a powerful tool to plant mistrust between friends and allies, thereby making common efforts and effective cooperation more difficult.

This activity typically leads to a goal: to delegitimize military, political and economical alliances (mostly the EU and NATO and the pro-Western elites), also, to undermine public trust in the institutions of a state: political, judicial system, law enforcement and healthcare.

This goal is even easier to reach in a society, where objective facts are less important and have lesser influence than emotions and beliefs.

2.4. Post-truth

What exactly is meant by the term post-truth? Paradoxically, post-truth is among the most-talked-about yet least-well-defined meme words of our time. Most observers in the English-speaking world cite the 2016 Word of the Year Oxford



English Dictionaries entry: post-truth is the public burial of “objective facts” by an avalanche of media “appeals to emotion and personal belief”.

We can say that “post-truth” is not simply the opposite of truth, however that is defined; it is more complicated. It is better described as an omnibus term, a word for communication comprising a mixture or assemblage of different but interconnected phenomena.[10]

3 Examples of disinformational acts

3.1. Russia

The level of public awareness of informational attacks has been raised when it came to light that there was an intentional and planned influence campaign, ordered by Vladimir Putin to undermine public trust in the US electoral process.

Russian efforts to influence the 2016 US presidential election represented the most recent expression of Moscow’s longstanding desire to undermine the US-led liberal democratic order, but these activities demonstrated a significant escalation in directness, level of activity, and scope of effort compared to previous operations.

US Office of the Director of National Intelligence concluded in a report that Putin and the Russian Government developed a clear preference for President-elect Trump, helped the President-elect’s election chances by discrediting his opponent Secretary Clinton, and publicly contrasting her unfavorably to him. Moscow’s approach evolved over the course of the campaign based on Russia’s understanding of the electoral prospects of the two main candidates.

When it appeared to Moscow that Secretary Clinton was likely to win the election, the Russian influence campaign began to focus more on undermining her future presidency. Moscow’s influence campaign followed a Russian messaging strategy that blends covert intelligence operations—such as cyber activity—with overt efforts by Russian Government agencies, state-funded media, third-party intermediaries, and paid social media users or “trolls.” Russia has a history of conducting covert influence campaigns focused on US presidential elections that have used intelligence officers and agents and press placements to disparage candidates perceived as hostile to the Kremlin.

Russia’s intelligence services conducted cyber operations against targets associated with the 2016 US presidential election, including targets associated with both major US political parties. The Office assessed with high confidence that Russian military



intelligence (General Staff Main Intelligence Directorate or GRU) used the Guccifer 2.0 persona and DCLeaks.com.[10]

One example of earlier of Russian influence campaigns – in accordance with the Office’s hint to earlier disinformational acts - can be the late 1980’s media campaign related to the AIDS disease. During this campaign the Soviet Union tried to convince the world’s public that the AIDS virus was created by the United States as a biological weapon. Aim of this campaign was to strengthen anti-American feelings in the third world countries that were heavily affected by the virus – so it made global cooperation more difficult. Also, it was an effective way to avert attention from the fact that the Soviet Union was itself developing biological weapons. The fake news first appeared in an Indian newspaper that was supported by the Soviets, and later on during the 80’s it was published many times by Russian newspapers and by Radio Moscow, broadcasted in African countries.[11]

We can have a perception how nowadays the social media outlets can provide an opportunity to carry out these kind of operations in an increased volume and in a more sophisticated manner.

3.2. China

As we have seen in Russia’s interference in the 2016’s electoral campaign, its activity is mostly carried out in the cyber domain. China, also uses propaganda in reshaping the US political conversations, but in a slightly different manner.

Example for this is a case that happened in September, 2018 in the state of Iowa. The newspaper China Daily sponsored a four-page advertisement in the Des Moines register, that looked like an actual newspaper spread (two opposite pages facing each other), with journalistic articles. The articles highlighted the advantages of free trade with China, the risks of the increasing tensions of the US-Chinese trade conflict, and also, President Xi’s long-time ties to the state of Iowa. That happened in the middle of President Trump’s agricultural debate with China, and the midterm campaign. From this it is clear that China makes sophisticated efforts to shape political public opinion in the US. [12]



Figure 2

Chinese propaganda advertisement disguised as journalistic article

So slightly differently from Russia's activities, China's international influence campaigns are largely characterized by economic, political and personal relationship-building. Chinese campaigns have been widespread, they range from the global distribution of pro-Chinese media, to attempts to influence educational and policy institutions abroad, to the wielding of financial influence through aggressive loans and infrastructure investment.[13]

3.3. Iran

Iran also prefers using the techniques of hybrid warfare and propaganda in confronting its adversaries. In 2018 two separate Iranian propaganda campaigns were cracked down by Facebook. The propaganda activity was carried out by hundreds of Facebook and Instagram accounts, pages and groups, some of them had been active for than 7 years. The propaganda campaign was similar to Russian and Chinese ones. They used fake accounts to coordinate and disseminate disinformation during the 2018 midterm elections, very similarly to the Kremlin's efforts in influencing the 2016 presidential campaign. The Iranian propaganda largely focused on promoting the interests of the Iranian government – the fake accounts disseminated fake information in a largely anti-Israeli, pro-Palestinian tone, and also included condemnations of Iran's main adversary, Saudi Arabia.

There was an investigation carried out by Reuters whose findings were that Iran maintained more than 70 disinformational websites that reached more than a million followers and etc. 500.000 monthly visits in 15 countries, including the US and the UK.[15]

AWDnews, which was one of these sites, forged a fake piece of information that Israel threatened Pakistan with the use of nuclear weapons once Pakistan sends troops to Syria – to this, the Minister of Defense in Pakistan answered with a real

nuclear threat. Fortunately the hoax was quickly compromised and revealed, but for a period of time it significantly raised the tensions in the region.

As I mentioned before, a typical subject of disinformation can often a topic that is significantly polarises public opinion within a society. A good example of this is an Iranian generated meme, coming from the Iranian site called “No racism no war”, picturing the well-known actor Tom Hanks with a photoshopped slogan, that is one of the Black Lives Matter movement.[14]



Figure 3

Iranian photoshopped picture for disinformational purposes

The fake photo was later revealed. On the picture the forged and the original is clearly visible.

Iranian disinformational activity is not only political, but also military: Iran’s Ministry of Intelligence and National Security systematically releases reports that exaggerates its military strength and technological level. Most possibly, Iran hopes that by boasting with a –fakely - highly effective military power, it can deter any possible enemy actions. Some analysts say however, that Iran’s efforts is doing so are of low expertise, and are too suspicious to result in real deterrence. [15]

Conclusions

The concept of hybrid warfare evolved significantly during the last few decades. It was noted by many thinkers, but the concept got the most emphasis from the events of the 2000’s. The era in which we are living in is unique from many aspects, but one aspect is more significant than the others, and that is our relationship with information. The methods of hybrid warfare that had been formed by the experiences of the last few decades can and will be more and more effective in the future, and this is a challenge that the worlds powers responsible for security will have to face.

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The Potential of Higher Education in Economics in Relation to Online Education

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Abstract: I was very interested in the techniques and the aspects of Online education since the start of my studies. I also chose this topic because, as a student, I have experienced for myself that the quality of the curriculum can greatly influence the attitude towards the subject and the acquisition of the curriculum. My main motivation is to contribute to the further development of online education by exploring the opinions of students with my suggestions. In my dissertation, I examine the possibilities of online education under Covid-19 from the perspective of students in higher education in economics. I examine, among other things, the impact of the epidemic on their studies, the quality of education, and the direction in which the standard and method of education have moved. In the first half of the dissertation, I describe the concept and methodology of online education by reviewing a wide variety of available literature. After this, I present the situation under the coronavirus, the online interface used in education, and the methodology of teaching and learning. Based on secondary research, I also address the opinions of educators about online education. In the framework of my primary research, I interviewed the students of 5 higher education institutions in the field of economics in Budapest with a questionnaire survey. A total of 582 students completed my questionnaire. The obtained results were interpreted with the help of statistical analyses. The study concludes with a summary and conclusions, and finally, I make suggestions based on the results obtained.

Keywords: online education, Covid-19, higher education, economics, student experience

Introduction

The importance of higher education institutions, teaching and researching activities has been undeniable for centuries and, especially today, they play a very important role in society and the economy. At the same time, they face unprecedented challenges in the 21st century as the world accelerates, its complexity increases, and the extraordinary development of technology is undeniable. Although the activities of the institutions will not change significantly in the future, as they will remain the main scene of education and research, they will have to adapt to the changing environment in their way of operation and applied teaching methods.



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I also chose this topic because, as a student, I have seen that the quality of the teaching materials can greatly influence the attitude to the subject and the learning of the curriculum. That is why in my paper I look only at the effects of online education in higher education on the field of economics.

My main motivation is to explore the views of students and contribute to the further development of online education with my suggestions.

My main experiences/observations are on online education in the researched institutes is that; There is no uniform use of interfaces among teachers, and neither is the delivery and requirements of online materials are given. Based on this, my hypotheses are as follows:

H1: Those students who prefer online to offline education schemes are indicating more positive responses than offline students.

H2: Those students who prefer online education schemes can adapt to online platforms much more effectively than offline students.

H3: Those students who prefer online education schemes are commanding more technical tools than offline students.

H4: Considering the experiences of online education schemes a difference may be detected based on the sex (males, females) criteria.

As a student, I have always been mindful of how to learn more effectively, efficiently, and enjoyably. During my university studies, and as an economics student, I began to care about how IT and smart tools, which may have been used too much in our daily lives, could be used for the benefit of learning and development.

In my paper, I intend to present online education as a driving force for higher education in economics to reform learning and the ways students can acquire the information they need. I am looking for answers on how to use these tools for learning, what educational apps and web interfaces are available in the digital era. To do this, I will look at and compare students from 5 higher education institutions, which students had to learn online in the past months, using a very similar model of education.

On the one hand, I aim to explore and analyze the current state of online teaching of Hungarian higher education in economics from the point of view of the students. Furthermore, I aim to identify the experiences of the forced online transition caused by the coronavirus, what are the novelties, experiences, and methods that can be used in the future and to improve the quality of online education.



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Online education

When examining the literature, I found that online education, translated into Hungarian, does not have a uniform definition of e-learning that is accepted by all. Instead, several conceptual definitions overlap. This is because the phenomenon is still in a very early, developing form, its interpretation is constantly changing and expanding as technology advances. Here are the definitions that are most relevant to the subject of the paper.

According to the European Commission's Online Education Action Plan (2001), online education can be called all educational processes that use the Internet and various multimedia technologies to make learning more efficient, improve its quality, and to support remote access and group work. Komenci puts it similarly: "Developments, programs, and teaching materials, which can be summarized as online education, are forms of the learning organization, learning management and learning support that is based on three well-circumscribed sources: computer-aided learning, internet learning, and distance learning." (Komenci, 2004: 34)

In the book of Hutter et al., online education is "an open form of training available on a computer network, independent of space and time constraints, which organizes the teaching and learning process and makes the curriculum and student resources, tutor-student communication, and computer interactive teaching software available to the student in a uniform framework, with effective, optimal knowledge transfer and learning methods." (Hutter et al. 2005: 14.)

According to Kovacs, the following interpretations of online education are most common in the vernacular:

- teaching and learning activities/processes by electronic means
- teaching and learning technology by electronic means
- computer, information, and communication technology (Smith,2011)

However, he also notes that it is such a complex concept that it cannot be narrowed down to a single definition. In its interpretation, 'e-learning is a new form of studying and education method that can be used both to be integrated into an organized system and can be used flexibly to meet individual needs through the given opportunities of the new e-learning techniques compared to the classical learning environment achieved by traditional means. The latter is also called independent, individual, in-learning outside the school system." (Smith, 2011:60 pp)



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The common feature of the definitions described is that online education is defined as education aided or carried out through technological means. We can therefore see that online education is both a methodology for e-learning and a system that provides an interface for e-learning. In my paper, I will look at online education as a tool for learning. (Kelli&Keith,2020)

Curriculum content

Content is the most important element of any online education system. We could have any good framework, a correctly selected type of online education if the content offered is of inadequate quality, carries outdated information, or simply does not provide enough in appearance. The primary consideration we need to address when creating electronic learning materials is that we are preparing content for non-traditional education. Thus, it is not only necessary to make the textbook text available in electronic form, for example by typing into a slide show, but also to take advantage of the possibilities of information and communication technology tools which are available to us in this new situation. (Kovács,2008) Teachers now can easily add multimedia content to the curriculum: images, audio, and video and interactive parts. It may be helpful to include a guide so that the student understands how to learn in that system or application. It is important for the student to feel motivated to carry out the e-learning studying, requirements, and to make independent research on the subject to obtain additional information, which contributes to deepening knowledge. To create an appropriate online education curriculum, we need to know the target audience: we need to know who we are talking to and what are the most effective means of reaching them. It is advisable to be direct and to-the-point in the tone of the curriculum, as this can also help you to understand the curriculum better. As it is an electronic education, efforts should be made not to make a part of the curriculum too long, as this may be at the expense of efficiency. The individual sections of the curriculum should be ratified and tasks for knowledge control should be carried out at the end of each phase, thus avoiding monotony on the one hand and the option to give feedback on whether it is necessary to carry out further repetition should be mandatory. It is important to provide feedback to online education users and, if necessary, to change the structure or content of the curriculum based on their ideas. (Galena, et. al, 2019)

We can see that all in all, there are more benefits of using online education than disadvantages. And the downsides listed are slowly being "outset" by society: it will be natural that the active, continuous use of ICTs is essential in all areas of life, including education. Positive examples can also change the attitude of old-fashioned people. Overall, online education has practical advantages that make its use attractive compared to traditional teaching methods. (Arshavskiy,2020)



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The present of online education

As I close the theoretical chapter, I will demonstrate the new trends and methods that dominate online education today, as well as what is expected in the future in the field of electronic education. The 5 higher education institutions I have examined are all using the same MOOC family as the system for online education, so this infrastructure and its attributes will be the basis for my investigation. (Kovács, 2011)

MOOC

The acronym behind the massive online open course is one of the most complete uses of online education: it offers an educational environment that allows a large group of students to take online courses in any subject area at any preferred time by the student. Teachers come from elite universities and teach through videos and presentations. Also, students taking part in the course can contact students and instructors with similar interests. Students who complete the course can also obtain a certificate. (Conache et.al., 2016)

Although many universities have held internet and video courses since the turn of the millennium, MOOC's start date is 2008, when George Siemens and Stephen Downes announced their „Connectivism and Connective Knowledge „ course, which was attended by more than 2,000 people around the world. The big explosion occurred in 2011 when two Stanford University lecturers opened the application for an artificial intelligence course. Although they expected a student camp of up to a few thousand students, a total of 160,000 students eventually took part in the course. (Michael & Hommer,2019)

The benefits of MOOCs include the benefits of online education: they bridge geographical and temporal barriers, allow the curriculum to be processed and repeated at an independent pace, and make the knowledge acquisition process available to all.

The most common reviews of students using MOOC (Baturay, 2015):

- most of the students involved are students over the age of 18
- the average time of a course is between 5 and 12 weeks
- training videos are 5-10 minutes long, mostly in English
- due to the high number of participants, accountability takes the form of multiple-choice tests and online surveys

There are two distinct groups of MOOCs: cMOOC and xMOOC (content-based). A cMOOC for the connectivity indicates that knowledge acquisition takes place in a network in which learners are connected through digital platforms and they can



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communicate and acquire the information together. That is how their knowledge develops and they receive a wide variety of knowledge. (Michael&Hommer,2019) xMOOC, on the other hand, is more like traditional education. This is essentially an extension of the classical pedagogical methods practiced within the institutions. (Yuan - Powell, 2013) Today, most MOOC systems follow the xMOOC approach. According to the founders, this is not the right direction: Downes and Siemens said in an interview with them that the goal of creating the MOOC was to encourage students to work with other students to acquire the knowledge, building on each others' ideas, with continuous self-improvement. However, modern MOOCs do not emphasize on interactive and dynamic learning approaches. Education is static and passive. Moreover, in most cases, the pedagogical method used in the MOOC systems also shows the same decades of lag and inflexibility, just like in regular education. (Unger& Meiran, 2020)

This is one of the biggest challenges facing online education: it is not enough to involve only ICTs in the learning process, but also to make a complete pedagogical-methodological shift.

Gamification

One of the newest and most popular trends of our time is gamification. I turned to literature to clarify the concept accurately. I would like to highlight the following two definitions: Gamification is the process of incorporating game mechanisms into programs, platforms, and processes that traditionally do not contain such elements. (Swan, 2012) "One of the most effective ways to learn is through games or playful learning. This approach is also used by the gamification methodology."

If you search for the word gamification and look at its most common uses, education is mentioned first almost every time. This is because lysing can eliminate the lack of attention, commitment, and interest in learning. It increases the enjoyment of the education process and the experience contributes to the success of learning. Also, the power of novelty can act as a motivational factor for students: a renewed educational environment attracts their attention, and they are more interested in learning. (Baxter et al., 2016) Its advantages include immediate feedback on the student's current performance and can be applied to almost any educational field. (Pethő,2004)

In addition to classrooms, gamification can be found mainly in the business sector, corporate training, marketing, and customer ness-enhancing solutions, as well as in health care. As with learning, they build on the principle that people's interest and activity can be aroused more easily and maintained by motivating and encouraging them to carry out a task through playful processes. The use and incorporation of



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Mobile learning

As I noted in the introduction to the paper, the use of smart devices, especially phones and tablets, is now so widespread that many people almost do not use desktops or laptops at all. Also, it is given that these tools are also more and more used for learning.

This has brought to the fore mobile learning, M-learning in English, where the learning process takes place largely or entirely on mobile devices. Experts say that in a few years this trend will dominate the online education market. M-learning allows you to learn on smartphones or tablets that are already on hand, so you do not have to change your normal rhythm of life to gain knowledge. M-learning gives you complete freedom: you can learn anywhere, anytime. Other benefits include: facilitating teamwork and communication and collaboration opportunities, sharing and exchanging knowledge, and easy implementation of gamification elements in mobile phone applications. This increases the motivation of users and makes learning more effective. And the modern location feature in your devices allows you to access content that is relevant to your location. (Kochatitl, 2016)

M-learning is applied over a broad spectrum. The most common use is language learning. There are already many apps for phones and tablets that help you



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memorize foreign words visually using images. Mobile learning apps that support the development of creative skills or hobbies (e.g., instrument learning, drawing skills development, or baking and cooking apps) are also popular. Its growth potential lies in this: it can be used not only in school education, or in a corporate training environment, but also to acquire any new knowledge through M-learning.

Although M-learning is not yet nearly at the same level of use as MOOCs, more and more learning-supporting apps are being created for phones and tablets. This trend will be further strengthened in the future, as M-learning is perfectly suited to making learning part of everyday life and realizing the lifelong learning approach. Online education through smart devices gets to more people: learning apps available on mobile are either completely free or significantly cheaper than other online education systems. The continuous development of smartphones and the increase in data transfer speeds also promote the development of M-learning. (Angelova,2020)

Universities examined:

In my dissertation I examined the students of 5 higher education institutions. My choices were the University of Corvinus, University of Economics, University of Obuda, University of Kodolányi János, and University of Eötvös Lóránd. I analyzed the given education, meals, use of services, transport connected to these institutes. The main aspect was to analyze these universities was, that these 5 institutes provide a very similar range of training in the field of economics.

Coronavirus

In 2020, the world was hit by an epidemic. The Covid-19 epidemic. The virus reached Hungary in March. In response, our government closed the borders and introduced a curfew. As a result, the current rules/methods of higher education have been abolished. Everyone was forced into the online space. There was no way to go to universities, so the transformation of higher education in economics to full online form had to begin.

COVID 19 Technology Adaptation

People resist change without understanding its necessity and importance, and when a situation arises, everyone must adapt willingly and unwillingly to change. This was the situation that also arose in the teaching of the instructors. Higher education institutions use a variety of pedagogies to innovate, develop, and engage students. Many faculties resisted the changes when asked to attend virtual classes for students. (Adnan & Anwar,2020) Hungarian higher education institutions identified 5 modular points in which that they had to decide: (This is the situation of higher education institutions before the Coronavirus, to e-learning subjects)



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- Interface usage
- Hours
- How to stay in touch
- Accounting method
- Location of watch materials.

At the beginning of the epidemic, 3 modular systems were considered for the use of space in higher education institutions. Skype, Zoom, and Teams. In this race, 2 competitors, Skype and Zoom, were soon eliminated. Thus, Teams, as the sole competitor, soon covered a large part of the higher education market.

At first, there were many easy and given ways of keeping up with the change without big differences, teachers could upload their presentations online. Teams meetings could be recorded and uploaded so students could reach it easily at any time they wished. Participants mainly liked email and other online forms of communication.

Method of accountability: Essay in established systems by nature or by question method. There were several methodologies for sharing lesson materials, such as uploading to online interfaces, emailing, and holding lectures online on a given timetable.

Methodology

I conducted my analysis in a questionnaire form among higher education students. My questionnaire received 587 replies between 30 March 2020 and 30 September 2020. The questionnaire contains 40 questions. It included multiple-choice, essay questions as well as scale values. I set the scale values to a 5-degree Likert scale. Since I thought students were also measured on a 5-degree scale, they were better able to interpret what each value meant. In evaluation, I used general descriptive statistics, as well as Pearson's correlation analysis, to determine the relationship between each question. My research is not representative.



Correlation analysis

To carry out Pearson’s correlation analysis of the research, I shaped the numerical value of each text response. So, I looked at the correlation between questions and answers. The strength of the correlation was defined as follows.

There is a strong correlation above 0.55.

The correlation is moderately strong from 0.4 to 0.55.

0.3-0.4 between medium correlation.

There is a weak correlation between 0.2 and 0.3.

There is no correlation below 0.2.

Evaluation

Respondents were 58.8% male and 38.1% female. In the research, the male majority can be determined. Respondents were 71% between 19 and 23, while 28% were aged 24-27 and a total of 1% were older than 28 years. 63% of respondents go to bachelor's and here the distribution of men is 84%. Bachelor's respondents are the backbone of the research. 28% of respondents go to vocational training, while only 8% are studying for a master's degree.

My first question is how much they love online education. 53% of respondents prefer the online form, where no significant difference can be identified. A single response is reflected, suggesting that no significant difference can be identified on this basis. When asked what experience they have in online education, 60% of respondents have mixed experience, which is also noticeable here that 90% of rural respondents have mixed experience while 86% of respondents who live in the capital have a positive experience in this regard. (Table 1)

What is your experience with online education?			
	Mixed	Positive	Negative
Capital	1%	86%	13%
Region	90%	2%	8%

Table1: What is your experience with online education?

source.: own research



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When asked which online learning methodology was preferred by the respondents: 60% of them replied that it was the presentation methodology, while 30% still preferred their notes from the lessons. It could be stated that most girls (95%) prefer learning from their notes. 95% of respondents use Messenger as their primary form of communication, while 99% of them use e-mail as an official form.

According to the five-stage Likert scale, 87% of respondents had a complete change in their learning habits. According to 82% of respondents, online education makes it easier to meet the requirement of the subject. But when asked at what level - according to respondents: 76% said that there was a weak correlation between these 2 questions. It turned out that those who had a simpler acquisition of the subject gained less knowledge.

On the following question, respondents said the following 3 positive things about online learning:

- Free time 67%
- Travel time/travel costs 23%
- Quick consultation 10%

3 key negative responses:

- Different lessons quality 59%
- Less motivated in learning 21%
- Rudimentary 20%

When asked what respondents were using for learning and to join online classes, 87% uses computers, 10% telephones, and 3% tablets. It can be stated that on average 70% of respondents have a phone, computer as well as a tablet. In total, 15% of them do not have all the tools required to join online classes. Here, a significantly strong correlation is observed at 0.84. There is a strong correlation between the number of machines owned by the given student and their liking of online education. 78% of respondents have 5 or more devices.

During online education, 66% of respondents had to share the student's space with someone. 44% of those surveyed shared the devices with their siblings, 20% with their partner, and 2% with other persons.



Correlation analysis

In the correlation analysis, I examined Pearson's edge correlation among the following questions.

- 1. Do you prefer online or offline learning?
- 13. A Are there any contact lessons?
 - 13. B During classes are you doing anything else than just listening?
 - 13. C Do you dress for online classes?
- 14. What technical means do you have?
- 17. How many technical tools do you have?
- 19. Average age of your technical equipment?
- 22. What form is the curriculum in?

Online education in economic higher education correlation analysis										
	1. question	13. question	13.A question	13.B question	13.C question	13.D question	14. question	17.question	19.question	22.question
1. question	1,00									
13. question	0,33	1,00								
13.A question	0,39	-0,15	1,00							
13.B question	0,41	0,39	0,37	1,00						
13.C question	0,57	0,22	-0,24	0,54	1,00					
13.D question	0,40	0,25	0,23	0,47	0,65	1,00				
14. question	0,77	0,10	0,23	0,33	0,06	0,11	1,00			
17.question	0,41	0,32	0,18	0,55	0,55	0,52	0,17	1,00		
19.question	-0,46	-0,05	0,00	0,13	0,31	0,31	-0,09	-0,10	1,00	
22.question	-0,09	0,07	0,16	0,16	0,14	0,09	0,18	-0,19	0,51	1,00

Table 2 Correlation analysis

source: own research

I compared the questions above one by one to create statements based on the research. As it can be seen from Table 2, those who like online learning have several technical tools at their disposal, so there is a strong correlation between these two attributes. (0.76) There is a medium-strong correlation between the average age of the technical tools of students are using and between how much they like online education (0.4). The younger the age of the used technical device, the more respondents prefer to learn from uploaded PPTs rather than their own notes created in classical classes. A moderately strong correlation can be described here (0.52). Those who can do more with less in lessons because they have few lessons retained still have less time to learn than those who have had more hours. There is a negative



correlation between the number of lessons held online and the time spent studying by a student alone, meaning that even though the students have more free time caused by online education, they will study less by themselves (-0.23). It turns out the more flexible is the schedule, the harder it is to take on education (0.54). Learning about Zoom was as difficult for respondents as it was for Skype (0.43). Learning Teams did not cause any extra difficulty compared to learning Skype either (0.40).

Conclusions

Based on my research, I accept/deny the following hypotheses.

1. Students who prefer online education to offline education can report more positive experiences than those who prefer offline education.

Based on the questionnaire research, respondents who prefer 89% talk about positive experiences. On this basis, I accept my first hypothesis.

2. Students who prefer online education have more easily mastered different online platforms than students who prefer offline education.

Neither the correlation analysis nor the questionnaire survey showed that clear that there would be any link between preferring online education and mastering the new required tools for learning. From the questionnaire it turned out that only 64% of students who have relatively modern and up to date technology prefer online lectures. Based on the survey there is no connection between technical knowledge and the preferred type of education, on this basis, I reject my second hypothesis.

3. Students who prefer online education have more technical tools than students who prefer offline education.

From the correlation analysis, it can be clearly stated that there is a strong correlation between the two factors, those who like online education have more technical tools, and, based on the questionnaire, 79% of students who prefers online education has more modern and new devices than those who prefer studying in the classical form. Based on the analysis and the answers from the questionnaire I accept my third hypothesis.

4. Considering the experiences of online education schemes a difference may be detected based on the sex (males, females) criteria.



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In my research, I have not found any evidence that there is any link between preferring online education and the gender of the responder. Based on the research I did not accept the fourth hypothesis.

Summarizing the primary research, I will show you the advantages and disadvantages of online education in higher economical education based on the answers from the questionnaire. These aspects are subjective in a sense since students can decide which qualities are positive and which are negative in their cases. In the following list, according to the questionnaire survey, I will show the advantages and disadvantages of using online education systems.

Advantages:

- Space and time independence provided,
- May be used both for individual and group teaching,
- The teaching process, materials, and environment may be personally tailored,
- The teaching material may be updated and extended regularly,
- Rehearsable and accessible unlimitedly,
- Serves the life-long learning model,
- Ensures rapid information flow,
- Small and medium enterprises and large organizations may use it for employee development schemes.

Disadvantages:

- Non personalized form of education,
- Several disturbance factors may decrease the attention of participants,
- For several users especially from the older generation it may be more difficult to ensure learning, using computers or tablets,
- The culture of individual independent learning has not been adopted fully yet,
- Space and time independence may cause that appropriate time will be not devoted to studying.

During my research, I have come to these results and findings.

Summary

The main purpose of my paper was to make known the situation of online education under COVID-19 in higher economical education known. I examined the subject



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from a theoretical point of view and carried out primary research in a form of a questionnaire. In the primary research, I was curious about the students' opinions on how they had experienced, how they lived, what they liked, and what they did not prefer about the online education methods. What they thought the advantages and, disadvantages of online education were.

In the first part, I dealt with detailed literature about online education. After a brief presentation of the development of education, I first defined the concept of online education through several definitions, reviewed the history and stages of its development, and examined its types, structure, and functioning. I also introduced today's most popular e-learning trends: MOOC systems, gamification, and mobile learning.

In the framework of the primary research, I conducted a questionnaire study among students from 5 higher education institutions in the field of economy to get a clear view of the most common online education standards used today. I analyzed 587 responses in total using statistical methods. In the paper, I presented the results of the answers and then verified/refused the hypotheses I had set up before starting the research.

The primary research partly confirmed the expectations of the study. First hypothesis: Students who prefer online education to offline education have reported more positive experiences than those who prefer offline education. In the questionnaire, 89% of those who preferred online education talked about positive experiences.

My second hypothesis has not met the expectations. Neither the correlation analysis nor the questionnaire survey showed clear evidence to prove that there was any link between those who prefer online education and those who use more modern and newer technologies for studying.

I accepted my third hypothesis, because, from the correlation analysis, there is a strong correlation between the following two factors. People who like online education have more technical tools, and more than 79% of respondents who like online education have newer and technologically advanced devices.

I rejected my fourth hypothesis, as I have not found any evidence that the people interviewed determination to online education could be defined only by their gender.

In the last paragraph, based on the research and the analysis I concluded the positive and negative effects of online education. Based on the study, I have made suggestions for the future of online education. Methods to improve the system and



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to motivate students evermore. Finally, I set out the main direction of my subsequent research on the future of online education.

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Exports Development - Trends and Challenges, the Case of Albanian Agriculture

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Abstract: Following the commitments at national and international strategic framework, especially European integration, the Government of Albania is engaged in improving the trade balance through export promotion strategies and policies. As a result, positive developments in exports, especially for agricultural products are evident. Export of agricultural products is substantially influencing the trade balance of the country, affecting at the same time its economic growth. According to the Ministry of Agriculture and Rural Development, in 2019 Albanian exports reached for the first time 300 million euros. Nowadays, agriculture and agro-processing industry have become the engine of the country's economy strongly contributing to GDP growth. This paper aims at providing a descriptive analysis of the current situation regarding foreign trade for agricultural products, the factors influencing exports increase as well as the barriers to trade. Under this study is also performed an analysis of the legal and institutional framework related to export promotion, fiscal incentives, governmental support, and their role in exports development in the country. Descriptive and SWOT analysis will serve as methodological instruments for this study. Comparison between 2020 trade data and past year will help to examine the impact of COVID 19 pandemic on trade in Albania. The findings of the paper will help to reveal the role of the export promotion policies in improving trade performance, the role of support schemes for increasing agriculture production, the barriers to exports in EU member states, etc. They will also help decision makers and research to better tailor appropriate strategies in order to improve trade balance in Albania.

Keywords: economic growth, exports, incentives, support schemes for agriculture

1. Introduction

The economy of Albania went through a process of transition from a centralized economy to a market-based economy on the principles of the free market. Albania is an upper-middle-income country and a member of the North Atlantic Treaty



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Organization (NATO), World Trade Organization (WTO), Organization for Security and Co-operation in Europe (OSCE), and Organization of the Black Sea Economic Cooperation (BSEC). Service sector contributes at 54.1% at GDP while agriculture and industrial ones contribute with 21.7% and 24.3% respectively [1].

The Albanian agricultural sector is of crucial importance with regard to the socio-economic development. It contributes around 20% to the country's GDP and accounts for more than 40% of the overall employment [1]. The sector is characterised by a majority of small family farms with a low degree of commercialisation and mechanisation. However, the production of fruits and vegetables increased substantially during recent years due to agricultural policies. The agriculture sector in Albania is facing problems related to rural exodus, the limited size of farms and ownership of agriculture land, marketing of agriculture products, irrigation and drainage, low level of used technologies, weak organization of farmers and last the low level of development of the agro-food industry. Albanian economy has limited possibility to export its agricultural products because of non-sufficient and low level of agriculture production and agro-processing industry, no marketing facilitation (warehouses, packing of products etc.), low standards for food quality security, and high cost of products. As for foreign trade, exports values have been increasing despite the fluctuations during last years. The year 2018 has marked a large increase in exports compared to previous years with 310,436 million ALL [2]. However, the trade balance is still negative. Exports make up 18% of Gross Products. The year 2018 is a good year with regard to export contribution to Gross Domestic Product. The volume of foreign trade, the indicator of the level of openness of the economy is around 58% of GDP. In 2018 this indicator has its highest level, but being less than 60% of GDP shows that the economy is still a very closed one [1]. Albanian economy has limited possibility to export its agricultural products because of non-sufficient and low level of agriculture production and agro-processing industry, no marketing facilitation (warehouses, packing of products etc.), low standards for food quality security, and high cost of products. Considering the recent situation created by the SARS-CoV-2 global pandemic, Albania like many other countries of the world are facing serious health and economic challenges. In response, Albanian government has undertaken a series of measures to deal with the crisis, from social distancing measures, closing of borders, strict border checks accompanied with quarantine measures, restriction of movements to total lockdowns of countries or specific regions.

2 Albanian Economy: General Overview

Albania is a transition economy, not highly integrated into global capital flows but showing strong economical performances. In 2019, GDP growth was estimated at 2.2% (from 4.1% the year before), driven mainly by private consumption fueled by income gains, whereas lower rainfall caused a cut in hydroelectric power production

and thus in exports. According to the updated IMF forecasts from April 14, 2020 to the end of 2020, GDP growth will fall to -5% in 2020 due to the outbreak of the COVID-19. The same forecasts indicate that the value of this indicator will reach at 8% in 2021 in the frame of the post-pandemic global economic recovery [3].

In 2019, the budget deficit was estimated at 2.2% of GDP. The debt-to-GDP ratio declined to 66.7% (from 69.9% in 2018), and is expected to fall below the 60% Maastricht target in 2022 assuming a continued economic growth. During the same year, inflation went down to 1.4%. However, forecasts for 2020 and 2021 show that such indicator will accelerate to 2.4% and 2.8% respectively [3].

Albania remains one of the poorest countries in Europe. According to the World Bank, in 2019, 34.6% of Albanians were living on less than USD 5.5 per day per capita (considered the poverty threshold). Unemployment reached a record low of 11.5% in the second quarter of 2019, with a youth unemployment rate of 20.9% [9], although the IMF estimated the yearly unemployment average at 12% in 2019. Informal economy is containing a significant part of GDP (estimated at around 50%). The table below shows trends of main macroeconomic indicators.

Table 1. Main macroeconomic indicators 2015 -2019

	2015	2016	2017	2018	2019
Population (million)	2.9	2.9	2.9	2.9	2.9
GDP per capita (EUR)	3,498	3,687	4,016	4,439	4,735
GDP (million EUR)	10,100	10,200	11,500	12,800	13,600
Economic Growth	2.2	3.3	3.8	4.1	3
Unemployment rate %	17.3	14.2	13.4	12.3	11.2
Inflation rate %	1.9	1.3	2	2	1.4
Public debt /GDP	74	73.2	70.2	66.6	68

Source: <http://www.instat.gov.al/en/themes/economy-and-finance/national-accounts-gdp>

As for foreign trade, exports values have been increasing despite the fluctuations during last years. As we can see from Figure 1, the year 2018 has marked a large increase in exports compared to previous years with 310,436 million ALL. However, the trade balance is still negative [1].

Exports make up 18% of Gross Products. 2018 is a good year of export contribution to Gross Domestic Product. In 2018, the indicator of the level of openness of the

economy is around 58%, reaching its highest level, but it is still less than 60% of GDP showing that the economy is still a closed one [1].

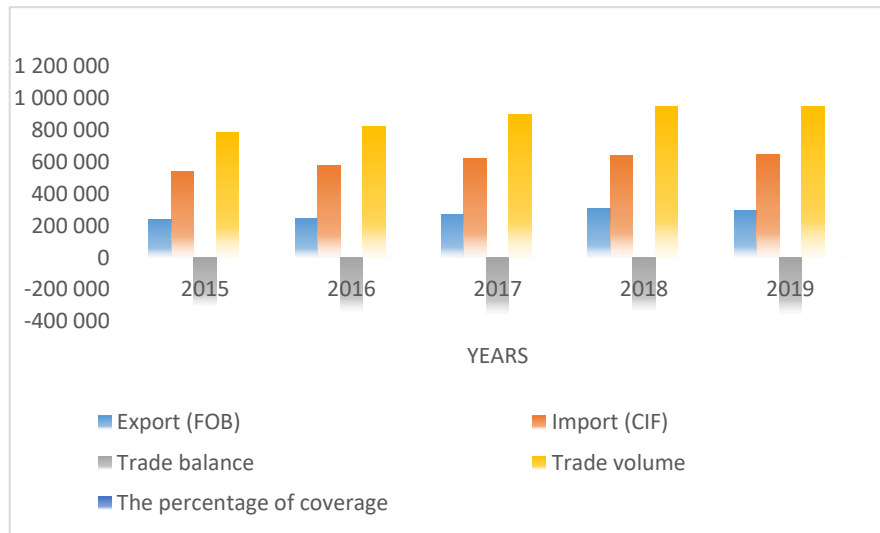


Figure 1

Foreign trade trends (our calculations based on INSTAT data)

3. Agriculture in Albanian Economy

Agriculture sector is one of the most important sector of Albanian economy. Nearly 46% of population lives in rural areas where the main activity is agriculture as the most important alternative of working.

Agriculture contributes about 20% of GDP. The real average growing in agriculture sector in the last five years is 3-3.5% per year.

Agriculture in Albania is mainly characterised by very small family farms oriented toward self-subsistence. Nearly 46% of farm holds own less than 1 Ha of agricultural land, whereas 86% of them own less than 2 Ha of agricultural land. As a result, 30-40% of agricultural and livestock products are intended for the markets, the rest is used by farmers for their personal consumption [4].

3.1. Challenges of Albanian agriculture

The agriculture sector in Albania is facing problems related to rural exodus, the limited size of farms and ownership of agriculture land, marketing of agriculture



products, irrigation and drainage, low level of used technologies, weak organization of farmers and last the low level of development of the agro-food industry. Albanian economy has limited possibility to export its agricultural products because of non-sufficient and low level of agriculture production and agro-processing industry, no marketing facilitation (warehouses, packing of products), low standards for food quality security, and high cost of products [4]. Farmers face automation problem. Only 74 % of families involved in agriculture are making use of automation to perform basic land processing/preparation while 23% use draft animals to plough the land, and 59% use both farmhands and automation. About 75% of family farms located in the highlands regions possessing less than 2 Ha use labourers to plough the land. At the national level, nearly 93% of farmers use chemical fertilisers, which take up approximately 23% of a farm’s total spending or 50% of the value of inputs purchased by farmers. All the above-mentioned factors influence exports of agricultural and agro-processing products.

The figure below presents a SWOT analysis of the agricultural sector in Albania.

STRENGTH	WEAKNESSES
<ul style="list-style-type: none"> • Proper climate conditions • Tradition • Good geographical position • Natural resources • Trade Agreements & relations • Organic farming potentials 	<ul style="list-style-type: none"> • Small farm size (family farm) • Inadequate production capacity • Low technical level • Land property issues • Insufficient vertical integration • Low level of marketing efforts • Low access to markets • Missing Market Information System (MIS) • Quality certification • Food safety
OPORTUNITIES	THREATS
<ul style="list-style-type: none"> • preferential schemes for exports • Increased demand for agricultural products • Increased interests for investments (emigrants) • Pre-accession funds (IPARD) • Governmental initiatives and incentives • awareness on the importance of horizontal integration is increasing 	<ul style="list-style-type: none"> • Competition from neighboring countries • EU market self sufficiency



The SWOT analysis above is the result of desk research as well as contact with exporting companies.

- Farm size

According to the latest Census of Agricultural Holdings (2012), more than 98% of the farms in Albania are family farms. The small size of farm and the lack of land market because of ownership problems are hampering increase of production in quality and quantity in the country.

In addition, number of farms decreased by 6% in 2015 compared to 2005 [8]. Immigration and emigration are the main factors that contributed to this significant decrease of the number of farms.

- Low *technical* level

Farmers lack the appropriate knowledge about production technology and the use of inputs and equipment. Farmers also often lack basic equipment, such as pesticide spray pumps that have the right technical standards to ensure the proper spray of pesticides, which is necessary to ensure quality and compliance with standards. Furthermore, farmers across sectors lack basic storage and/or postharvest capacity.

Albanian farmers faced automation's problem. There are still not enough/adequate number of modern machines/equipment for specialised processes. Existing owners of these agricultural machineries demand high prices from farmers for different automated agricultural processes such as ploughing, seeding, harvesting, transporting, etc. [4].

- Access to market

The agro-food sector as a whole is facing problems with creating market institutions, establishing marketing and distribution channels, meeting European Union quality and veterinary and phytosanitary standards, and building the administrative capacity to support these processes. The agro - food value chain may change substantially in the coming years, as the share of supermarkets in the retail sector increases significantly. In some agro-food subsectors, such as greenhouse vegetables and watermelons, production significantly exceeds domestic demand. Such subsectors need to be strongly oriented toward export markets. As mentioned, export markets – particularly the lucrative EU markets – are highly demanding in terms of standards. Improved vertical and horizontal coordination brings improved quality and safety standards, (including traceability) and efficiency. EU marketing standards also may be a problem in this respect, since most producers are not aware of the standards and do not meet them.



- *Integration among farmers*

According to discussions with farmers and buyers, and studies conducted in Albania informal agreements dominate contracting in agriculture. Awareness campaigns help farmers to understand that contract farming can contribute to the reduction of market-access risks, taking up innovative technologies, increased productivity and improved product quality. This may lead to higher incomes for small farmers and a better livelihood for their families.

Regarding horizontal cooperation, the main problems faced by farmers are critical determinants of their cooperation in Albania's vegetable sector. Problems include input provision, joint sale, agricultural machinery, advice, benefits from cooperation, perceptions of leadership availability, participation in former collective-action activities, and age. Low trust levels have a negative impact on farmers' decisions to cooperate.

The most prevailing collective action activities observed in a recent study [5] are the exchange of labour with other farmers, for example in harvesting products, rotating shepherds, etc. Slightly fewer than two out of three farmers (64.9 percent) participate in at least one such activity, while 40.5 percent of farmers participate (or have participated) in at least one collective agricultural production activity related to repair or maintenance of irrigation canals and rural roads, or similar tasks.

It is worth mentioning that still many farmers are reluctant towards the notion of cooperatives because of reminiscences to the communist past of the country. Still, more than half (53 percent) of the farmers are willing (they either agree or strongly agree) to cooperate with other forms of collaboration (in associations, for example) towards product marketing and the group/collective provision of agricultural inputs such as seed and seedlings, fertilizer, plant protection chemicals and other purchased inputs [5].

- *Standards and Food safety*

As a member of CEFTA, Albania enjoys a free access to markets of Bosnia and Herzegovina, Croatia, Kosovo, Republic of Moldova, Montenegro, Republic of North Macedonia, and Serbia. However, there is a lack of mutual recognition of certificates and test reports. Due to the implementation of the Stabilisation and Association Agreement between Albania and the EU, starting in 2006, preferential tariffs, often zero, apply for exports to EU countries. However, non-tariff measures such as technical barriers to trade (TBT) and sanitary and phytosanitary standards (SPS) might still represent challenges and limit expansion of exports [6].

There are gaps in food safety standards throughout the downstream food value chain. Albania faces serious problems with regard to food safety and respective control system. More specifically, these problems relate to legislation, infrastructure, institutional capacity, control, and law enforcement. These problems create real and perceived safety risks for consumers. Such problems are most notable in meat and dairy products [6]. The dairy sector still faces numerous



challenges. First, there are concerns about the safety and quality of raw milk and processed dairy products [7].

- Access to finance

Access to finance is one of the key factors that condition growth and modernization of the agriculture sector. Despite the macroeconomic stability in the last 15 years, access to finance has been a major challenge for agriculture sector development in Albania. Indeed, a strong macroeconomic framework is necessary, but it is not sufficient. Other preconditions for functioning financial markets may still be inadequate due to insufficient focus given to developed institutions. Despite the importance of the agriculture sector for the Albanian economy, the share of credits provided to agriculture and fisheries has been historically extremely small (roughly, 2 percent of total credits of the banks to the private sector).

4. Trade for agricultural products

As shown in Table 2, in 2019 the trade turnover of basic agriculture products was around 235 million euro, with an increase of 17.0% compared to 2018. The exports and imports of basic agriculture products increased respectively by 25.1% and 15.4%.

Table 2: Trade indicators (in million euro)

Description	2018	2019	2020	Index 2020/2019
Export	33,988	42,084	44,332	105.4
Import	169,324	193,010	178,304	92.2
Turnover	203,312	235,094	222,636	94.5
Balance	-135,336	-150,926	-133,971	88.5

Source: Authors calculation based on Ministry of Agriculture and Rural Development data

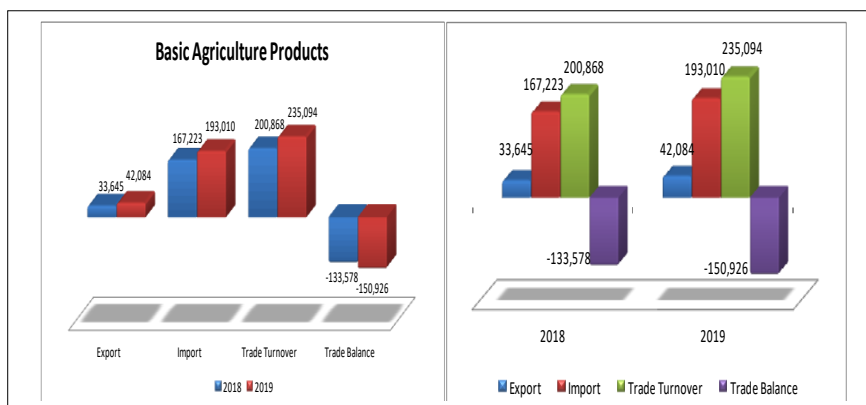


Figure 2

Trade of basic agriculture products 2018-2019

Source: Our calculations based on INSTAT data

4.1 Export of basic agriculture products to EU countries

The sector, which shows the best performance (after MAP), is vegetables, for which it is observed a significant increase in exports. We have to mention that in 2000 trade for those products was almost inexistent, Export import ratio for food and agriproducts is increased from 11.7 in 2005 to 25,2 in 2016 [8].

Vegetables make up one fifth of the total agro food exports in 2015, compared to only 3 % in 2005, and fruits make up 10% , compared to only 2% in 2005 [8].

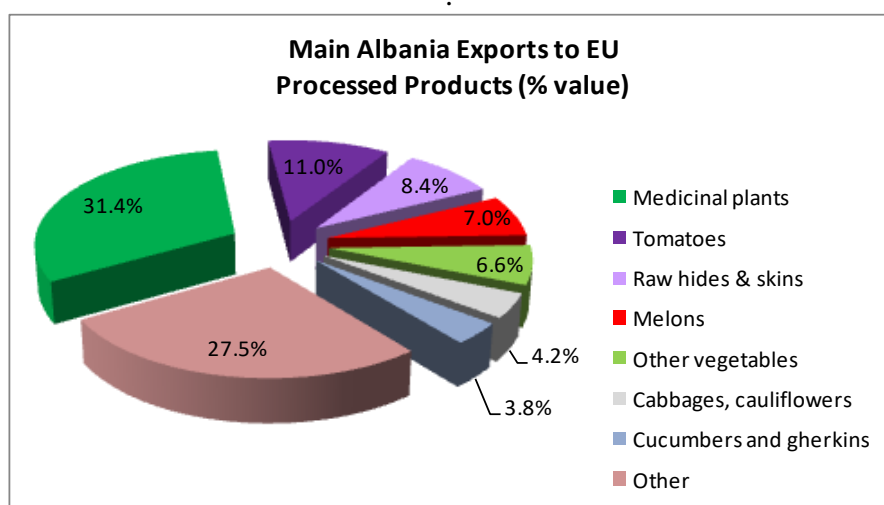


Figure 3

Main exports to EU market (2019)

Source: Our calculations based on INSTAT data

“Medicinal plants” even during 2019 continue to have the highest specific weight in the total exports of basic agriculture products, with a share of 31.4%. The export

value of this group increased by 12.1% compared to the same period in 2018. The second most exported group of products is “fresh tomatoes” (code 0702) which account for 11.0% of the total exports. The export of this group of products increased by 23.3% in 2019 compared to 2018. The export of this group of products continues its increasing tendency from previous years showing that Albania has a great potential in increasing export of this product. The third most exported group of products is “Raw hides & skins of bovine/equine”. The export of this group of products increased by 42.0%. For 2019, this group accounts for 8.4% of the total exports. The other most exported groups of products include: “Melons (including watermelons)”, “Other vegetables, fresh or chilled”, “Cabbages, cauliflowers, kohlrabi, kale and similar edible brassicas, fresh or chilled”, “Cucumbers and gherkins, fresh” which respectively account for 7.0%; 6.6%, 4.2% and 3.8% of the exports in 2019. The export of “Other vegetables, fresh or chilled” and “Cabbages, cauliflowers, kohlrabi, kale and similar edible brassicas, fresh or chilled” increased by 70.2% and 223.5% respectively.

The export of “tobacco unmanufactured/ tobacco refuse” for 2019 decreased by 47.2% accounting for 2.1% of total exports of basic agriculture products from 5.0% in the same period in 2018. The level of export of processed agricultural products to EU markets continued to remain very low compared to imports’ value originating from the EU Member States. For 2019 exports’ value covers only around 2.9% of the total imports’ value because the agro processing industry is still under development and mainly focused in meeting the domestic demand. .As a result the trade volume increased also by 10.5 % and the trade balance deteriorated by 9.5% as the imports represent 97.2% of the trade turnover.

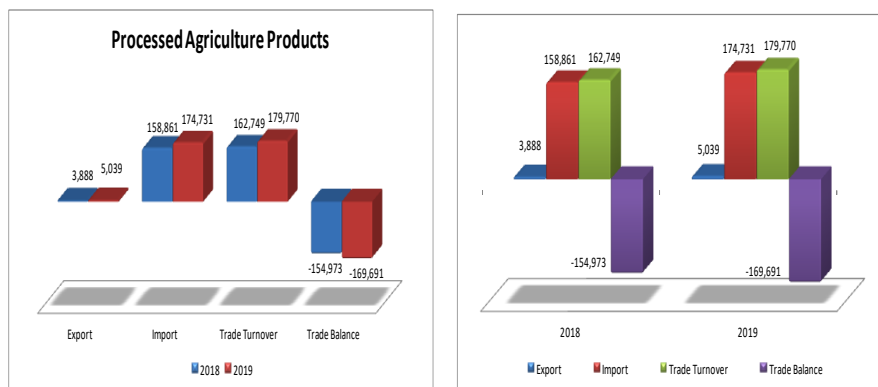


Figure 4

Trade for processed agricultural products

Source: Our calculations based on INSTAT data



5. Government policies to support exports and investments

Actually, there does not exist any dedicated strategy for export promotion in Albania. However, agriculture one of the priority sector for economic development of the whole country. According to the National Strategy for Development and Integration 2014-2020, challenges in this sector include:

- Enhancement of competitiveness of agriculture and agro-processing in national, regional and global markets;
- Enhancement of farm size through land consolidation and land market development;
- Improvement of the technology and innovation transfer system through extension services;
- Further improvement of infrastructure in agriculture towards sustainable use and management of natural resources and mitigation of climate change;
- Improvement of basic and recreational services, and
- Diversification of the activities that generate income in rural areas.

Strategic priorities and objectives: Foster a viable, high quality food production by developing a competitive and innovative agro-food sector, able to sustain the competitive pressure in the domestic and EU markets and meeting EU standards and market requirements

Main governmental initiatives are the following:

a. 1 Euro leasing of state own land

According to this initiative, the land rent is of 1 Euro:

- **Up to 10 years**, when it is destined for the cultivation of plants, herbs and decorative plants;
- **Up to 30 years, when destined for:** creation and cultivation of vineyards; fruit trees; construction of greenhouses and cultivation of plants in them;
- **Up to 99 years, when:** intended for the cultivation of olives; fruit trees, such as crops and other species, age biological properties of which coincides with this duration;

b) Additional fiscal incentives

Machineries and equipment is used in agribusiness, fertilizers, pesticides, seeds and veterinary services are VAT exempted. Exception of excise for fuel used in fishing boats and reimbursement of excise for the fuel used in greenhouses

In addition, from 2017 the government increased visibly its budgetary support for agriculture, with the inclusion of support schemes implemented by the Agency for



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Agricultural and Rural Development (AARD), IPARD II, foreign investment, farmer formalisation and construction of collection and distribution centres. Financial schemes and the support from new technologies has contributed to the creation of new fruit orchards and boosting of produce/crops from certain subsectors. Agricultural production has increased in average by 3% the last few years. Increase in yield has been most notable in grapes, potatoes, milk, eggs, and fruit. In addition, dairy production increased by 21% while other agricultural crops/products by 10%. The main agricultural products in Albania are olives, and nuts. [1].

Some figures about financial support are following:

IPARD Program: 94 million Euro Grant 2016-2023 (50-60 % of the investment), financed by European Union (75%) and the Albanian government (25%) [9].

Driven by EU IPARD program, a total of about \$ 161 million will be invested in agriculture sector until 2020. From this sum, about \$ 94.3 million is public aid (EU & Government of Albania), and \$ 66.7 million as private investment.

National support scheme: 20 million euro Grant in 2018, from which 4.1 million euro exclusively for agro-processing. National Fund of warranty in Agriculture: 136 million euro warranty to get loans from the Banks, with the support of EBRD [9].

Support of agro-tourism: The initiative “100 Villages”. The Albanian government lunched the “100 villages” initiative in 2018. The list of the 100 villages is part of the Integrated Rural Development Program. This initiative consists of a four-year program that aims at providing financial support for infrastructural, economic, and sustainable tourism development. The list of these villages includes places known as tourism destinations. [9].

Agriculture and SARS COV 2

SARS COV 2 affect agriculture as all the sectors of Albanian economy. The overall impact of SARS-CoV-2 on the Albanian agricultural sector is difficult to assess but based to information from Ministry of Agriculture and Rural Development it tends to be limited.

The impact can be direct (on production and exports), and indirect (remittances).

In particular, out of home consumption declined drastically while food demand of private households might have even increased. While world wheat prices increased, prices for maize declined [10]. Quantifying the net effect of demand shocks and global price developments for the sector needs further analysis. MARD has declared that there is not any negative impact of SARS COV 2 on production and exports of agriculture products. Despite border closures and restrictions of human mobility



trade flows of agricultural commodities have been affected to a limited extent and only temporarily [10].

Restrictions of public life and economic activities in Italy and Greece potentially affect Albanian rural areas through a reduction of remittance flows [10].

Conclusions

Agriculture remains one of the largest sectors in Albania with a significant contribution to GDP and employment. Actually, its contribution to GDP is around 20% while it accounts for more than 40% of the overall employment. The latter is due to the small farms size and low degree of commercialization and mechanization.

Despite the difficulties and challenges faced, significant potentials for exports of agricultural products exists especially for fruits and vegetables, greenhouses, nuts, medicinal and aromatic plants. Exports of these products can increase through a more aggressive export promotion strategy. In addition, a further increase in product quality can contribute to the diversification of exports destination and enhancement of the respective revenues.

Emigrants are considering investments in the country during last years. Successful farms are being operated by returning migrants, who bring their savings and know how increasing export potentials of the country. The Government has undertaken a reform regarding land titles, but still the situation of land titles is unclear, which in addition to informality are hampering the investment of emigrants and the FDIs.

One of main challenges the exports market is facing are the standards of commodities, which tends to enter EU markets. Thus, improved standards are “a must” in order to improve access to export markets, particularly European Union, which markets are very demanding. Improved vertical and horizontal coordination can contribute to the fulfillment of quality and safety standards requirements (including traceability) and to expansion of efficiency. However, Albanian producers need to be aware about the EU marketing standards.

Improved both vertical and horizontal integration of farmers is necessary. Actually, awareness campaigns are in place to promote the role of contract farming to reduce market-access risks for farmers and to lead to higher incomes for small farmers and a better livelihood for their families. Regarding horizontal cooperation, low trust levels have a negative impact on farmers’ decisions to cooperate. Training and extension activities should intensified for re-establishing and strengthening producer’s orientation at market conditions in terms of quality and quantity.

Access to finance is one of the major challenges for the agriculture sector development in Albania. Low access to finance hamper growth and modernization of the agriculture sector. Despite the importance of the agriculture sector for the Albanian economy, the share of credits provided to agriculture and fisheries is still small because of the risk retained by the sector.



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Recently, the Government increased the budgetary support for agriculture, with the inclusion of support schemes combined with EU, IPARD II funds. Financial schemes and the support from new technologies has contributed to the improvement of quality and quantity of products. But still, Access to state subsidies is hampered by a number of factors, including high levels of bureaucracy, lack of information, and gaps in transparency in the application procedure and in the distribution of grants.

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Comparison of Last Crisis in the Point of View of Cycles and Crisis Management

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Abstract: Facing another crisis that is not only affecting our economy, but rather the goal of preserving our health, so curbing the pandemic is a priority. However, this is not possible without a continuous response to the economic crisis. Thanks to the rapid response of the nations, the economy was able to overcome its initial difficulties. Unfortunately, this is not yet a reason to restart the recovery, as new restrictions are coming into force day by day. Regulation is causing huge losses in many sectors and rising unemployment is spreading rapidly. People are also suffering from the changed situation and there has already been a loss of confidence, which is an aggravating factor for the crisis. Unfortunately, we do not anticipate the depth and length of the crisis, but based on statistics, the outlook is not very encouraging. The right leadership decisions, interventions and cohesion are needed to recover from the crisis. It can be a big question for us whether we can really anticipate a crisis, whether it can be prevented by taking the right measures, with the right preparedness, or whether we will only realize when it has already happened and try to mitigate the serious consequences. What are the factors that always appear when a crisis develops, and what are the factors that exacerbate it? However, we must also not forget that by experiencing a crisis, we can always learn something new, fix the faults of the old system and improve a lot while looking for a solution.

Keywords: crisis, cycles, COVID, change management

1. Economic cycles and their characteristics

Economic and business life is characterized by constant change, which we experience every day. Forecasts play an important role in economic life, and we can examine them through cycles. They help shape economic policy and strategy, signal the expected evolution of economic life, and provide an opportunity to prepare for turning points. Throughout history, there have always been repetitive processes, economic booms, and recessions. Examination of cycles is also essential in this



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respect, as continuous observation can avoid lows, ups and downs, and alleviate stagnation or depression.

“The business cycle is an economy-wide fluctuation in gross national product, income and employment, usually lasting two to ten years; while there is a general recovery or decline in most sectors of the economy. ” (Samuelson - Nordhaus 2012, p. 388).

Cycles can be examined from several perspectives. Based on its phases, we can divide it into two major parts, distinguishing a period of expansion (boom), when output, consumption and national economic prosperity increase in the economy. This is called expansion or recovery. The other phase is the period of recession (downturn), when output decreases, which is known as the recession, the period of decline. Thus, the economy is characterized by fluctuations as a function of time. From the outset, economics has sought to explain market phenomena and seeks answers to questions about what can cause various fluctuations and how to mitigate its harms. In summary, “the aim of business research is to observe the changes and movements of economic life as numerically as possible, to explore the connections between the individual phenomena, to evaluate them statistically, and to deduce their future development in addition to determining the current state of economic life” (Andreich 1937).

Short-term fluctuations, although called cycles, are actually irregular. No two cycles are exactly alike. Therefore, we cannot determine an exact formula for the length of the cycles, and the time of their occurrence is also uncertain. Aside from the fact that the cycles are different for each, we can often discover similar traits during a recession. Such characteristics may include declining investment, shrinking employment, slowing inflation, declining output, declining demand for goods, falling business profits, or deteriorating business conditions. (Samuelson - Nordhaus 2012)

We can also group economic fluctuations, there are random fluctuations that do not show any regularity, the causes cannot be systematized. These fluctuations are not addressed by business theories. Random fluctuations are followed by fluctuations with a regular rhythm, which can be limited, but are not of economic origin. These are already cyclically repetitive deviations from the trend, but cannot be traced back to economic reasons. The third group is cyclical fluctuations, also known as cyclical fluctuations, which are cyclical deviations from the trend of economic origin, where we can already discover a causal relationship between the descending and ascending branches. Depending on the area of application of the cyclical movement, business cycles, financial cycles, agricultural cycles, and industrial cycles may appear.

Business cycles are grouped according to their duration:

- Kitchin cycle (10-40 months periodicity),
- Classic business cycle (every 8-10 years),



- Kuznets cycle, (18-20 years period),
- Kondratyev's long cycle (40-60 years cycle),
- Super long cycles (150-200 year cycle).

Cycles can also be examined for root causes. There are overproduction and underconsumption cycles that result from differences in production and consumption. Economic policy cycles are shaped by government decisions. Monetary cycles affect the demand and supply side of the macroeconomy. Investment cycles are based on committing money, making investments, achieving results and the time lag between them. The cycles caused by the procurement of durable consumer goods result from irregular shopping habits. Finally, political cycles can be linked to elections, and economic cycles can be observed for the same period between elections. (Katits - Pogátsa - Zsupanekné 2018)

1.2 Preventive indicators in economic forecasts

After the recognition of the business cycle phenomenon, it has become more and more common in developed countries to study business cycles. They are characterized by business cycle indicators and indicators. These are mostly variables whose turning points are closely related to turning points in the aggregate performance of the economy.

Economic interactions seek to maintain a state of equilibrium, if this equilibrium is upset by some external or internal factor, the attempt to restore the original state of equilibrium in economic life begins. The problem is caused by the fact that the economy cannot stay in its equilibrium state, there are always outbursts and differences. Cyclical movements are caused by different reaction rates of different economic factors, each with different adaptability. The turning point is induced by the fact that the economy deviates from the equilibrium state, so the counterforce forces work more strongly to bring the economy back into equilibrium or to move in the opposite direction. It is important to observe how often the cycles are repeated, these can be classified by periods. Different periods denote different equilibrium points, due to the fact that goods and economic goods perform their economic functions at different times. (Kehl - Sipos 2007)

Based on the theory of Kondratyev (Kondratyev 1980), a Russian economist, and also Russian, Nobel laureate Kuznets, shorter- and longer-term equilibrium types were divided into 4 levels. The essence of the theory is that for cycles of different lengths, other economic goods are always considered unchanged, their time-lapse means the length of a cycle. These Kondratyev cycles are also characterized by globality, they affect the entire world economy, and they are not only observable in the economy, we can discover them in demography, politics, art, literary trends, schools, and so on.



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Based on the international literature, we distinguish these four cycles:

- Kitchin cycle (inventory or inventory cycle), 3-5 years;
- Juglar cycle (permanent investment cycle), 7-11 years;
- Kuznets cycle (construction cycle), 15-25 years);
- Kondratyev cycle (long or wave cycle), 45-60 years.

The relationship between the cycles is best illustrated by choosing the appropriate average of the lengths of the cycles, such as the Kondratyev cycle at 54 years, the Kuznets cycle at 18 years, the Juglar cycle at 9 years, and the Kithin cycle at 4.5 years. .

1 Kondratyev cycle = 3 Kuznets cycle = 6 Juglar cycle = 12 Kithin cycle

Thus, we can state that cycles of different lengths coexist, mix and meanwhile reduce or increase the amplitude of the ripple. (Sipos 2005)

The turning points of the indexes of co-moving indicators indicate approximately the peaks and troughs of the reference time series. Based on this, it can be determined in which phase the business cycle is actually.

The best forecast is provided by the preceding indicators, as the maximum and minimum values of its indices constantly precede the peaks and troughs of the business cycle over a given period of time, so these indicators start to increase or decrease earlier than the business cycle curve. (Kiss 2002)

Thus, the monitoring and research of indicators is beneficial for the economy, their calculation and practical application can be fully justified. The results provide useful information on the development of business cycles. However, it is not enough to observe the indicators, we cannot draw appropriate conclusions from them. It is also worth examining whether the predictions were indeed correct, whether they were the same as reality, and whether our calculation was correct. Only then can a correct conclusion be drawn about the given period

1.3 The reasons of 2008 crisis

The 2008 economic crisis started in the United States. Unfortunately, the crisis was not caused by chance, but by the activities of a runaway sector, the financial sector. There has been no comparable global economic crisis since the 1930s.

The financial crisis is causing the biggest turmoil in the financial system, which is hampering the interaction of the economy between those who want to save and those who want to borrow or invest. The deepest recessions in history have followed the failures of financial systems. Financial crises are not all the same, but we can discover commonalities in them. According to Mankiw's study, six such elements



can be highlighted, which have been at the heart of most financial crises, we can also call them the causes.

1. Asset-price boom and bust: A period of optimism often leads to a significant rise in asset prices, which is what precedes an economic crisis. Many times we experience an increase in the price of assets that exceeds their true value. In this case, the asset market swells into a speculative bubble. (Czeczeli 2019) Later, when the period of optimism turned to pessimism, the bubble burst and prices began to fall. Falling asset prices are a catalyst for the economic crisis.

In 2008 and 2009, the most important asset market was real estate. In the United States, average home prices began to rise sharply at the beginning of the decade. This was made possible in part by loose lending rules, with banks providing high-risk loans to investors with almost no hedge fund. In essence, the financial system did not do its job of handling asymmetric information by providing loans to many borrowers who later found out they would have trouble paying off their mortgages. The urge to buy a home was also stimulated by government policy, accompanied by excessive optimism from home buyers who believed that house prices would rise forever. However, this state of growth proved unsustainable. Later, the number of landlords who could not repay their loans began to rise and the desire to buy a home gradually decreased. Between 2006 and 2009, house prices fell by 30%. The American nation has not seen such a drop in house prices since the 1930s.

2. Insolvency of Financial Institutions: A significant decline in asset prices can cause problems for banks and other financial institutions. In order for borrowers to repay their debts, banks ask them for collateral so that they can seize these values in the event of non-payment. However, when the value of these assets decreases, the value of the collateral will also be less, thus not covering the value of the loan provided by the bank.

Banks also rely heavily on leverage, ie the use of borrowed funds for investment purposes. Leverage amplifies the positive and negative impact of asset returns on a bank's financial position. In the United States, commercial banks sought to maintain fixed leverage, so as asset prices rose they deliberately increased their debt stock. (Berlinger - Horváth - Vidovics 2012) It is essential to pay attention to the leverage ratio, the ratio of bank assets to bank capital, because a bank can easily become insolvent. Widespread insolvency within the financial system is the second element of the economic crisis.

3. Loss of trust: The third element of the economic crisis is the decline and loss of trust in financial institutions. Not all deposits with banks are properly regulated. As the insolvency progresses, each financial institution all becomes a potential candidate for the next bankruptcy. Individuals are beginning to withdraw their capital in turn, resulting in the cessation of banks' cash reserves.



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In 2008, the financial system was gripped by great uncertainty, it was not possible to know where the insolvency would stop. The collapse of giants like Bear Stearns and Lehman Brothers has terrified people as to whether other big financial companies like Morgan Stanley, Goldman Sachs and Citigroup will suffer a similar fate. The problem was exacerbated by the interdependence of companies. Since they had plenty of contracts with each other, the termination of any of them would have dragged all the others with it. Furthermore, due to the complexity of the arrangements, depositors were unsure of the vulnerability of some firms. The lack of transparency fueled the crisis of confidence.

1.4 How is the current situation different

The 2008 crisis has been ringing for years, driven by increased risk appetite due to low interest rates, triggering an irresponsible lending process in real estate markets both in the United States and later in Europe. The crisis first erupted in America, spilling a mass of non-performing loan packages into the global banking system, leading to a liquidity crisis. Not long after, the bursting of the credit bubble hit Europe as well. Most banks have all found themselves in crisis, lending has become almost impossible, people's confidence has shaken, GDP has begun to fall sharply and the number of unemployed has risen sharply.

The previous crisis was slower in time, gradually appeared in the economy and its effects became apparent later. In contrast, the crisis caused by COVID-19 came suddenly and overturned our lives and, with it, the economy overnight. This is because closures had to be resorted to to stop the epidemic. This had an immediate effect on both the decline in consumption and the rise in unemployment. The biggest problem was in the service sector, as many institutions had to close, such as restaurants and hotels, left without guests. Tourism has almost disappeared, so airlines have been forced to shut down as well. Shipping was also difficult to deal with, broken due to supply chains, border locks and entry bans. (Hardi - Szapáry 2020)

However, the biggest test is the health care system, as it requires equipment, tools and capacities that could not be prepared for. The number of patients is growing rapidly and the virus is claiming more and more human lives.

"Although the current fluctuations in stock market trading are similar to those of the 2008 crisis, the recent global downturn has not been so extreme and rapid: the economy has now frozen extremely fast and growth has stalled in almost all sectors," said Frigyes Schannen, Roland Berger is his Hungarian partner.

To save the economy, governments have created economic rescue packages. The majority of packages significantly exceed the number of packages deployed in 2008, but this is also needed. The speed of action by governments and the scale of rescue packages are noteworthy.



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Although it may be a great advantage that some governments already have experience in dealing with economic crises, we cannot solve everything on the model of the previous crisis, the concrete measures must be adapted to the current situation. Governments must first and foremost preserve the health of the population, so measures to promote health and economic recovery must be balanced. (Roland Berger 2020)

When the crisis arose, Member States reacted individually, as there was a need for effective health care management, which temporarily put national interests first. It is also clear that decisions by Member States are taken much faster than decisions by EU bodies. Here, however, the Member States of the Union all faced the same problem, were unable to provide health care (lack of doctors, equipment), did not have strategies developed for the epidemic situation, and procured the means to defend themselves. (Szijártó 2020)

Individual action by Member States initially generated conflicts, disrupted the single internal market, and distribution and procurement difficulties also created tensions between Member States. The situation was also exacerbated by forecasts of economic downturns.

2. How it affects people

The COVID pandemic is not only having a severe impact on the economy, but is also putting the daily lives of our entire society to the test. It is difficult to cope with the situation that we have to adapt to a completely different living conditions overnight, our usual agenda, our tasks are completely overturned; we cannot meet our friends, certain members of our family, relatives, as we have become accustomed to so far.

We conducted a poll using a questionnaire survey to get a comprehensive picture of how people's lives are affected by the epidemic, whether adverse effects, consequences are already visible or will only be felt later.

I can group the questionnaire into five aspects of the questions. The first part concerns personal data, we can find out the person's gender, age, place of residence and education. The second part, examining his occupation, reveals whether the sector in which he works is affected by the coronavirus situation, whether it has had an impact on, or even lost, a change in his working conditions. In the third part, we can observe changes in shopping habits, what people spend on, whether priorities in terms of shopping have changed. The fourth part asked him about the examination of personal relationships, this question concerns the quarantine period. Finally, in the fifth part, I compared the health and economic risks with the help of the questionnaire, who considers what a greater risk opportunity, maintaining their



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health or ensuring their livelihood, and whether the economic crisis caused by the coronavirus can be felt for them.

I distributed the questionnaire on the community interface so that it would be accessible to everyone, I would reach more age groups, and the survey could show as colorful a picture as possible. A total of 87 questionnaires were received for the questionnaire, of which 55 were women and 32 were men, all of which were evaluable. The majority of the respondents belong to the age group of 20 to 35 years, their distribution is shown in more detail in the figure.

Only 36% of workplace conditions were not affected by the virus in any form. Working conditions have mostly changed everywhere. Based on the employment sector, most workers in services and trade have lost their jobs or been disadvantaged due to fewer shifts and wage cuts.

For this study, I categorized the responses received into five groups according to occupation: the group of those working in the public sector, services, trade, industry, and agriculture. The service sector consisted mostly of those working in hospitality and tourism, based on the respondents. Based on the data and announcements of the CSO, the result of the questionnaire can be supported, according to which due to the intensive decline in demand in the sectors most affected by the COVID-19 epidemic, employment decreased significantly and unemployment increased. In the first half of 2020, the average number of employees decreased by 75 thousand compared to the average level in 2019. The number of jobseekers increased in March each year, but in the spring of this year it diverged markedly, and the number of unemployed also increased in terms of trade, hospitality, intangible services and industry. Most employers saw the economic downturn as only temporary and retained some of the workforce at the cost of material sacrifices. According to the questionnaire, it is encouraging that those who have lost their jobs have already managed to find another job, but this was mostly possible in another employment sector. There was also an example of workers being recalled to their previously lost jobs.

In the evaluation of the questionnaire, I examined the effect on the change of the employment relationship based on the theories of the relationships of statistical relationships. The question of whether gender, age, place of residence, or education among respondents completed a change in employment shows a relationship. We distinguish these relationships on the basis of the types of criteria inherent in them. In the case of an association relationship, both criteria are qualitative.

The results of the examined criteria showed a weak relationship in all cases, as the values of the indicators ranged from 0 to 0.3. The calculation can be found in Annex 2. Thus, it can be concluded that the change in employment was not influenced by the age, gender, place of residence or education of the employees based on the calculations. This is supported by the fact mentioned above that the restrictions and sector shutdowns introduced due to the virus had an impact on the change in



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employment, and not education or greater experience was decisive for job losses and changes.

In the last part of the questionnaire, I wanted to compare economic and health risks, who considers what is a greater risk. 65.5% of respondents believe that the collapse of the economy is a greater threat than the collapse of health care. However, 85% consider health more important

Conclusions

Based on the literature search and primary research, several conclusions can be drawn about the importance of examining economic cycles and effective crisis management. The questions raised in the introduction are also answered during the writing of the dissertation.

We must first prioritize the importance of examining economic cycles. During the examination of the cycles, the change of economic processes can be monitored. This provides an opportunity to develop the right strategy in the event of a crisis. Cycles can be examined in a number of ways, such as by duration, phase, or cause. The turning points are monitored with the indicators of a developed indicator system, which helps to prepare for unexpected situations. A crisis can only be avoided if we are aware of the current phases of the cycles and the right intervention is taken in time to avoid a recession. Cyclical phenomena can be observed not only in our economy, we can also discover these repetitions in our everyday lives, even as the seasons change. These cycles teach us that there will always be recurring phenomena, crises. However, we need to be able to accept these changes and learn to adapt to them. If we recognize the importance of examining cycles and learn to make good use of the knowledge and resources we have, we can be prepared for a new situation, be it an economic crisis or a difficulty or challenge affecting our personal lives.

Examining crises, it can be seen that rising unemployment, declining GDP and loss of confidence are the three factors that always appear when a crisis develops. These factors may also increase the scale of the crisis.

Signs of mistrust appear already at the beginning of the crisis and later greatly enhance the depth of the crisis and the success of its management. Building trust is not an easy task, but you can lose it in almost no time. Trust is based on stability and credibility. The harmonious functioning of the market and the state can only be formed on the basis of trust. The loss of confidence will lead to depreciation, capital withdrawals and cessation of investment, which are also present during the 2008 and current crises and will increase the depth of the crisis and hinder the restoration of economic balance. Trust is therefore a key factor in both the development and management of a crisis, as it has a direct impact on business development, which is the driving force of the economy. I would also like to support this statement with the dissertation of Vadasi Aida (2009).



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Both networks and trust are based on common norms, which must be accepted by members of a given community in order to be mutually expected to adhere to each other. Only after the adoption of norms can trust become common among members of an economic group. Trust also means taking risks. Two types of trust can be distinguished: trust between individuals and trust in institutions. If the political, social and economic functions function properly, they will further strengthen the willingness to cooperate, as well as the trust itself. However, without the binding force of economic communities, we get poor economic results, and mistrust can lead directly to corruption. (Vadasi 2009)

The growth of the economy depends on the recognition of common interests and values between businesses, which also increases the level of trust and the willingness to cooperate. Mutual support is needed not only in the hope of growth, but also in times of crisis, with established relationships of trust, we can support and help each other to recover from the recession. The growing impact of globalization also requires the co-operation of societies and corporate networks, so that the growth of high-level social capital and trust can start more widely. The level and types of trust are influenced by societal expectations, which have a direct impact on economic decisions, including the economy itself. "Opinion is not the cause of performance, but performance becomes dependent on prejudice. This is as true for relationships between individuals as it is for collaborations between groups of people, including economic collaborations." (Vadasi 2009 p. 68.)

In summary, therefore, positive expectations and trust-based decisions have a stimulating effect on the economy, while negative expectations stemming from a lack of trust and a lack of cooperation hamper decisions that help the economy grow. It is therefore particularly important in times of crisis not to lose the trust that has developed and to trust the recovery of the economy.

The rise in the unemployment rate was also brought to our attention by Okun's law. At the time of the 2008 crisis, there was a significant mass redundancy, with the unemployment rate taking on a value that was unprecedented decades ago. The economy suffered huge losses, as despite the official start of the economic recovery in June 2009, GDP growth remained subdued and unemployment was barely declining. The current crisis is particularly relevant in this regard. The questionnaire also revealed that certain sectors, such as services, trade, tourism, but also the car industry, are falling victim to the restrictions caused by the epidemic and suffering huge losses. There is a need for subsidies and measures to help keep jobs. The goal is for companies to lay off as few workers as possible. This will allow demand to pick up again, customer confidence and confidence to return, and investment to resume. Only in this way can economic processes start to grow again, and so we have a chance to overcome the crisis as soon as possible.

Comparing the two crises: The 2008 global crisis was financially based and in many respects acted as a novelty to economic thinking. It started from the United States,



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considered the most developed economy in the world, and reached the whole world. The crisis was mainly caused by the collapse of the US mortgage market, but this was due to a lack of regulation, deregulation of markets and global interconnection. This crisis has highlighted the fact that belief in market omnipotence and market forces alone are few to avoid a crisis. Therefore, immediate interventions and re-regulation of the economy were needed. The measures taken also served to prevent a further crisis so that such a recession would not occur again and the serious consequences of the lack of regulation were avoided.

The current crisis is not financially based, it is caused by a global epidemic that is very dangerous for humanity. The epidemic almost immediately paralyzed our daily lives and with it our economy. Immediate intervention was needed, primarily to stop the epidemic. However, the measures and restrictions introduced also directly affected the economy. Signs of the crisis are already being felt, in particular putting great pressure on unemployment. The decline and complete cessation of sectors is threatening the jobs and livelihoods of many people. To successfully cope with the situation ahead of us, we will need a well-developed crisis management plan and experience from decision-makers. In order to save the economy, it is essential to deploy rescue packages, maintain confidence and restore economic balance. There is also a need for people to be disciplined to follow the rules.

Active crisis management techniques are recommended for decision makers for the next crisis management period. This method of crisis management is present in the early detection of a crisis and helps to prevent the crisis from deepening. In the course of crisis management and the study of crises, we have learned that it is worthwhile to have a crisis management plan and the necessary reserves so that we can act effectively against the crisis and intervene as soon as possible, thus mitigating the damage and consequences of the crisis. In the period ahead, decision-makers and our leaders have a responsibility to take steps to stimulate economic development, to help companies survive, to keep jobs and to keep people healthy. The process of preparing for change needs to be defined, which requires thorough analysis and expertise, but is a key factor in successfully overcoming the crisis. As a first step, I consider setting priorities to be the most important task. The first must be to save human lives, so health care and its smooth operation must be ensured. This requires an adequate number of doctors, nurses, protective equipment, tools, and expansion of hospital capacity. Retaining jobs is another priority. Companies need to be supported through wage takeovers, investment opportunities and the suspension of loan obligations. Primary research also revealed redundancies as a consequence of downtime threatening the sectors. Retraining could be launched to provide employment opportunities for the majority of people, thus supporting the expansion of health capacities. In the questionnaire, several mentioned a significant rise in prices, a drop in demand and rising inflation as a tangible sign of the crisis. The rise in the price of basic foodstuffs can place a particular burden on citizens who lose their jobs.



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During the first wave of the epidemic, shops rushed in because people feared that adequate food would not be available later. Most traders took advantage of this, working with huge margins to make a profit. As a solution to this, I propose the introduction of official prices for basic foodstuffs, so that continuous price increases can be stopped and access to food is guaranteed for everyone.

Once priorities have been set, there is a need to reallocate financial resources. Government subsidies and rescue packages, as well as loans, should be used to support the functioning of health care, the survival of companies, the retention of jobs and the prevention of economic downturns.

Expectations of economic processes are affected by the re-emergence of the epidemic. With the strengthening of the second wave, the economic downturn can no longer be considered temporary. The prolongation and severity of the epidemic complicate the recovery process. As the crisis does not affect different sectors in the same way, recovery is expected to take place at different rates.

Changes during crises always bring something new, we can learn from every crisis. With the experience we have gained in crisis management, we can become more and more, and we can already apply this experience in a new crisis. Based on the cycles examined in the dissertation, it is certain that there will always be booms and busts in the economy, but the depth of crises will be determined by the speed of recognition and the extent of interventions.

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Economic Growth Models and Their Effects on Pension Security

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Abstract: The system of correlations and laws determining growth can be called the mechanism of economic growth, in short the growth mechanism. Accelerating economic growth is one of the European Union's most important challenges. One of the most significant social changes threatening the Member States of the European Union is the severe aging of the population and its current and expected impact on economies and citizens' pension security. Numerous studies show that the state pension will not be sufficient to fully cover the expenses of retirement age. In order to maintain the level of pensions, it is expected that in addition to the state pension, it will be necessary to provide some savings for pension purposes. The lecture and the related study consist of three parts. The first part presents the current and future development of the population of the European Union on the basis of demographic and statistical data and its economic effects on the development of public pensions. It also briefly summarizes the possibility of modeling the state pension system, which provides information for economic policy. The second part describes the forms and possibilities of financial savings, with special regard to the possibilities of pension savings. The third part presents the theoretical foundations of the research project "The Role of Self-Care in Our Lives" and the results of related economic research on questionnaire behavior.

Keywords: pension modeling, pension security, financial investments, pension savings, behavioral economics

1 Introduction

The current economic environment requires greater attention from decision-makers in organizations, as their decisions can have a major impact not only on the short-term but also on the long-term future of their organization. A bad move can cause significant damage, but a good, well-informed decision can even lead to long-term success. A long, disease-free and fertile life is the desire of all of us. Compared to our predecessors, we can live today for an unprecedented time. Today, one of the most significant social changes threatening the Member States of the European



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Union is the severe aging of the population and its current and expected impact on economies and societies. We now live far longer than any time before in history (Iván, 2004, Thaler, 2019, Hans - Ole - Rosling, 2018). Globally, the world is shaken by three major explosions by the beginning of the 21st century: the population explosion, the longer-lived explosion, and the information explosion (Iván, 2004). The problem of population explosion, longerevity and the associated aging society will affect the whole world in some social, economic and other way. According to United Nations (UN) demographics, the Earth's population appears to be growing (developing countries, where many live in deep poverty), but the industrialized countries are declining (United Nations, 2015, World Economic Forum, 2019).

The population of Europe and Hungary has not been growing for a long time, but is decreasing and aging according to the calculations. Population aging is questioning the capacity of societies to adapt to ongoing demographic change. With improved living standards and better health care, life expectancy at birth is also steadily rising around the world. By 2050, the proportion of people aged 65 and over will double from the current 10% to 20%. By 2050, the older 80% of the world's population will live in low-income countries, which will mean about 1.3 billion people, and 70% of the world's population will live in cities. According to Figure 1, the main economic factors for the future will be cities: by 2050, 70% of the world's total population will live in cities (European Commission, 2018). The issues of global urbanization and environmental challenges and the problem of an aging (rapidly aging population) society raise the question of whether current pension systems will be sustainable and whether people will have an adequate level of pensions in the future (European Commission, 2020).

2 The effect of aging on economies and pension systems

On 11 July 1987, the world population passed the five billion mark - since then the figure has risen steadily to 7.7 billion in 2018. According to the International Monetary Fund (IMF, 2020), the largest share of the world population lives in China with 18.7 percent, followed by India with 17.88 percent. With a population of 83 million, Germany also ranks among the top 20 most populous countries in the world. Last year, people in Germany accounted for 1.11 percent of the world's population. The U.S. is actually the world's third most populous nation. 4.39 percent of the global population live here. Since 1989, World Population Day has taken place on 11 July to draw attention to problems caused by the increasing number of people on this Earth. The UN expects the world's population to grow to 10.9 billion by 2100. Asia is by far the most populous continent on Earth (IMF, 2020). The United Nations estimates that the Asian population will peak at 5.27 billion in 2070. Europe

and Latin America will reach their population peaks at 689 million and 765 million inhabitants, respectively, around the year 2060, according to the projection. African populations are expected to keep growing, albeit at a slower pace, beyond the current century, which is when their combined size could surpass that of Asian populations (World Economic Forum, 2019).

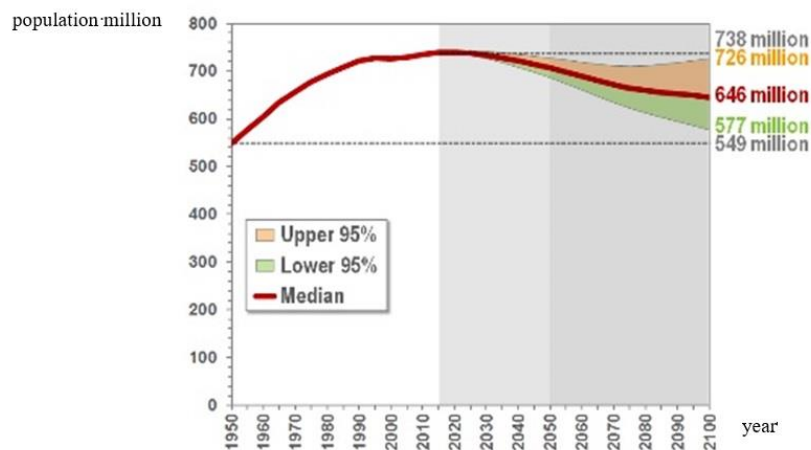


Figure 1

Population trends in Europe between 1950 and 2100 according to the baseline, low and high variation of population estimates (United Nations, 2015)

The EU is threatened by aging and aging has a considerable influence on economies and societies (Eurostat, 2015). Similarly, to other EU member states, Hungary’s population is also aging, and as a result, Hungary faces various challenges, including the reform of the health system, the pension system, and the tax system. In the countries of Central and Eastern Europe, including in V4 countries (Hungary, Slovakia, Poland and the Czech Republic) the state pension system works on the Pay-As-You-Go (PAYG) principle. In each country, preliminary calculations are done to ensure the sustainability of the pension system (Mészáros, 2014). The essence of the PAYG system is that the pension contribution of active workers is collected and distributed among the pensioners as pension (Csontos, 1997). In this system, the active workers pay for the pension of the pensioners. A great problem is that pension contributions are not capitalized, not invested (Novoszáth, 2014). Also, future pensions are not insured, so all active workers can get is a promise that the state will provide for them when they are old. PAYG systems are in a crisis all over the world. State pension systems have to be reformed (Augusztinovics, 2014). At the macro level, an automatic system should be created between contributions and benefits that ensures the long-term sustainability of the system (Simonovits, 2002). The PAYG system is convenient while the population is growing

(Samuelson, 1958). We humans not only die, we grow old. Demographic data show that the population of Central and Eastern Europe (see Fig. 1), including Hungary (see Fig. 2) has been decreasing for some time and calculations show that it will continue to do so.

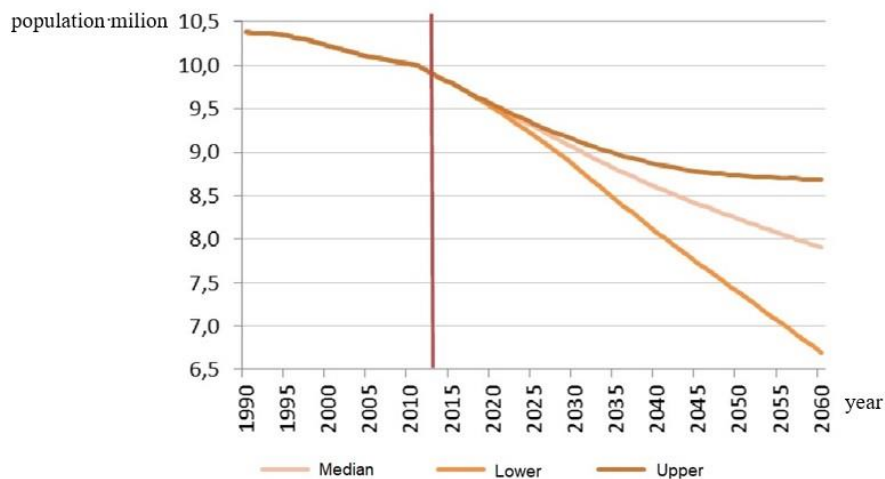


Figure 2

Population trends in Hungary between 1990 and 2060 according to the baseline, low and high variation of population estimates (Hungarian Central Statistical Office, 2015)

The aging of the population questions the ability of societies to adapt to demographic changes. They have reacted to these challenges correctly because the traditional methods of aging are misleading and do not take into account the temporal and spatial differences in the characteristics of the people. Today's people of 60 or 65 are very different from people of the same age half a century ago and will be probably very different from people of the same age half a century from now. People live longer and enjoy more knowledge (European Commission, 2018, 2020).

Due to unfavorable demographic trends, the current scenario is that Hungary's population will decline to 8.75 million over the next 20 years, said Zsolt Spéder, head of the CSO's Institute for Population Studies, in an interview to the Portfolio. According to the expert, if life expectancy increases, raising the retirement age by 2040 is likely to be inevitable. In addition, it would be a good idea to talk about a fairer Hungarian society in twenty years' time, even though major international trends are pointing towards increasing inequalities (Monostori - Őri - Spéder, 2015). The paper subsequently presents the measures of the aging of the population adapted to changes in life expectancy and compares them to the uncorrected

measures. The uncorrected measurements of the aging of the population assume that old age starts at the age of 60 or 65. In this datasheet, the beginning of old age has been defined as the age when life expectancy drops to 15 years. This way a dynamic old-age threshold is obtained, which reflects the effects of demographic changes. The ratio of the population over the old-age threshold and the expected old-age dependency ratio is a measure based on two dynamic thresholds. This paper, further measures aging with the new threshold value and compares it to the uncorrected values. With the help of the dynamic old-age threshold, new things can be seen. For example, here it is evident that the ratio of “old” 65-year-olds or older people is different in different countries and changes over time. According to the traditional approach, everybody over 65 is considered “old”. It can also be seen that the ratio of adult age spent in old age decreases over time. Without correcting the changes of remaining life expectancy, it seems that people spend an increasing proportion of their adult life in old age.

3 Modeling of pension systems

State pension systems are targeting long-term goals and have long-term impacts. (Augusztinovic, 2014). The Hungarian pension system is founded on two main pillars: the first pillar is the PAYG principle, the second is the capital provision principle (Novoszáth, 2014).

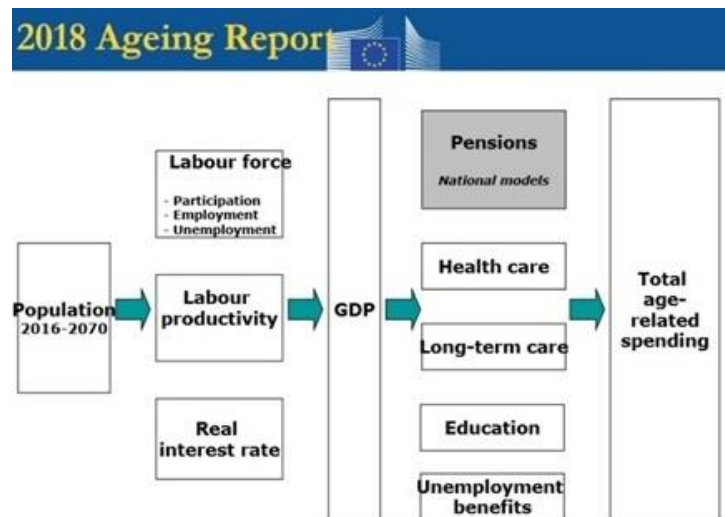


Figure 3

The microsimulation modelling process (European Commission, 2018)

In the case of a pension system based on the PAYG principle, the incoming contributions are not capitalized nor invested, but pensions are payed directly from them. The PAYG system is comfortable and might seem attractive while the population and the economy are growing. The recent obligatory social insurance system faces the following three problems that endanger the financial balance of the Hungarian pension system: an ageing population, a low level of employment and the partial payment of contributions. According to demographical data, the population stopped growing a long time ago. Meanwhile, pension payments are continuously growing as statistics show (Dekkers - Rézmovits - Sundberg - Tóth, 2015).

<i>Country</i>	<i>Financing</i>	<i>Public pension schemes</i>	<i>Model</i>	<i>Institution</i>
<i>Belgium</i>	PAYG	DB	MIDAS-BE	Belgian Federal Planning Bureau (FPB)
<i>Germany</i>	PAYG	PS	AVID	Ministry of Labour and Social Affaires and the German Pension Insurance (MLSAGPI)
<i>Sweden</i>	PAYG	NDC	SESIM2	Ministry of Health and Social Affairs (MHSA)
<i>Hungary</i>	PAYG	DB	MIDAS-HU	Central Administration of the National Pension Insurance (CANPI)
<i>Slovak Republic</i>	PAYG	PS	IER	Institute for Economic Research (IER)
<i>Poland</i>	PAYG	NDC	ZUS	Polish Social Insurance Institution (PSII)
<i>Czech Republic</i>	PAYG	DB	NEMO	Ministry of Labour and Social Affairs (MLSA)

Table 1

Tools of modelling pension systems in EU and V4 (European Commission, 2018, 2020 and author's compilation)

The PAYG system is undergoing a serious crisis in the European Union and the reforms of pension systems are inescapable. On a macro level an automatic system should be designed for contributions and pension payments that would ensure the long-term balance of the system (Dekkers, 2013). A method to simulate the above-listed problems and pension models with computers is microsimulation. This way

there is no need for authoritative decisions – the effects of decisions can be simulated and calculated before the decision is made. The term “micro-simulation” is short for the expression “micro-analytical simulation” (Gilbert - Troitzsch, 1999, Molnár, 2004, European Commission, 2018). Micro-simulation models applied in the impact analysis of the pension system may be classified according to many aspects, from absolutely static to fully dynamic (Dekkers - Rézmovits - Sundberg - Tóth, 2015).

Micro-simulation modelling takes place at the level of individuals and households, i.e. in those locations where the direct impacts of the changes of the pension system are registered (see Fig. 3). This way the changes in the distribution of various incomes (wages, pensions) in time can be modelled. Pension systems are for the long term and therefore they have long-term impacts. According to demographic figures, the population has not grown for a long time, and preliminary calculations show that the growth of the economy has stalled and pension expenditures keep increasing (European Commission, 2018). Recently, PAYG systems are in a deep crisis everywhere in the world, therefore the reform of the state-operated pension system has become inevitable. It is essential to assess the impacts of actions, and micro-simulation is an excellent method for this.

Year	2016	2020	2030	2040	2050
<i>EU 27 – Life expectancy for women {year}</i>	83,7	84,3	85,7	87,0	88,2
<i>HU – Life expectancy for women {year}</i>	79,6	80,4	82,3	84,0	85,7
<i>EU 27 - Life expectancy for men {year}</i>	78,2	78,9	80,6	82,1	83,5
<i>HU - Life expectancy for men {year}</i>	72,8	73,7	76,0	78,2	80,3

Table 2

EPC calculations for EU 27 and Hungary (European Commission, 2018, 2020 and author’s compilation)

The task of pension calculation requires the long-term forecast of data and that can be done through modelling (in the U.S. calculations are performed for 75 years, in the EU and in V4 for 50 to 60 years ahead) (European Commission, 2018). In general, we use the following micro-simulation models in the impact analysis of pension systems (see Fig. 3) (European Commission, 2018).

Year	2016	2020	2030	2040	2050
<i>EU 27 – Number of births</i>	1,55	1,61	1,67	1,71	1,74
<i>HU - Number of births</i>	1,48	1,61	1,68	1,72	1,75
<i>EU 27 – Working-age population between 15-64 years {million}</i>	290,697	287,478	275,374	262,255	252,854
<i>HU - Working-age population between 15-64 years {million}</i>	6,588	6,364	6,081	5,711	5,325
<i>EU 27 – Potential growth of GDP</i>	1,3	1,4	1,2	1,2	1,4
<i>HU - Potential growth of GDP</i>	1,9	1,9	2,1	1,2	1,5
<i>EU 27 – pension expenditures {GDP %}</i>	10,4	10,7	10,5	11,4	12,5
<i>HU - pension expenditures {GDP %}</i>	10,6	10,9	10,7	12,8	13,8

Table 3

EPC calculations for EU 27 and Hungary (European Commission, 2018, 2020 and author's compilation)

Dynamic simulation is generally used, where the demographic modules also have to be created. In Hungary the predicted number of births, deaths, marriages and divorces necessary for the modules can be obtained from the statistical service of the state (KSH). Table 2 and 3 shows that countries of the EU use different tools for modelling their pension systems. Nowadays dynamic microsimulation models are used in public or semi-public research agencies or ministries in EU member states for policy assessment. Many models form the basis of international scientific publications and are therefore better known. Models developed in public institutions



are less extensively documented (in English) and appear less often in international publications.

Microsimulation can predict the effects of planned measures therefore it can effectively help decision-making. Information is important for an economic entity, be it a state or private organization. It is predicted that in the EU in 2050 the average life expectancy of women will be 88.2 years and that of men will be 85.7 years (see Table 2). On the other hand, births will only slightly increase and the number of people in employment will decrease greatly. As a result, pension expenditures will likely increase in all 27 member states of the EU (Eurostat newsrelease 2015). An important question is whether there will be enough active workers to cover pensions with their pension contributions (see Table 3.). Pension experts already recognised around 1990 that the PAYG system could not be maintained in its current form for a long time, as population growth will slow down. They predicted that the number of births would stabilize at a lower level and fewer people would enter working age (Augusztinovics, 2014). The most important task is to examine how the population changes, and thereby make it possible to accurately predict the future, for example what will the population and its composition of Hungary be in 2050. A closely connected issue is whether there will be enough active workers to provide for pensioners. In 2018, employment rates for men and women aged 55 to 64 years were higher, at 65% for men and 52% for women, than the average rates for all adult men and women (60% and 48%) in the European Union (EU). The most striking aspect is the rapid pace at which employment rates for people aged 55 to 64 years increased between 2003 and 2018 (with little or no impact from the global financial and economic crisis). This was particularly notable in relation to the growing proportion of women in work (European Commission, Eurostat, 2019).

4 An analysis of the sustainability of the state pension system

The Hungarian pension system currently has two pillars. Pillar I is the state pension system that works on the PAYG principle and pillar II is the funded system (Novoszáth, 2014). The PAYG system is convenient while the economy is growing (Samuelson, 1958). As it has been seen before, life expectancy in the world has doubled in 100 years, with fewer and fewer children being born. The population pyramids in Fig. 4 and 5 show that by 2050 in Central and Eastern Europe and in Hungary, the number of young and middle-aged people will be similar and the population pyramid only gets narrower at old age. Demographic pressures are on the rise both in Central Europe and Hungary, and by 2060 demographic dependence may double (NYIKA, 2010, Mészáros, 2014, Banyár, 2016).

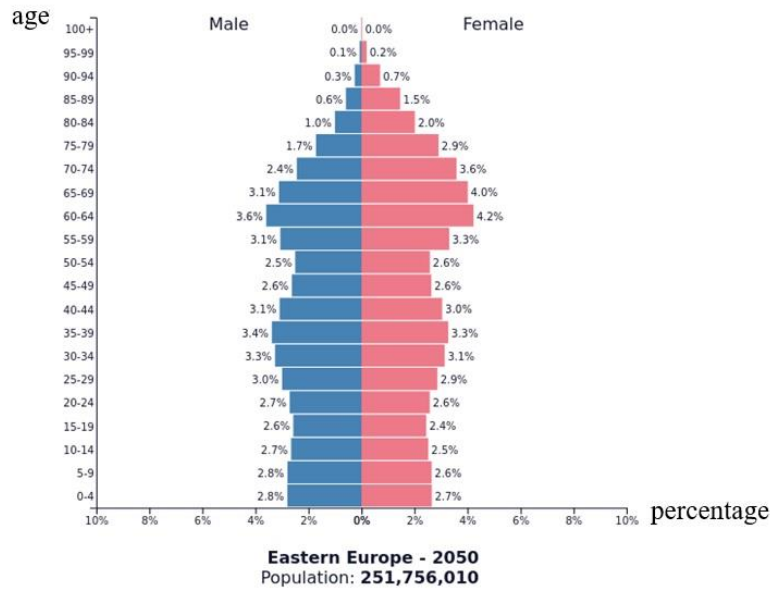


Figure 4

The population pyramid of Central and Eastern Europe and Hungary for 2050 (Population Pyramids, 2020)

The latter may change slightly due to family protection action plans. Among the V4 countries, the financial wealth of Hungarian households stands out, including real estate, which would be 200% of GDP. However, it is less good that the share of life insurance and retirement savings as a percentage of GDP is only 9%, well below the EU average of 46.5%. In retirement savings, reserves and portfolios are increasing, with NYESZ alone declining compared to the end of 2014. When looking at active contributors and active members, the effective pension supplement coverage in Hungary is about 29%. This also means that 70% will not have any pension savings. According to the MNB, welfare funds would provide mass access because they would provide subject membership and actively finance the economy through stock exchanges and government securities. Not to mention that one can reach out to young people with an expanded range of services (first home purchase, childbirth). In practice, this could look like a retirement and health pocket for an individual welfare account, which could be used in a family-friendly way. It is envisioned that every employee could be a member of the welfare fund resulting from the merger of health funds and pension funds. It would be up to everyone to decide the rate of individual contribution. This would be supplemented by employers' preferential tax subsidies. The current tax credit may be replaced by a state normative grant (Thaler – Sunstein, 2011).

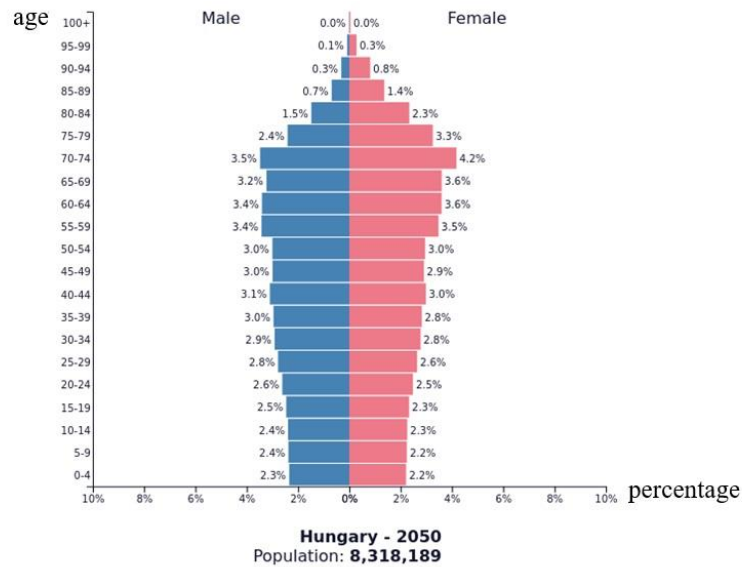


Figure 5

The population pyramid of Central and Eastern Europe and Hungary for 2050 (Population Pyramids, 2020)

Therefore, experts recommend a mixed system. In the current pension system, a supplementary element can be a voluntary pension fund. This can help sustain after retirement the standard of living one got used to in one's active years. Other pension saving systems include pension insurance.

5 Financial saving forms and possibilities

Although the contribution to the pension system is one of the highest in the OECD countries in Hungary, one receives only 60 percent of one's earnings as a pensioner. In terms of the value of pensions, there are several countries where contributions are largely made to mandatory private pension schemes. The mandatory contribution to the state pension fund is the second highest in Hungary among the OECD countries. An average worker pays roughly 30 percent of his income into the pension system, which is higher only in Italy. Nevertheless, the replacement rate of pensioners (i.e. the proportion of retirees receiving their previous salary as a pension) is only 60 percent in Hungary, thus Hungary is in the middle of the OECD (between Japan and New Zealand - of course, the average income in these two countries is much higher) . In Hungary, the pensions currently paid out entirely

come from the mandatory state pension contribution. Currently, the proportion of VRS in the OECD countries is low, especially in the Anglo-Saxon countries (Canada, the United Kingdom, the USA), which make up a significant part of old-age benefits. In other states, such as the Netherlands and Denmark, a large proportion of payments come from mandatory private pension funds.

<i>Product types</i>	<i>Timeframes</i>	<i>Liquidity</i>
<i>Cash, Bank Deposit</i>	1 month to 2 years	liquid
<i>Permanent Investment Account</i>	2-5 years	relatively liquid
<i>Investment Certificates, Investment Funds, Housing Savings Bank</i>	6-10 years	less liquid
<i>Voluntary Pension Fund (VPF), the Retirement Savings Account (RSA) and Pension Insurance</i>	from 10 years until reaching retirement age	least liquid

Table 4

Liquidity of financial savings (Rombuszbroker, 2020 and author's compilation)

These countries occupy the first two positions in terms of the replacement rate of pensions: in Denmark, pensions are equivalent to more than 85 percent of average salary and in the Netherlands more than 95 percent. However, in general, it cannot be said that the higher the proportion of mandatory private pension, the greater the salary one receives as a pensioner. For example, Italy and Austria are in the third and fourth place, where, like Hungary, only the state pension fund has to pay pension contributions, while in Estonia and Lithuania, for example, there is a compulsory private pension scheme, although the replacement rate is lower than in Hungary. In fact, the value of pensions relative to salaries depends on a number of other factors, from the dependency ratio to the overall performance of the economy. In addition to increasing pension contribution and tax, and retirement age, there is a more effective and sustainable solution: self-care. This means that people create their own private pension fund, which will enable them to live a full life in old age. This relieves the state too because they save money privately, albeit with state help, and they manage their own wealth. There are many forms of savings (e. g. voluntary pension fund, pension savings account and pension insurance). When choosing the right savings product, one must decide how important the term (time period) and liquidity are (see Table 4.).

Nobel Prize-winning British economist Angus Deaton confirms the findings of his research on consumption, well-being and poverty that money makes people happy



from poverty to subsistence and then to security. Above one level, however, more money no longer causes a significant improvement in quality of life (Steptoe - Deaton - Stone, 2015). Mention should also be made of research into the technique of surveying the world's extreme poverty, people living on less than one or two dollars a day, and the reliability of data, especially household surveys conducted by the National Sample Survey (NSS) in India. His research also covers the interrelationship between the social situation, health, income and education, and its effects on the national economy. The Almost Ideal Demand System (AIDS), created by Angus Deaton, is the first globally applicable method for measuring poverty. The concept of the so-called Deaton paradox is also derived from it, i.e. that the level of consumption does not usually change even in times of rapid rise and fall in income (Deaton, 2017). The levels of the Maslow Hierarchy of Needs, if one looks at income at the first two levels, money is needed to buy food, provide a place to sleep, to live almost exclusively with the contribution of money. Of course, these needs must be met in the long run, too, so it is clear that the second pillar is the money as the key to our long-term sustainability. As one moves up the pyramid, one becomes happy and content with his own life. After this level, money as a value cannot do more for one's happiness, because love and acceptance cannot be bought, of course. The hierarchy envisioned by Maslow does not always hold true, as has been confirmed by numerous studies (Wahba - Bridwell, 1976).

According to forecasts, the number of pensioners will increase dramatically, and this cannot be changed in the short term. In the current pension system, one of the complementary elements of securing old age livelihoods may be the choice of a voluntary pension fund. A voluntary pension fund can enable the citizens to maintain their standard of living during their active years when they retire. These institutions supplement other retirement savings such as pension insurance. Pension is, in general terms, "the benefit that senior citizens of a country are entitled to, and therefore not on a means-tested basis. Its amount depends on the length of service, that is, the number of years of work (earning) and previous earnings" (Matits, 2016). This definition is a good reflection of the public perception that the concept of pension relates exclusively to social security benefits. However, any regular old-age income to which one is entitled in one's active age is considered a pension. Thus, our retirement income may or may not be our retirement income. It should be made clear that there is no form of public benefit that can, and cannot, be a good pension for everyone. So if a person wants to be really safe in his old age, then he will really have to do a lot. In addition to raising taxes and contributions and pushing the retirement age, there is a more effective and sustainable solution called self-care.

This means that people create for themselves a private pension fund that allows them to live a full life as they grow older. This will also relieve the state of the burden because, with the help of the state, they are putting money aside. They manage their own assets and do not pay more for the community. There are many



pension savings options available. Before choosing the right savings product, one needs to decide in advance how much time and liquidity will be involved in choosing the savings form. The state supports three types of retirement savings solutions: the Voluntary Pension Fund (VPF), the Retirement Savings Account (RSA) and Pension Insurance. These are worth thinking about for a minimum of 10-20 years. Accumulated private pension funds can be taken up when one reaches retirement age, with some restrictions being made available earlier.

6 The role of self-care in one's decisions

6.1 Behavioural economics and decision-making typology

Self-care, i.e. savings for retirement (voluntary pension fund, insurance, other savings, etc.). Of these, it is easy to choose which one or more people want to provide for their future expected pension level (Havran, 2011). Decisions in general, such as what type of “financial investment” to choose, cannot be supported by human reasonableness or preference, and this is also supported by economic psychological research because it is overridden by other non-rational considerations (Fodor, 2013). Research has shown that the processing of rational and non-rational information is related to the cerebral hemispheres. The left hemisphere is the conscious, the dominant, the logical, the rational, the analyst, the positive thinker, and the right hemisphere is the equivalent of the unconscious, irrational, emotional, negative thinking. Positive or negative information processing is a solid, though influential personality trait (Hámori, 1998). For most people, left hemispheric function is a hallmark of positive information processing (Fodor, 2013).

Its positivity lies in its confidence that it is difficult to bear crisis situations that jeopardize its positive outlook and expectations in the good course of events. The left hemisphere is characterized by a systematic, analytical problem approach, research and listing. The right hemisphere is more capable of processing negative information, that is, it plays with the expected outcomes in a given situation, imagines the outcomes, and is therefore more likely to be activated when a given situation occurs. From an economical point of view, research has shown that the right hemisphere is also decisive in shaping individual preference systems. From the point of view of problem solving, the right hemisphere gathers experience on each outcome. Thus, decision-making is heavily influenced by which cerebral hemisphere the individual relies on. Another decisive factor in decision making is the determination of the decision maker. A determined person makes a decision faster than a less determined partner.



6.2 The role of financial awareness in decision making

This paper also focuses on the present and future status of direct persons. It's important to understand what respondents are directing themselves to the decision about self-care, what habits and processes influenced their decision, and more precisely what motivated them to choose the form of savings under consideration. With the help of questionnaire research, the author examined respondents' behavioral fundamentals and factor analysis methodology to determine what choices one has in relation to the expected pension level in the future. The research examines the importance of self-care as a pillar of retirement supplementation in the public consciousness and one's decisions today. It also examines the possible future pension systems, the future generations of retirement, how many people will work and how they will work in the future.

The research is based on the basic assumption that people think about retirement with fear and uncertainty. Based on the previous chapters it can be seen that the Pay-As-You-Go (PAYG) system is in crisis, so the II pillar, self-care is receiving increasing attention today. In order to gain a deeper understanding of the motivations behind one's decisions, parts of the factor analysis statistical procedure was used, which is nowadays a widespread computerized method of personality mapping (Sajtos - Mitev, 2007). The data of the questionnaire and the statistical calculations were done with the help of the SPSS software. The online survey was conducted in 2020. The total number of respondents was 1410 ($n = 1410$). The basic questions for which answers were sought were related to the planning of pension systems, retirement savings and self-care, retirement security, as these are the elements that determine the financial background of one's future existence, that is, the extent of one's self-care. Within the research, the answers were divided into 3 groups: 1. Knowledge of pension systems (compulsory, voluntary); 2. Financial planning (different characteristics of savings); 3. Role of self-care (personality mapping). The above three groups were analyzed separately by qualitative research. The three groups were subjected to a number of statistical evaluations, such as means, frequency, cross-tabulation. In this study, only the role of state pensions and self-care has been looked into. Based on the answers to the questionnaire, respondents are generally well informed about the pension system, but 86.2% of respondents do not consider the current state pension system to be stable. In contrast, they tend to rely on retirement savings, with 52% of respondents saying yes. Only 11.4% of respondents have pension insurance, while 29.1% have some form of retirement savings (Fig. 6).

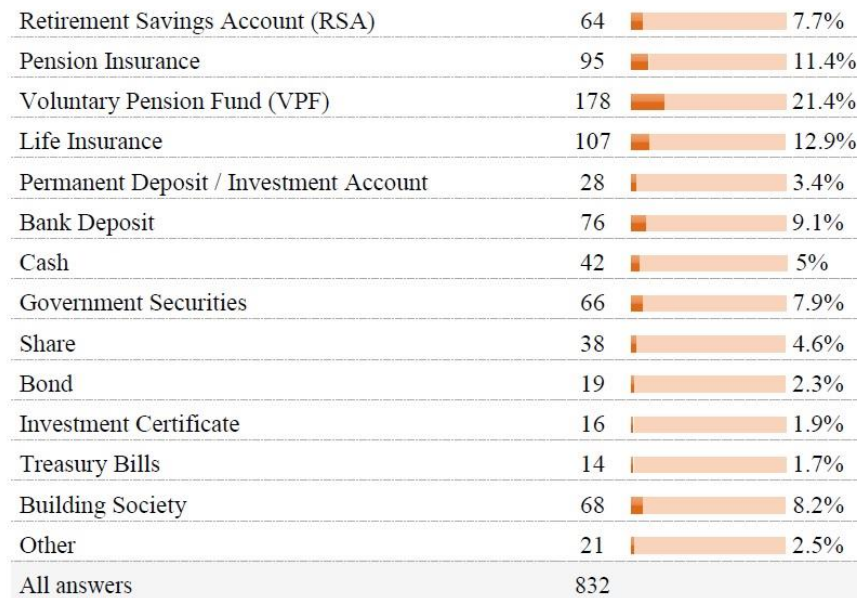


Figure 6

The respondent has financial savings for retirement purposes (author's my own compilation)

The results also show that financial savings are important for respondents. Based on the average age of those who completed the questionnaire (average age: 30.6 years), savings are important. Further analyzes show additional internal relationships, such as the role of optimism in pension savings. Old-age savings are much more important for optimistic women because yes responses are greater than for men with similar characteristics.

Conclusion

The population of a country changes only slowly from year to year, and the characteristics of demographic processes are drawn up over a longer period. However, the factors influencing population change are well predictable as a result of the laws of each sub-process. According to forecasts, current pension systems are likely to cause severe social and economic problems globally because of the rapid ageing of our societies. Based on forecasts, the current pension regime, and the drastic change in the ratio between active wage earners and pensioners will, with a high degree of probability, cause social, economic and other problems in the future both globally and in Hungary. The Hungarian mandatory pension system is a pure Pay-As-You-Go (PAYG) state pension system. It covers all persons who are



engaged in any kind of employment as well as recipients of unemployment and certain child care benefits. This is a defined-benefit PAYG system with an earnings related public pension.

The old-age pension is the most important source of income for the elderly. However, in order for the amount of the pension to be of an adequate standard, it is usually not enough to meet the requirements for the minimum period of insurance required by national legislation. The longer the insurance period, the higher the amount of benefit the person can expect. Experts recommend a mixed system but currently there is no universally accepted concept. Despite the small number of answers, there are many possibilities. The respondents consider many possibilities to ensure their future living. State pension is mandatory so there is no choice about it. Concerning supplementary possibilities, like voluntary pension funds and private investments, income and emotional decisions determine which form or forms are chosen. Of course, research can not solve all the problems of the pension system but researchers can clearly define and examine possibilities and effective methods for prediction and problem-solving.

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Workplace Selection Preferences of Electrical Engineering Students in Hungary – in View of Social Network Impact and Migration Potential

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Abstract: The interdisciplinary research explores the workplace selection preferences of Electrical Engineering (EE) students in eight Hungarian universities. The topic contributes to the overall discussion on career decision making and within the wider context of the changing nature of work.

The theoretical framework of the research incorporates concepts of employer attractiveness, career decision making, social network, and migration theories.

The research adopted a mixed method approach and data was collected through a key survey with EE students (n=587) and qualitative interviews with both students (n=55) and key informants (n=57) such as engineering employers, recruitment agents, university personnel and members of engineering associations.

Early research findings provided some interesting insights. Majority of EE students reported to be prepared to make short term compromises in order to achieve their long-term career goals. Numerous compromises shared by EE students were around social network relationships and around migration potential. Despite of the willingness to make trade-offs in family relationships for careers, family members and partners appeared to influence the workplace selection of EE students the most. Majority of the EE students in the research consider working abroad or moving to another region within Hungary for an attractive job opportunity.

Further analysis of the research data may expand findings and answer additional research questions.

Keywords: employer attractiveness, career decision making, social capital, social network, migration, electrical engineering students, Hungarian labour market, mixed methods research design

1 Introduction

This research explores the career decision making preferences of electrical engineering (EE) students at eight Hungarian universities in the view of social



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network impact and migration potential. Numerous studies confirmed the shortage in engineering profession both in the global and in the Hungarian labour market. The Talent Shortage Survey published by Manpower (2015; 2018) reported a continuous rise in the shortage in professional talent between 2008 and 2018. In fact, talent shortage reached its highest level in 2018 since the survey started in 2006 (Manpower, 2018). Engineers, including electrical engineers were ranked among the top five hardest positions to fill consecutively for ten years (Manpower, 2018).

The Hungarian labour market faces several challenges. On one hand the unemployment rate steadily decreased between 2012 and 2019 confirming the general shortage of labour. The figure below shows the Hungarian unemployment rate falling from its highest level of 11.9% in 2012 to its lowest level of 3.3% in 2019 (Hungarian Central Statistical Office, 2020).

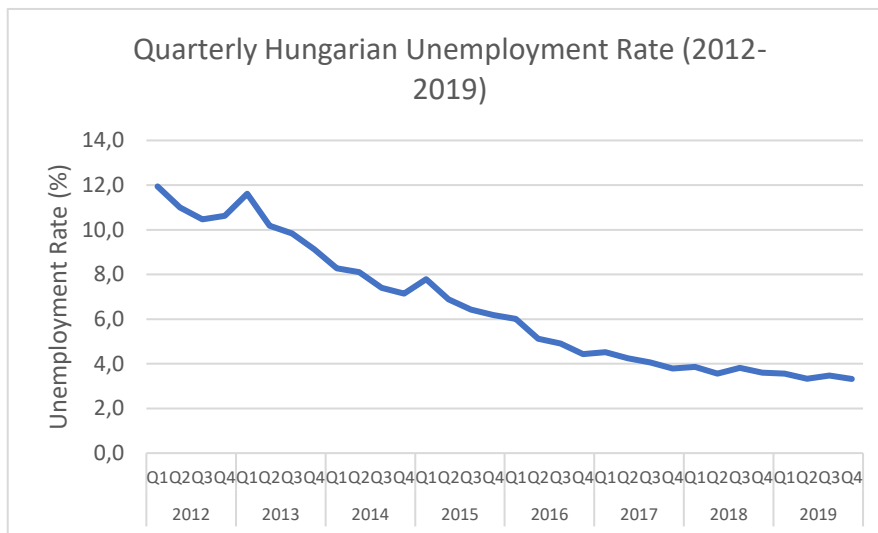


Figure 1 Quarterly Hungarian Unemployment Rate between 2012 and 2019; Source: (Hungarian Central Statistical Office, 2020)

On the other hand the international migration from Hungary to foreign countries is on the rise. Based on the Hungarian Demographic Research Institute's estimation, 335.000 Hungarians lived abroad which accounted for 7.4% of the population aged between 18-49 years (HVG, 2017). According to a representative statistical research of the Hungarian Research Institute, majority of the young and middle aged population wished to leave Hungary, nearly half of the 18-24 years old generation planned to leave Hungary, and 53% of students considered to move abroad after finishing their studies (M. Laszlo Ferenc, 2017). The study concluded that based on the wishes, plans, and considerations of the population additional 370.000 Hungarians may leave their home country in the coming years (M. Laszlo Ferenc, 2017). The talent shortage in the labour market combined with the increased



external migration from Hungary causes challenges for companies and creates difficulties in hiring (VG, 2017; Manpower, 2018).

The demand for highly skilled workforce, including engineering talent rises in Eastern Hungary. Several high-tech companies announced investment plans into Eastern Hungary. The total investment value was close to 400 billion Hungarian forints (around 1.1 billion Euros) and the total number of new workplaces were more than 4000 in the past years (Kiss, 2019). Few other companies reported additional investment plans into Debrecen in 2020. With the additional investments the total investment value increased to 480.5 billion HUF (around 1.3 billion Euros) and the total number of workplaces increased to 5766. The table below summarizes the company names, the investment values, the number of new workplaces, and the locations of the planned investments into Eastern Hungary.

Company name	Investment value (HUF)	Number of new workplaces	Location	Source
National Instruments (ni.com)	5.5 billion	210	Debrecen	(HIPA, 2016)
Lego (lego.com)	30 billion	1600	Nyíregyháza	(Trangbaek, 2015; MTL, 2016)
Continental (continental.com)	5.1 billion	681	Debrecen	(autopro, 2015)
Krones (krones.com)	15 billion	500	Debrecen	(HAON, 2017)
Thyssenkrupp (thyssenkrupp.com)	11 billion	250	Debrecen	(HBN-PA, 2017)
Diehl (diehl.com)	2.7 billion	150	Debrecen	(HAON, 2017)
BMW (bmw.com)	330 billion	1000	Debrecen	(HAON, 2018)
Deufol (deufol.com)	7.2 billion	120	Debrecen	(dehir, 2020c; dehir, 2020e)



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<i>BHS Trans</i> (<i>bhstrans.hu</i>)	<i>7.5 billion</i>	<i>165</i>	<i>Debrecen</i>	(<i>Portfolio.hu, 2020; dehir, 2020f</i>)
<i>Sensirion</i> (<i>sensirion.com</i>)	<i>unpublished</i>	<i>50</i>	<i>Debrecen</i>	(<i>dehir, 2020b; dehir, 2020d; dehir, 2020g</i>)
<i>4iG (4ig.hu)</i>	<i>unpublished</i>	<i>100</i>	<i>Debrecen</i>	(<i>Portfolio, 2020a</i>)
<i>Inter Traction Electronics Kft.</i> (<i>itkholding.hu</i>)	<i>unpublished</i>	<i>500</i>	<i>Debrecen</i>	(<i>dehir, 2020h</i>)
<i>Semcorp</i> (<i>en.semcorpgloba.l.com</i>)	<i>66.5 billion</i>	<i>440</i>	<i>Debrecen</i>	(<i>dehir, 2020a; Portfolio, 2020b</i>)
Total	480.5 billion	5766		

Table 2 List of high-tech companies which announced investment plans into Eastern Hungary; Source: (see table for details)

The criticality of the engineering profession combined with the difficulty to fill open engineering positions creates challenges for the Hungarian economy (MTI, 2015; Sági, 2015). Better understanding the career decision making process, the impact of social networks to the workplace selection process and the migration potential of early career electrical engineers may help Eastern Hungarian employers to attract more electrical engineering talent, may increase the success rate of planned investments and may promote further investments into the region.

The primary purpose of this paper was (1) to explore the short versus long term time orientation of electrical engineering students in terms of career decision making; (2) to measure the level of impact of the different social network ties in the workplace selection process; and (3) to quantify the internal and external migration potential of Hungarian electrical engineering students after graduation.



2 Literature Review and Theoretical Framework

The theoretical framework of the research connected four major interdisciplinary theories. Firstly, employer attractiveness theories, which was widely researched by multiple disciplines including management science (Gatewood, Gowan and Lautenschlager, 1993), vocational psychology (Soutar, 1983), applied psychology (Jurgensen, 1978), communication (Bergstrom, 2002), and marketing (Ambler and Barrow, 1996; Gilly and Wolfenbarger, 1998; Ewing, et al., 2002). One of the frequently cited definition of employer attractiveness is “*the envisioned benefits that potential employee sees in working for a specific organization. It constitutes an important concept in knowledge-intensive contexts where attracting employees with superior skills and knowledge comprises a primary source of competitive advantage.*” (Berthon, Ewing and Hah, 2005 p. 151). Electrical engineering is a knowledge-intensive occupation, therefore including employer attractiveness theories in the theoretical framework of the research was relevant.

Secondly, career decision making theories such as the ‘careership’ model by Hodkinson and Sparkles (1997), which blended three artificially separated theories. The three artificially separated theories included: (i) the *pragmatically rational decision-making*, (ii) the *choices within the life course* consisting of partly unpredictable pattern of routines and turning points, and (iii) the *choices as interactions with others in the field*. All three pillars of the ‘careership model’ had relevance to this research. Electrical engineering is part of the four closely connected areas of study often referred as STEM (Science, Technology, Engineering, and Mathematics). STEM students, including electrical engineers, are generally considered to be pragmatic and rational, therefore the pragmatically rational decision-making theory was considered applicable for the research. In addition, the ‘careership’ model differentiated three types of turning points within the life course. One of the turning point types was called *structural turning point*, which comes at partly predictable times such as the end of mandatory schooling or the end of university education. This research considered the school-to-work transition of EE students to be such structural turning point. Lastly, career decisions are seldom made completely separated from others. In fact, career decisions can be influenced by interactions with others in the field. These interactions were explored deeper by social capital theories and by social network theories.

Thirdly, social capital theories and social network theories were included in the theoretical framework of this study. Although the concept of social capital has a long research history, the term social capital has been considered vague and means “*many things to many people*” (Narayan and Pritchett, 1999 p. 2). Many definitions of social capital can be found in the academic literature, which most of them are complimentary to each other. Bourdieu defined social capital as “*the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and*



recognition – or in other words, the membership in a group – which provides each of its members with the backing of the collectively-owned capital, a ‘credential’ which entitles them to credit, in the various senses of the world” (Bourdieu, 1986 p. 250). Adler and Kwon simplified the definition of social capital to “the goodwill that is engendered by the fabric of social relations and that can be mobilized to facilitate action” (Adler and Kwon, 2002 p. 17).

The research of social capital was strongly influenced by network theorists especially in the science of sociology (Burt, 1992). Social network theories refer to the relationships between people in the network as ‘ties’ ‘Ties’ can be categorized based on the strength of the relationship between the people. ‘Strong ties’ are characterized by emotionally intense, frequent, multiple types of relationships (Seibert, Kraimer and Liden, 2001). ‘Weak ties’ are characterized by weaker emotional bonds, infrequent, and usually one or few types of relationships (Seibert, Kraimer and Liden, 2001). Granovetter (1973) found that weak ties were more likely to be the source of information about job opportunities than strong ties. Granovetter (1973; 1983; 1995) explained this finding by noticing that weak ties often serve as bridges between different social groups, therefore weak ties can become sources of unique information and resources. This research assumed that electrical engineers can be influenced by both strong ties and weak ties during their career decision making process.

Fourthly, migration theories were included as the last pillar of the theoretical framework of this study. *“At present, there is no single, coherent theory of international migration, only a fragmented set of theories that have developed largely in isolation from one another, sometimes but not always segmented by disciplinary boundaries” (Massey, 1993 p. 432).* This may be due to the complex nature of migration which examined by several disciplines including economics, sociology, geography, culture, religion, law, political science, demography, psychology (Wickramasinghe, A. A. I. N and Wimaaratana, 2016). Several economic, technical and social factors, as well as global and local changes impact the migration potential of young electrical engineers. The neoclassical theory and the world system theory of migration consider the recent trends in easy, flexible, online travel arrangements, reduced cost of transportation, increased number of cheap accommodations, improved way of communication, and low cost insurance packages. These trends reduce the cost and the effort of migration from one country to another, therefore can increase the migration potential of young electrical engineers (Massey, 1993; Wickramasinghe, A. A. I. N and Wimaaratana, 2016).

The ‘migration network theory’ is a sociological and anthropological theory (Castles and Miller, 2009) and is closely linked with the social capital and social network theories applied in this research. Arango defines migration network *“as a set of interpersonal relations that links migrants or returned migrants with relatives, friends or fellow countrymen at home” (2000 p. 291).* Massey expands this definition of migrant networks by defining it as the *“sets of interpersonal ties*



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that connect migrants, former migrants, and non-migrants in origin and destination areas through ties of kinship, friendship, and shared community origin” (1993 p. 448). Both definitions declare that migrant networks can provide information about job opportunities, facilitate employment, provide accommodation and financial support during the early days of employment. Therefore, migrant networks can reduce the cost and the risk of migration and can increase the willingness of young electrical engineers to migrate.

The combination of several theories from four multidisciplinary themes of (1) employer attractiveness, (2) career decision making, (3) social networks, and (4) migration intended to create a coherent interdisciplinary theoretical framework for the research.

3 Research Methods

The study used mixed methods research design and combined qualitative and quantitative approaches both during the data collection and during the data analysis (Guba, 1990; Wildemuth, 1993). Semi-structured, face-to-face interviews were conducted with 58 key informants in engineering careers during the first phase of data collection. Key informants were selected with purposive samplings and included HR professionals of engineering employers, recruiters from headhunters specialized in engineering selection, university staff of electrical engineering faculties, student services, and members of engineering associations in Hungary. The interviews with key informants were scheduled between July 2018 and April 2019.

Quantitative data were collected from 587 electrical engineering students at eight Hungarian universities through online survey in the second phase of data collection. All universities with electrical engineering faculties in Hungary participated in the research. Two third (69%) of the respondents were born between 1997 and 2009 and represented Generation Z in the research. One third (31%) of the respondents were born between 1981 and 1996 and represented Millennials in the study. The research population was dominated by male electrical engineering students studying full time on BSc level. The quantitative data was collected between November 2019 and February 2020.

Semi-structured, face-to-face interviews were conducted with 55 electrical engineering students in the third phase of data collection. Convenience and purposive sampling were combined to recruit interview participants. No exclusion was made based on gender, age, ethnicity, or country of origin. The 44 male and 11 female interviewees were between 19 and 30 years old. Preferences were given to students with engineering related work experience and to students closer to their



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graduation dates. The interviews with electrical engineering students happened between October 2019 and February 2020.

Due to the large group of participants the research made thorough ethical considerations. The Department Research Ethics Panel (DREP) of Anglia Ruskin University provided ethical approval for the research. The research complied with General Data Protection Regulations (GDPR) and no sensitive data were collected. Permission was granted by all Hungarian Universities with electrical engineering faculties to conduct the research in their institute. Research participants took part in the research voluntarily, gave consent to collect, to process, and to disseminate the anonymized data during the research. Code names were assigned to interview participant to ensure anonymity. Expert Interviews (EI) got code names between EI01 and EI58. Electrical Engineer (EE) students got code names between EE01 and EE55. Quotes from interviewees were used in anonymised format referring to the code names.

The mixed methods research intended to strengthen the benefits and offset the limitations of qualitative and quantitative research methods. The research achieved high level of reliability by careful research design, detailed documentation and accurate record keeping. The high level of reliability ensures that the research can be replicated at different times, at different places, by other researchers, with other research population. However, the research had some limitations in terms of internal validity and generalizability. The research participants were contacted only one time during the cross sectional study. The internal validity of such cross sectional research can be lower than the internal validity of a ‘before and after’ or a longitudinal study. The research data was collected between 2018 and 2020 from electrical engineering students in Hungarian universities only. As career preferences can change over time and can differ based on profession and location, therefore generalization of the findings to professions other than electrical engineering in countries other than Hungary can be limited (Alniaçik and Alniaçik, 2012 p. 343). As the data analysis is still ongoing, therefore final findings of the research may differ from the early findings presented in this paper.

4 Analyses and Early Research Findings

This paper summarizes the findings related to three themes of the theoretical framework introduced in the Literature Review and Theoretical Framework section. Firstly, it introduces the quantitative and qualitative findings about short and long term time orientation of EE students during the career decision making process. Secondly, it measures the level of influence of the different social network ‘ties’ of EE students through the workplace selection process. Finally, it quantifies the internal and external migration potential of EE students of Hungarian universities.



Short versus Long Term Time Orientation in Career Decision Making

The research explored the short term versus long term time orientation of EE students with respect to career decisions. EE students replied to two questions about time orientation in the online survey. Respondents marked responses on a five point Likert scale for both questions. First, EE students were asked if they are ready to make short term compromises to achieve their long-term career goal(s). Majority (83%) of EE students agreed or strongly agreed with the statement expressing that they are willing to make short term compromises to achieve long-term career goals. The number of online survey responses for each of the five Likert scale categories is presented in the figure below.

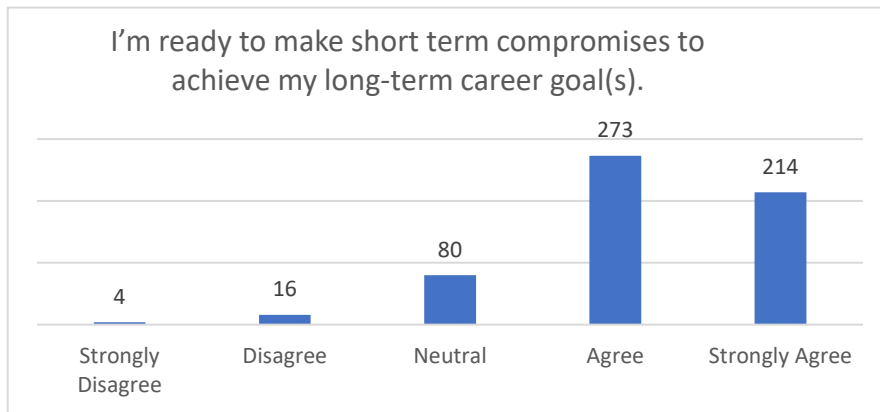


Figure 2 Long term time orientation of EE students on five point Likert scale (n=587)

EE students were also asked if they try to maximize the short term benefits even if they have to sacrifice their long-term career goal(s). Nearly half of the respondents (48%) strongly disagreed or disagreed with this statement. Around one third (30%) of the students remained neutral. Only one out of five students (22%) agreed or strongly agreed with the statement to be ready to sacrifice their long-term career goals in order to maximize their short term benefits. The number of online survey responses for each of the five Likert scale categories is presented in the figure below.

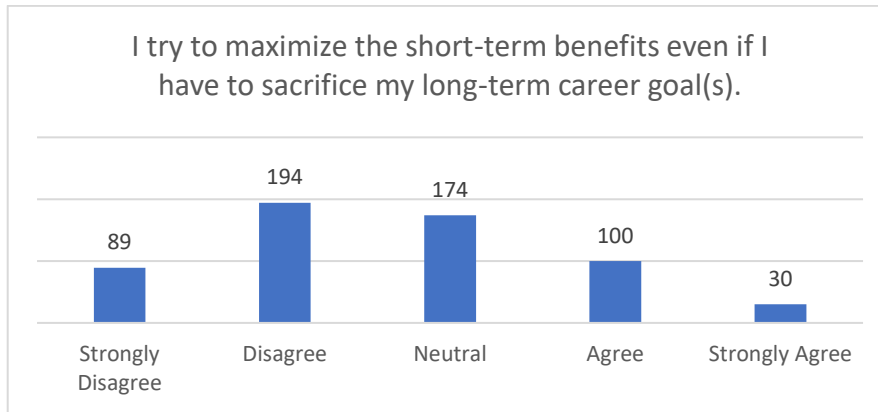


Figure 3 Short term time orientation of EE students on five point Likert scale (n=587)

Both questions confirmed that majority of EE students thinks long-term rather than short-term during the career decision making process. The result of the full research population (n=587) were consistent with the early research findings based on some early survey respondents (n=164) presented in FIKUSZ 2019 (Kiss, 2019).

The quantitative data of the online survey was enriched with qualitative information collected during semi-structured interviews with EE students. EE students were asked about the kind of compromises they are prepared to make in order to achieve their career goals. Thematic analysis of the interview responses outlined two recurring themes. First, many EE students expressed willingness to make compromises on their *social network connections*. The below quotes describes some compromises EE students mentioned to make on their families, friendships, partnerships, and other social relationships.

“I would push out the foundation of my family. Age of 25 is too early yet. I would put family, friends in the background. I would go abroad for one year, far away from my friends.” (EE18)

“I don’t want a family. I don’t want any children, unless I will care for them alone. I will be a perfect aunt. I rather build my career than sit at home.” (EE32)

“I would sacrifice anything. I’m happy as a bachelor. I could stand in the middle of nowhere alone at the age of 40. But not at the expense of my health.” (EE28)

“I would go if they would offer higher salary. I have no family, no girlfriend, nothing.” (EE14)

While most EE students pointed out the compromises they were ready to make on their social network connections, one EE student emphasized just the opposite: she had a very strong determination not to build her career at the expense of her family. She named family as a ‘sacred thing’ which should never be compromised on (EE19).



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The second recurring theme was about internal and external *migration potential*. Many EE students expressed willingness to move to another location inside or outside of Hungary for an attractive job opportunity. The below quotes from interviewees shows how far they were ready to go to achieve their career goals.

“I would move 100 km away from Budapest. I would work long hours. Eight, ten, twelve hours of work.” (EE35)

“I would move to another city or to Budapest, even if the salary would be lower.” (EE12)

I would give up Budapest. The city I was born in. The city I love. I would be ready to move to unknown places. Abroad. Where I don't know anyone.” (EE3)

“I would be ready to move. To another county. To another region.” (EE23)

“I have clicked on nuclear physics in the secondary school. I would be ready to move to Paks. Or to Switzerland.” (EE16)

Influence of Social Network Connections

The research measured the level of influence of social network connections on the workplace selection of early career EEs. EE students had to rank the level of influence of different persons and information sources on their workplace selection on a three point scale. The three different categories on the scale were named as ‘no influence’, ‘small level of influence’, and ‘high level of influence’. Numeric value was assigned to each category. Zero was assigned to the category of ‘no influence’, one was assigned to the category of ‘low level of influence’, and two was assigned to the category of ‘high level of influence’. The average level of influence was calculated by taking the average of the numeric values for each person and information source listed in the survey. The list of persons and information sources included both strong network tie connections (e.g. family members, partners, etc.) and weak network tie connections (e.g. headhunters, interviewers of employers, etc.). The figure below represents the average level of influence of social network connections to the workplace selection based on the online survey responses.

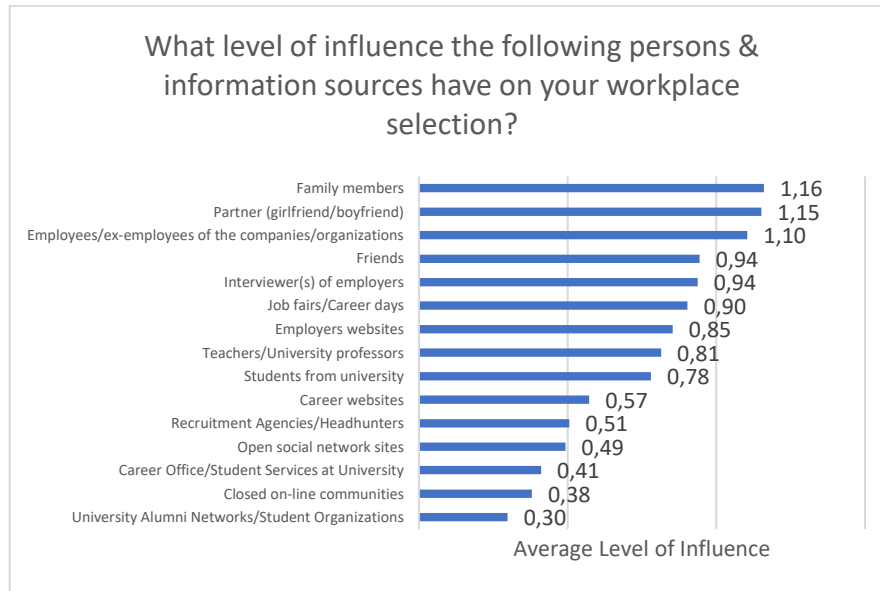


Figure 4 Average level of influence of social network connections to the workplace selection of EE students of Hungarian universities (n=587) (0 = no influence, 1 = low influence, 2 = high influence)

The study concluded that strong network ties of family members and partners (girlfriends or boyfriends) had the highest level of influence to the workplace selection of EE students. Weak network ties of friends and interviewers of employers had lower level of influence than strong network ties. University relations, such as alumni networks, students organizations, closed online communities, career offices, and student services had the lowest level of influence on the workplace selection of early career EEs in Hungarian universities.

Migration Potential

The research measured the external and internal migration potential of EE students of Hungarian Universities. With regards to external migration potential, EE students were asked if ideally, if they had the opportunity, would they like to work abroad or not. In order to differentiate between short and long term migration potential, EE students who expressed interest in working abroad had to choose from four different length of foreign work opportunities. *Short term* migration potential was measured in terms of few weeks to months, *medium term* migration potential was measured in terms of few years, *long term* migration potential was measured by as long as possible, but not forever. Finally, *final* migration potential was measured for people expressing desire to work abroad forever.

On one hand, the research found a relatively high external migration potential. Only one out of four EE students (23%) declared that they would not like to work abroad,

even if they had the opportunity. Three out of four EE students (77%) reported that they would like to work abroad if they had the opportunity. On the other hand, only one out of five EE students (21%) would like to move abroad forever. Majority of the EE students considered to work abroad only for temporary period of time. 16% of EE students considered to work abroad for short term, 26% for medium term, and 14% for long term. The figure below represents the percentage of responses (n=587) with regards to short term, medium term, long term and final external migration potential of EE students of Hungarian universities.

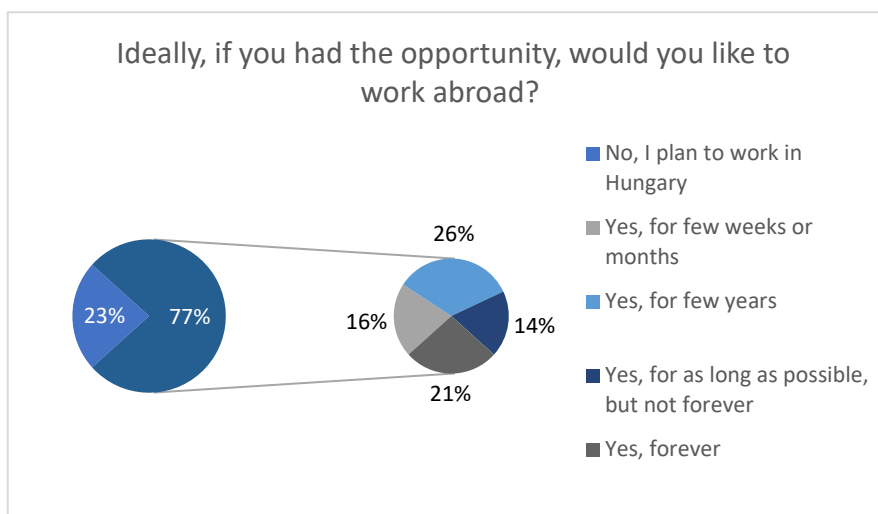


Figure 5 External migration potential of EE students in Hungarian universities (n=587)

With regards to internal migration potential, EE students were asked if they would consider moving to another region within Hungary for an attractive job opportunity. More than two third (69%) of EE students responded positively, expressing their openness to change their working and living locations within Hungary for an attractive job opportunity.

Discussion of results

Results of this research repelled results of other studies about short term versus long term time orientation during the career decision making process of younger generation. On one hand, this research found that EE students of Hungarian universities think long term about their careers. On the other hand, a research by InsideOut development highlighted the impatience of the younger generation during their career development (InsideOut Development, 2018). The study carried out in the USA discovered that more than 75% of Generation Z survey respondents believed that they should work less than twelve months in their first position before being promoted. In fact, 32% of survey respondents believed that they deserve promotion within the first six months of work (InsideOut Development, 2018). The



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researches were carried out in two different countries (one in Hungary and another in the USA) and focused on two different population (one on young EE students and another on Generation Z). Therefore, future research may investigate the connections between profession, geographic location, and time orientation during the career decision making process to clarify the seemingly contradicting results.

The research result about the influence of social networks on the workplace selection was consistent with the findings of other surveys. A robust research collected data from 49.000 Generation Z participants in 47 countries to explore the influence of social network ties on career decision making (Focardi, 2015). Close to 60% of the respondents declared that strong network ties with parents influenced their career decisions the most. Also, only 24% of the respondents said that weak network ties with friends shaped their careers the most (Focardi, 2015). The more recent research findings may call for a deeper investigation of the historical research findings of Granovetter (1973), which highlighted the more powerful impact of the weak network ties on career decisions. As this research recognized heavy influence of strong social network ties on the workplace selection process, employers may consider delivering targeted messages to parents and partners in order to attract more early career EEs to their workforce.

The research result about external migration potential aligned with the findings of other surveys. Boston Consulting Group (BCG) carried out a giant global survey about international talent mobility which collected over 200.000 responses (Boston Consulting Group, 2016). The survey found that 63.8% of the global workforce were willing to go to another country for work. The research included 5144 Hungarian responses and found that around 50 to 60% of Hungarian respondents were willing to work abroad. The global survey highlighted that people in engineering and in technical jobs were the most open for foreign work opportunities. Globally, around 70% of engineers declared to be open to work abroad. Similar to the global study, this Hungarian research confirmed the relatively high external mobility of the Hungarian EE talent. On top of that, this Hungarian research complemented the results of the global survey with additional findings about the short term, medium term, long term, and internal migration potentials of Hungarian EE students. As majority of the Hungarian EE students considered temporary migration to foreign countries, employers, engineering associations, governmental institutions may consider launching a 'return program to Hungary' to simplify the return and re-integration of those EEs who wish to return to Hungary after their temporary foreign work experience. The return program could not only simplify the returns and re-integration of EEs, but could also help the employers and the Hungarian economy to capitalize on the knowledge and experience the EEs collected abroad.

Conclusions

This paper explored three different aspects of the workplace selection preferences of EE students in eight Hungarian universities: (1) the short term versus long term



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time orientation of the career decision making; (2) the level of impact of the social network connections; and (3) the external and internal migration potential.

Firstly, the research discovered that majority of EE students were ready to make short term compromises in order to achieve their long term career goals. Also, half of the EE students were not ready to sacrifice their long term career goals even if they could maximise their short term benefits.

Second, the research uncovered that strong network ties of family and partners had the highest level of influence; weak network ties of friends and interviewees of employers had second highest influence; while university relations such as alumni networks, students organizations, closed online communities, career offices, and student services had the lowest level of influence on the workplace selection of early career EEs in Hungarian universities.

Third, the research measured relatively high external and internal migration potential of EE students. With regards to external migration potential, 77% of EE students reported that they would like to work abroad if they have the opportunity. More than half of the EE students were open for *temporary* short, medium, or long term external migration. Only one out of five (21%) EE student considered *final* migration to a foreign country. With regards to internal migration potential, 69% of EE students were ready to move to another region within Hungary for an attractive job opportunity.

Readers should consider the limited generalizability of the findings reported in this paper. Career decision making preferences, social network influence, migration potential can change over time, and can be influenced with personal or environmental factors such as the recent COVID-19 pandemic. Therefore, a longitudinal study can be considered to discover the changes in the workplace selection preferences of EE students over time.

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Home Office or Distant Work? - Conclusions of the Year 2020

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Abstract: The year of 2020 has brought significant changes in the lives of people and the world of work. Many companies went bankrupt due to restrictions because of the virus situation or they were forced to decrease the working hours or the amount of workforce. Meanwhile, some companies alterations were absolutely on a different level.

The alterations mean switching to home office particularly for white collar workers. The companies were not prepared for the changes therefore, the regulating of the home working was started later. The alterations affected the employment of contract, meaning the relationship between employer and employee changed.

Can the quality and quantity of the work of the employee be controlled while working from home? How can it be controlled to be accepted by both parties and keep it legal? Does trust between the employer and employee have any role in such situations? Is there any difference between the home office and distant work?

I was searching for the answers to the questions in my survey where I used questionnaire and current regulations and laws for making statements. The questionnaire included questions (multiple choices) about the new form of work and was shared in the internet in summer 2020.

The aim of this research is to give an overview how changed the work at hungarian companies because of the COVID-19 situation. This article would like to highlight the home office is not equal with distant work and the rules are different.

Keywords: Home Office, Distant Work, Trust, Over-time, COVID-19

1 Introduction, Aim of the research

The aim of the present research is to provide a comprehensive picture of the regulation of home office and distant work, the legal background. It touches on the importance of trust and, based on a sample of 109, is able to draw conclusions for respondents, which will provide a solid basis for the analysis of the second wave of COVID in a later article.

2 Changes in Year 2020

“Nowadays the most of the world have learnt to adapt to a social distance. Keeping a distance results in staying away from our usual jobs in the most workplace. Employers and employees had to adapt to a number of new rules, and continuous work from a distance (means home) resulted in a a new situation with challanges that could be examined and analyzed” [5].

This year so many changes happened having impacted the whole world. The source of the main problem is the COVID-19 causing several changes in different areas.

In this paper the main focus is on the effects of the virus situation in Hungary. The Hungarian Government ordered the emergency situation 11 March, 2020.

The main points of the emergency:

- Quarantine
- Restricted measures

Following the rules needs a proper behavior by the people of this country. In the modern world it is a new and unusual situation and the freedom was limited.

The Covid-19 had a negative impact on the economic field. Mainly the affected companies were multinational automotive suppliers in Hungary. They were not the only ones but other companies went bankrupt or had to decrease the production volumen. The common thing in these companies is the supplier chain began to slow down or even stopped. For these companies the raw material arrives from China. The time the production in China stopped or they were not able to produce enough and send the ordered quantites to the customers.

Anyway some companies or firms were not affected in this situation at all. For example the building industry has not changed, the work was continous.

A consequences of the situation is thousands of employees became unemployed in a short time. The unemployed were an other problem for the government.

3 Home Office

The Home Office has been an existing phenomenon mainly at multinational companies for many years in Hungary though not regulated by law. It is not the same as distant working, nevertheless often referred to as distant working. On the contrary the distant work has a regulation by law [1].

Unfortunately the extended working from home arrived suddenly in 2020. Most of the companies had no existing procedures for it nor any schemes or regulations. The Employers sent their employees into home office during the quarantine. Employee contracts are modified by employer (because of home office).

During quarantine working at home is not usual even because mostly the all family member especially the children (education was also operating in home office) had to stay at home. In this case the life changed within the families for example the employee works at home but he/she must educate the child, does the housework or goes for shopping.



In some case there are unjustified expectations from the employers. During home office the employees no need to travel and save extra time but the employer asks them to work instead of the travel time. It is not legitimate. This is the point where the relationship may change between the employer and employee because it can cause disputes and tensions, these often lead to conflicts and some of these conflicts can become legal disputes [8].

The new situation required adaptation for everyone. Human relationships have changed between the family members and between the employers and employees of course. “During the quarantine period, it was primarily intellectual workers who were able and entitled to work from home, who could enjoy the advantages of this situation or even have to bear the disadvantages [5].

Since the quarantine period the human relationships exist in a digital world and the physical contacts reduced. It became customary to live and work in a cyber world. The more technologically and economically connected we are, the more challenges we have to face [7].

3.1 Occupational Health and Safety in Home Office

The Hungarian Law of protection of Labor is the basis to make a risk assessment [2]. In case of any organized work (if there is only one owner and one employee) it is mandatory to prepare. If the employees work at home office in that case the rules are the same like in the company’s office. Concerning the Occupational Health and Safety rules also, that is why to need to do a risk assessment about the employees home. The task to make the assessments belongs to health and safety expert.

Many employers ask their employees to fill a form for the risk assessment and take some photos about the work environment and conditions. This raises privacy issues (data protection of private life), among other things:

There are lots of sensitive issues:

- Who can see these pictures (only the H&S expert or any member of Management)
- Making assumptions according to the pictures.
- Religious issues
- Political issues
- Personal issues

Taking photos is not the only problem, because some employer made questionnaires for their employees and it includes questions like this:

“How often do you meet your colleagues outside of work hours?”

The mentioned question is a part of a home office questionnaire. But why? It is a violation of the privacy. Because employees are afraid of losing their jobs, they do not protest against such requests like these.

Many health and safety experts are unaware of the privacy rights and companies also. During this extended emergency period the companies try to regulate the home office.

3.2 Home Office: Over-Time

In Hungary, the working times is regulated by law [1], [3]. If the employee works more than the normal work time that means extra work hours: over-time. This form of work is controlled by the employers officially, of course.

Nowadays the place of work and the home are the same. Actually the work time isn't changed except for where it had been decreased.

Most important the work or overtime during the home office is not so easy to control or limit as the normal work in order to eliminate this, an unconditional trust must be established between the employee and employer, which is called absence trust.

According the Hungarian laws the distant work is not done at the employer's site, but the activity can practically be done from anywhere (except if, it was defined in the contract), in such cases mainly digital or IT tools are used by the employee.

Distant work: Most of the work hours are spent out of the actual workplace [10]. The time spent on work is scheduled by the employee with the keeping of the deadlines.

Home office needs permission or confirmation of the employer (even without company regulation). The work hours spent in home office should be the same as defined originally on the site.

Distant work and home office are atypical working methods.

The chart below shows the differences and the similarities between the main points of distant work and home office. Necessary to highlight the 3rd row where is the regulation of these working methods. Until the home office has an inner regulation by the employers, the distant work is regulated the Law [1].

Distant Work	HOME OFFICE
Activity can practically be done from anywhere (except if, it was defined in the contract)	As shown in the name it is done from home
It is regulated by Law (Year 2012. I. LAW about the Labour Law Code § 196.)	Written, spoken or inner regulation by the employer
Using IT tools, smart phone Limited or no access to company drives	Using IT tools, smart phone Unlimited access to company drives (VPN connection)
The time spent on work is scheduled by the employee with the keeping of the deadlines.	Should be the same as defined originally on the site.
Occupational Health & Safety rules	Occupational Health & Safety rules

Table 1: Comparing the Distant work and Home office

Source: Author's own edit

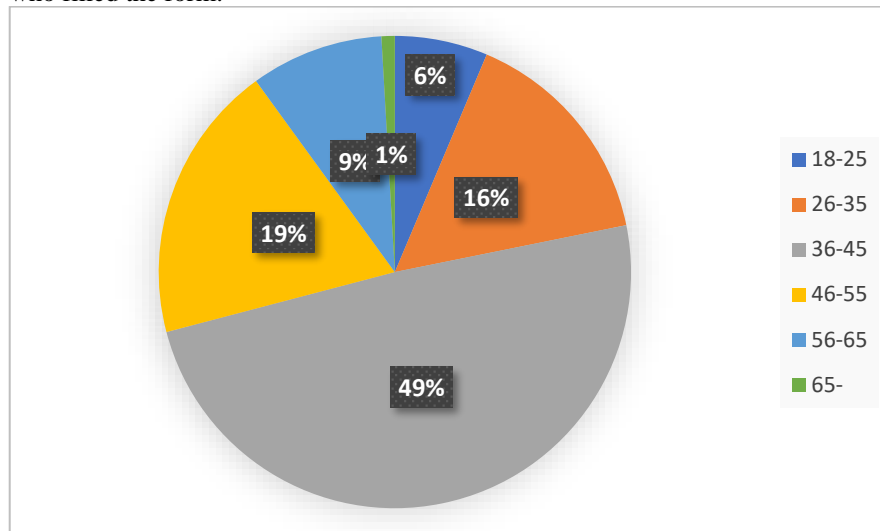
Of course, the IT tools are very important in home office and its security also. The employees must take care of the data privacy in the home. The IT systems build on corporate processes and must include the principles of information security [4]. In addition important in case of an ERP system the security and be updated in 0-24. The system needs to ensure the protection of information data [4].

4 Result of research

In the second part of this paper I assume the results of my questionnaire. My questions were shared in the social networking sites. 109 people replied to the questions and I analyzed these answers. This questionnaire was shared in summer of 2020, after the first wave of Covid. In that time that was not possible what would happen in the rest of the year. Since that we know the the second wave has started with new restrictions introduced by the Hungarian Government.

4.1 Questions

After the analisation of the answers to the questions I put the final result in pie charts. The first question was simple and interesting, it refers to the age of the people who filled the form.



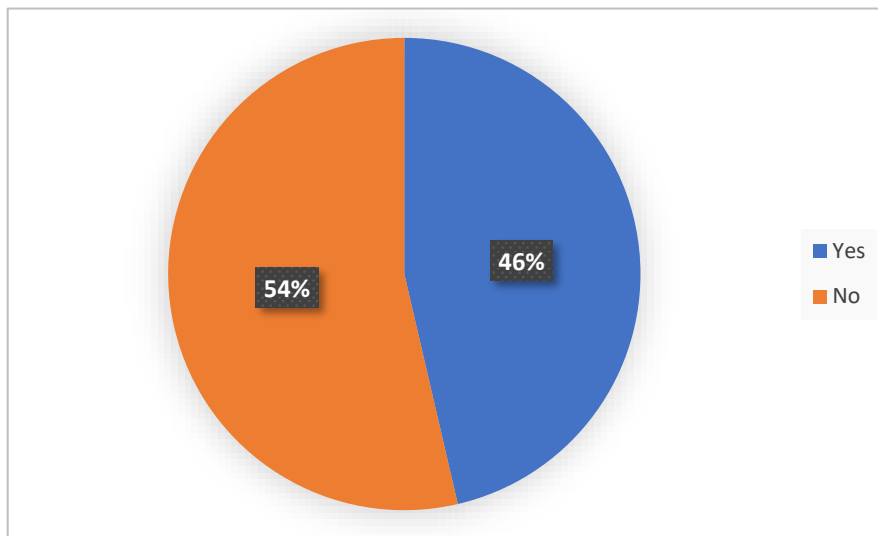
6. Figure Distribution of ages

Source: Author's own edit

Distribution according to ages: mainly 36 to 45 years old people replied (Total nr. of answers is 109). The second largest number of responses were received from 46 to 55 years old people. It is almost 20%. The rest are in different ages, surprisingly

there are over 65 years old people. Normally the people after 65 goes on pension in Hungary.

The next question was looking for the answer whether there are rules for the home office or not.

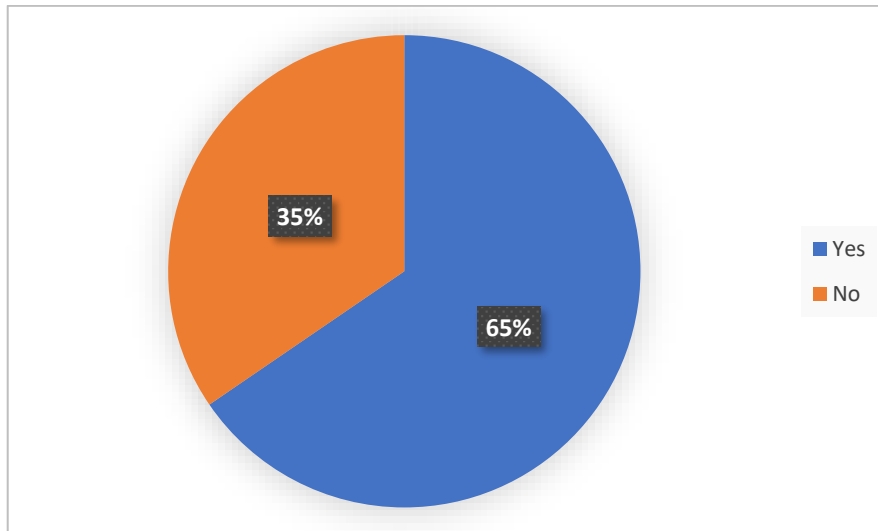


7. Figure Importance of rules of work in Home Office

Source: Author's own edit

Most of the employers (54%) did not define the rules of the work in the home office. Probably the main reason was the unexpected situation in the world of work and it was not a best practice at the companies. The work of employees were controlled in written or verbal ways by the superiors.

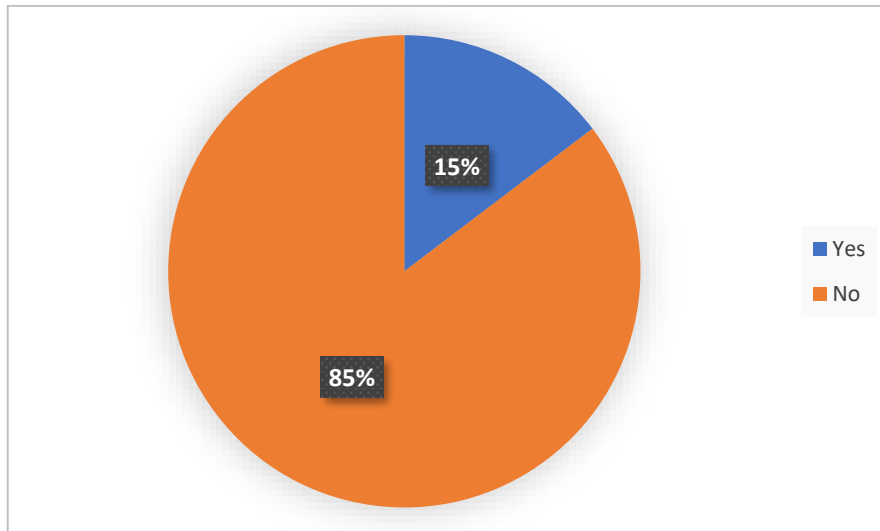
Now that the state of emergency is still existing (end of the year 2020) and nobody sees the end of it, the employers recognized the importance of the written rules of home office.



8. Figure Need to be regulated the Home Office?

Source: Author's own edit

65% of the people think that rules are needed for the home office. It is extremely important to be regulated the conditions of work in the home office. It is known that every work activity has a written regulated form (laws, company rules etc.). It cannot be otherwise if the employee does the job in the home temporarily. Interesting to note the another part of the respondents (35%) does not want rules when does the job in home. Probably they would like to build up a looser connection with the superiors or the employer. In case of the distant work it is normal, but home office is a temporary situation.

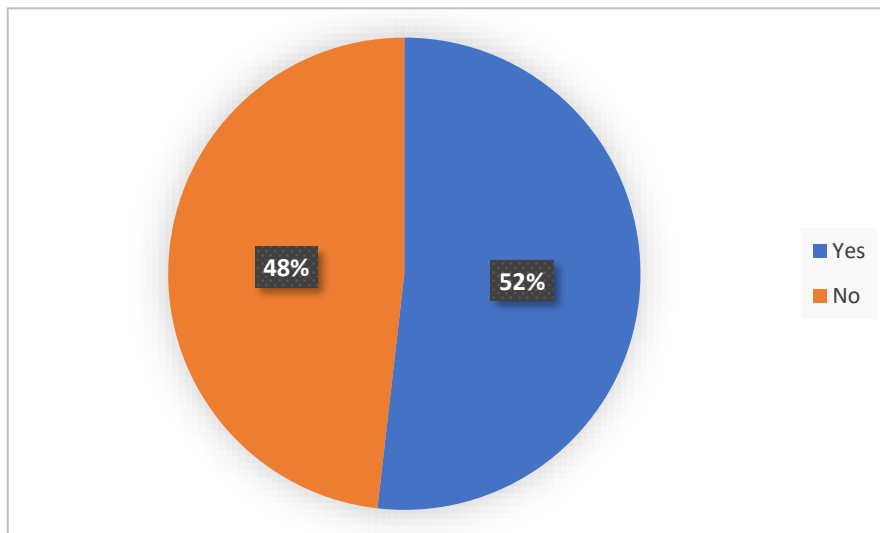


9. Figure Payment for the Over-time

Source: Author's own edit

During the home office some companies pay the over-time – 15 %. We can say the over-time is normal in this world. Over-time also has its rules by law and every employer is required to keep them.

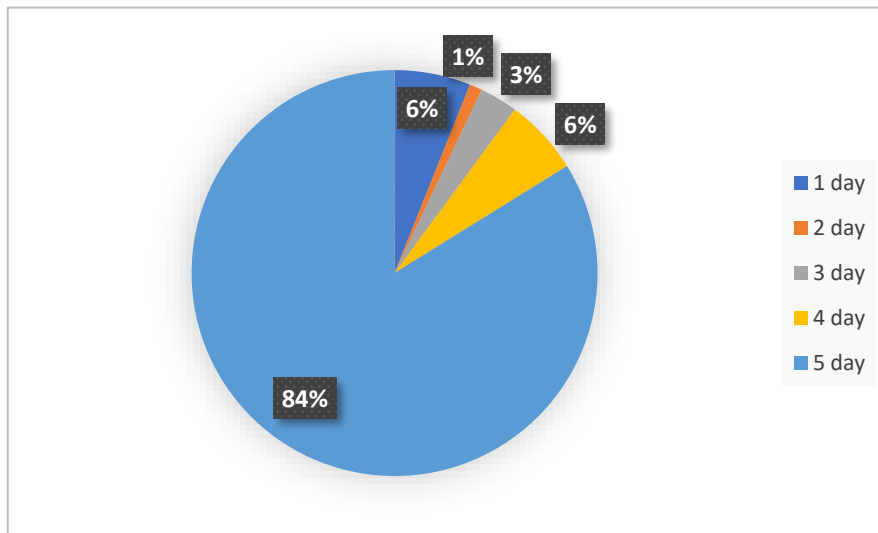
If the employees need to do more work a day than 8 hours during the period of home office in that case we can mention it is considered an over-time.



10. Figure Agrees with the over-time

Source: Author's own edit

Almost the half of people who replied agree with the over-time during home office (52%). This is a normal expectation from the employees because the over-time is a part of the work and it does not matter where they physically do the job. Unfortunately the 48% of the people do not think the over-time is possible during the home office. In the background of the answer there could be several options. If the home office is a necessary while taking care of children, the extra work only becomes a burden. Furthermore, it depends on the employees work attitude. The work in the home office can cause different kinds of conflicts. Conflicts between the family members also between the employees and employers. Conflict is a collision which needs to be handled in a proper way. „In the Hungarian legal regulation, there are several ways for persons how to resolve a conflict, how to resolve a dispute, how to continue with family members, neighbours, colleagues, business partners” [6].



11. Figure Home office after the quarantine period

Source: Author's own edit

After the quarantine, the 5-day home office remained at many companies (84%). This question was very important because it is an indication whether company sent the employees to home office because of the restriction of Government or the health of people is also essential.

The second largest numbers of answers (6%) is the one day and four days home office after the quarantine. No one knew what would happen in Hungary that is why the remained one day in home office in every week may be difficult to be understood.

If employers let the employees work from home (from 1 to 5 days) it means a sense of trust towards the employees. Of course, trust needs to be mutual. It is the base of a long time work relationship between the parties.



“Trust is a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another.” [9]

Conclusions

The year 2020 has significantly changed - mainly – the intellectual jobs. The home office is only an expression which still cannot be read in the Hungarian rules although it is not equal to distance work.

Employers are trying to keep up with the situation, but there is no uniform guideline on how to treat the home office as a “new form of work”. The way of communication between separate employees is changing: it mostly happens electronically.

The home becomes the second workplace, so monitoring the working conditions (risk assessments [2]) will be important for the employer.

It is questionable whether the method of enforcement can be legally resolved. Controlling of the work and over-time can not be done 100%. The new situation creates a new expression: „absence trust”.

The trust, of course, has a key role in both family and business life [7], but nowadays it has a much stronger role considering the circumstances of the home office. In this unusual and difficult situation let’s trust each other!

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Sustainable Development Goals Implementation in Russia

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Abstract: The article presents an analysis of the UN sustainable development goals implementation, which in recent years have become the basic model for human development. They are an integral part of the modern world, their implementation will contribute to economic, social and political stability in the 21st century, this is the relevance of the study. The work also notes the problems and prospects for achieving the SDGs in Russia. The purpose of the work is to identify the features of the activities of the Russian Federation, which is necessary to understand the systematic approach of the country in the sustainable development goals implementation.

Keywords: Sustainable Development Goals, Russia, Poverty, Quality Education, Gender Equality, Economic Growth

1 Introduction

In 2015, the United Nations adopted the 2030 Agenda for Sustainable Development under Resolution 70/1 "Transforming Our World: The 2030 Agenda for Sustainable Development" [1] (September 25, 2015). The programme is a 17-goal plan to eradicate poverty, conserve the planet's resources and ensure well-being:

1. No poverty;
2. Zero hunger;
3. Good health and well-being;
4. Quality education;
5. Gender equality;
6. Clean water and sanitation;
7. Affordable and clean energy;
8. Decent work and economic growth;
9. Industry, innovation and infrastructure;
10. Reduced inequalities;
11. Sustainable cities and communities;
12. Responsible consumption and production;
13. Climate action;



- 14. Life below water;
- 15. Life on land;
- 16. Peace, justice and strong institutions;
- 17. Partnerships for the goals [2].

Each goal contains a set of indicators to be achieved within 15 years. To achieve them joint efforts of governments, civil society and business are required.

The implementation of each SDG is important for the modern world community for the transition of mankind to a new stage of development and the elimination of global problems of our time, which have become an integral part of the social, economic and political life of society. In the 21st century, the world needs them more than ever.

It is important to pay attention to the fact that the concept of sustainable development, which is being implemented in a number of states, is one of the most widespread and supported in the world.

The Russian legislation contains a section "The Concept of the Transition of the Russian Federation to Sustainable Development" [3].

In recent years, the Russian Federation has demonstrated tangible progress on each of the SDGs. But against the background of countries that lead positions in the ranking of sustainable development, such as Sweden, Denmark and Finland (Figure 1), Russia's results do not seem significant. In 2020, Russia ranks 57th in the sustainable development rating, gaining 71.92 points. First, it is necessary to identify the reasons for the slow progress of our country in the implementation of the SDGs.

Rank	Country	Score	Performance by SDG
1	Sweden	84.72	
2	Denmark	84.56	
3	Finland	83.77	

Figure 1

Rankings: The overall performance of all 193 UN Member States (2020) [4]

Experts include among the most successfully implemented SDGs in Russia by 2020: SDG 1 "No poverty", SDG 4 "Quality education" and SDG 8 "Decent work and economic growth". Positive dynamics can be traced in the implementation of the goal, designed to improve social indicators: SDG 5 "Gender Equality" [4].

The development of social factors contributes to the improvement of economic, political and environmental indicators of sustainable development, they are the basis for a favorable life in society, quality education and, subsequently, economic sustainability, which the Russian Federation is striving for.



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Further in the article, we will take turns examining the most successfully implemented SDGs in Russia.

2 Implementation of SDG 1 "No Poverty"

In realizing human capital, the Russian Federation has made progress in SDG 1 “No poverty”.

In terms of basic parameters, Russia has achieved the goal of eliminating extreme poverty. The effective policy in the field of combating poverty that is being pursued in the country envisages reducing the national poverty level by at least two times by 2024 (in 2018, the share of the poor with incomes below the subsistence level was 12.6%) [5].

Since a large group of the poor in Russia consists of families with children, the emphasis in the work to reduce the level of poverty is made, including on the withdrawal from poverty of families of this category. In recent decades, positive trends have been observed in Russia in the field of social protection of certain groups of the population and the creation of new support mechanisms for these purposes, such as a "social contract", which provides social support to citizens when implementing the latest measures for social adaptation.

Thus, for 2018:

- 104.3 thousand social contracts were signed, including 62.6 thousand (60%) with low-income families;
- 308.8 thousand people received state aid on the basis of the social contract, including 40% - urban residents and 60% - rural residents;
- 19.5 thousand people (33.3%) overcame a difficult life situation on the basis of a social contract;
- 103 thousand people (35.1%) of low-income citizens improved their financial situation, overcame poverty on the basis of a social contract [5].

According to the voluntary national report of the 2030 Agenda for Sustainable Development, 500,000 people were lifted out of poverty in a year. According to preliminary data for the 1st quarter of 2019, the population with cash incomes below the subsistence level was 18.1 million people or 12.3% of the total population [6].

Despite the fact that, on the whole, Russia has managed to achieve the most important goal of sustainable development - the elimination of extreme poverty (there is practically no population in Russia with an average disposable income of less than US \$ 1.9 per day), the problem of poverty for the Russian Federation remains urgent. If in 2018 the number of the poor (that is, the population with incomes below the subsistence level) amounted to 12.6% of the total population,



then by the second quarter of 2019, according to Russian Federal Agency of State Statistics, it amounted to 18.6 million people, or 12.7% of the total population, and also increased in comparison with the 1st quarter of 2019 (18.1 million people, or 12.3%). This is due to the fact that the cost of living in the second quarter of 2019 increased by 7.1% compared to the same period last year, while inflation in annual terms was 5%, and the growth of average per capita money income of the population was 5,6% [7].

The number of Russians with incomes below the subsistence level in the second quarter of 2020 increased by 1.3 million people compared to the same period last year and amounted to 20 million. According to Russian Federal Agency of State Statistics, only 13.5% of the country's inhabitants were below the poverty line. And this is 0.8% more than in the first quarter of the year. The growth in the number of the poor was facilitated by the decrease in real incomes of the population due to the drop in business activity during the pandemic [8]. Nevertheless, despite the fact that Russia has achieved the goal of eliminating poverty, there are still significant social problems in the country that directly depend on poverty indicators.

The problem of social inequality remains relevant for the Russian Federation. The share of the population with an average per capita money income was below the average per capita level of money income, and remained stable in 2015–2018. At the same time, the share of the population with incomes below the subsistence level slightly decreased in 2017–2018.

In accordance with Decree 204 [9] one of the national development goals of Russia is to ensure sustainable growth in real incomes of citizens, as well as an increase in the level of pension provision above the inflation rate. With regard to the material support of citizens of the older generation, from January 1, 2010, in order to bring the material support of non-working pensioners to the level of the pensioner's subsistence minimum, established in the constituent entity of the Russian Federation, social supplements are provided for pensions.

At the same time, the current pension payments for people over working age are still insufficient. This may be evidenced by the prevalence of work among people over working age. According to the Pension Fund of the Russian Federation, as of January 1, 2019, the total number of pensioners is about 43.9 million people, of which about 9.7 million people are employed. The share of working pensioners in the total number of pensioners registered in the Pension Fund of the Russian Federation has slightly decreased and amounted to 20.4% as of January 1, 2019 (21.1% as of January 1, 2018). After retirement, every fifth pensioner continues to work [10].



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3 Implementation of SDG 4 "Quality education"

The goal of the Russian Federation is to ensure that students acquire the knowledge and skills they need to promote sustainable development.

Education in Russia is a priority for national policy. The Constitution of the Russian Federation guarantees the right of everyone to education and determines the compulsory nature of general education for all.

At the end of 2018, 47 Russian universities were represented in institutional, industry and subject rankings, including 19 participants in the program to improve the competitiveness of the leading universities of the Russian Federation. The number of Russian universities in the TOP-200 of the world's leading universities has reached 18. By the end of 2019, 48 domestic universities are included in the top 500 world rankings.

The total number of students enrolled in higher education programs in 2018 was 4.2 million, in 2019 - 4.1 million. The share of women among students in 2012-2018 averaged 54%, in 2019 - 53% (in 2010-2011 - 56-57%) [5].

To expand the coverage of the population with additional education by the national project "Education", adopted in 2018, it is planned to create a platform for continuous education (vocational training and additional education), introduce grant support programs for higher education organizations, and train relevant scientific and pedagogical workers. This project includes 10 federal projects:

- "Modern school";
- "The success of every child";
- "Support for families with children";
- "Digital educational environment";
- "Teacher of the future";
- "Young professionals";
- "New opportunities for everyone";
- "Social activity";
- "Export of education";
- "Social elevators for everyone" [11].

4 Implementation of SDG 5 "Gender Equality"

At the moment, the issue of gender equality in Russia is not so acute, because equality of men and women is guaranteed by Russian legislation.



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In 2019, the participation rate of women in the labor force was 55.4% (men - 70.6%), the employment rate - 52.9% (men - 67.3%), the unemployment rate - 4.4% (men - 4,8%) [12].

For gender equality, Russia is implementing the National Strategy for Action for Women 2017-2022 [13].

This strategy is aimed, among other things, at reducing the gender pay gap (in 2019, the ratio of women's wages to men's wages was 72.1%).

In 2018, the index of women's entrepreneurial activity increased (up to 69%), the number of socially significant projects implemented by women, as well as the number of women volunteers and charitable organizations, increased. [14]

One of the forms of implementation of women's social activity is women's public organizations, such as:

- *The Eurasian Women's Forum* is a major international platform for discussing the role of women in modern society. The organizers of the forum are the Federation Council of the Federal Assembly of the Russian Federation and the Interparliamentary Assembly of the CIS member states. In September 2018, the Second Eurasian Women's Forum was held on the theme "Women for Global Security and Sustainable Development". Within the framework of the forum, for the first time, new formats of discussions were organized, such as a meeting of the International Discussion Club of Women Governors, a summit of women diplomats, a presentation of the BRICS Women's Business Alliance. The issues of improving the economic status of women, promoting and supporting women's entrepreneurship in the digital economy, preserving women's health, women's participation in the development of agriculture, science and sports are considered. Third Eurasian Women's Forum will be held in 2021 [15].

- *The BEST project (Business Efficiency and Success Target)* has been carried out annually since 2016 within the framework of the APEC forum, by the Ministry of Economic Development of Russia in conjunction with the OPORA Russia Committee for Supporting Women's Entrepreneurship. The project selects the most effective projects of women's entrepreneurship from the constituent entities of the Russian Federation, which can compete on international platforms and in the future can scale as the best experience of Russia and the most successful business models [16].



5 Implementation of SDG 8 "Decent Work and Economic Growth"

The main problem in realizing this goal for the country is stagnation in the Russian economy, which depends on raw materials exports, and therefore on oil prices, which are ruled by the international market. At the same time, the world is undergoing an energy revolution and it is very likely that by 2030 oil and gas will no longer be the most important sources of energy.

Another problem for Russia is labor productivity, which is 2.5 times lower than in developed countries. In addition to improving the qualifications of employees, increasing the number of high-performing jobs requires tools to improve labor efficiency, such as informatization, automation and computerization [17].

To address this problem, the Russian economy has undertaken a number of structural reforms. They included such components as:

- transition to a floating exchange rate;
- introduction of the inflation targeting regime;
- maintaining a responsible budget policy (introducing new “budget rules” in relation to oil and gas revenues) [5].

As a result of these reforms, in recent years, the country has seen positive changes in the economy, such as an acceleration in GDP growth rates (from 0.3% in 2016 to 2.3% in 2018) and household incomes (growth in real average monthly wages workers' wages increased from 0.7% in 2016 to 6.8% in 2018). At the same time, there was also a decrease in unemployment (from 5.5% in 2016 to 4.8% in 2018 among the population aged 15 to 72). The development of the Russian economy stimulates the creation of new jobs. For 2008-2018 about 1.4 million additional jobs were created in Russia.

A separate area of government policy and development is to stimulate productivity growth in the Russian economy. The share of highly skilled workers in the total number of skilled workers in recent years has remained above 30% (in 2018 - 32.3%). In turn, the index of changes in labor productivity shows a positive trend - for 2016-2018 it grew from 0.2% to 2.3% [5].

Another positive factor in the conduct of social policy in Russia is the effective practice of developing employment and professional growth for different strata and groups of the population (adherence to the principle of “leaving no one behind”) [18]. For example, Russia has established the practice of assisting in employment and developing the availability of financial services for persons with disabilities. Thus, quotas for hiring people with special needs are established: for employers with more than 100 employees - from 2% to 4% of the average number of employees, and for employers with 35 to 100 employees - 3%. Also, support for



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persons with disabilities is carried out by business and on an initiative basis - in Russia there is a "Business Council on Disability Issues" [20] (includes more than 40 companies), whose goal is to highlight the problem of disability, assist in the employment of people with disabilities and support in adaptation to the workplace.

Conclusions

Based on the results of studies of the sustainable development goals presented in the article, it can be concluded that Russia has made significant progress in the areas of economic growth and the provision of employment and employment for various groups and strata of the population, gender equality, the quality of education and poverty elimination.

As the indicators of human potential improve, namely: the elimination of poverty, social inequality, the opportunity for the entire population to receive a quality education, Russia every year strengthens its position in the United Nations SDG rating.

The range of social issues is the basis for the further development of economic, political and environmental indicators in the country.

However, despite the fact that the Russian legislation contains a section "Concept of the Russian Federation's Transition to Sustainable Development", this is not enough to successfully further implement the SDGs in the Russian Federation. The authors believe that it is necessary to develop detailed documentation for each of the goals.

In conclusion, it should be emphasized that in order for Russia to achieve success in the implementation of all sustainable development goals, it is necessary that all spheres of public life in the country prioritize the SDGs and focus on the leading countries in this matter.

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Excessive Working Days for Shift Workers

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Abstract: Along with the needs of the manufacturing industry to increase the production volume, many industries rely heavily on shift work to optimize production. Even though the industry's need to survive is unstoppable, governments in various countries are trying to protect the rights of employees by establishing several regulations regarding working hours. The purpose of this study is to evaluate alternative shift patterns and determine recommendations for shift patterns. Thus, production continuity is maintained, but also prioritizes the interests of employees. Government regulations and company regulation is the main guidance for creating alternative of shift patterns. Shift schedule was generated within one year using three types of shift pattern, based on 2017 calendar, to handle the work within 24 hours. The next step is to calculate the workdays for each shift day patterns within one year. Employee with non-shift schedule are following the national holiday and collective leave that issued by the government. Then, the next step is to calculate the workdays for non-shift employee within one year. From the advantages and disadvantages of the proposed shift patterns, alternative 2 would be chosen as the best option for scheduling shift worker because it is appropriate with government and company regulation, and also, once a month, shift employee will get 3 days off.

Keywords: working hours, overtime, shift, excessive working days, manpower

1 Introduction

Along with the needs of the manufacturing industry to increase the production volume, many industries rely heavily on shift work to optimize production. Employee work shift is a shift or determination of working hours from hours in general that occurs once in 24 hours. The application of shift times varies depending on the needs and also the type of business. Even so, companies still have to pay attention to the safety and health when implementing it.

In various countries, regulations are established regarding working hours. World Health Organization (WHO)'s standard working hours defined as working hours of 35–40 hours per week [1]. Countries around the world have a total number of hours worked between 30 and 40 hours in 1 week [2]. However, it turns out that a number



of countries in Europe such as Germany, France, the Netherlands, Norway and Denmark have working hours of less than 30 hours in 1 week [3]. There are even countries that have an average working hours of more than 40 hours in 1 week, such as Mexico and Korea [4]. Meanwhile in Indonesia, the Indonesian government sets a standard working hour of 40 hours per week [5].

The purpose of this study is to evaluate alternative shift patterns and determine recommendations for shift patterns. Thus, production continuity is maintained, but also prioritizes the interests of employees.

2 Literature Review

2.1 Duration of Work

At the workplace, the duration and timing of work are crucial to determine how long employees are exposed to other working conditions and how much time is available for recovery, leisure activities, or private obligations [6]. The combination of high job demands and low job control is assumed to result in the highest level of strain, causing fatigue, physical illness, and job dissatisfaction. In contrast, workers who have a high level of job control when facing high job demands are hypothesized to experience lower strain and, beyond that, job satisfaction and personal development [7]. As an essential work resource, working time control may help employees manage work and personal demands, promoting health and work-life balance [8]. Moreover, long working hours or overtime may lead to shortened recovery time, resulting in psychological and physical health [9]. Furthermore, shift work or night work may lead to a disruption of circadian rhythms linked to biological functions such as hormone levels and sleep [10]. To produce a quality business process, it is necessary to understand the condition of the employees which is one of the internal factors of the company's business processes [11].

2.2 Shift Work

Shift work means a work schedule in which a worker replaces another on the same job within a 24-hour period. However, this is a narrow definition, and another definition of shift work is work that extends beyond the typical “nine-to-five” workday or work outside of the hours from 06:00 a.m. to 08:00 p.m. There are many types of shift work with respect to the structure: the presence or absence of night work, the duration of the shift (6 hours, 8 hours, 12 hours, or 24 hours), the number of workers or teams (two, three, four, or more teams), the change of working time (permanent or rotating), and so on. Shift work is commonly used not only in manufacturing industry to increase productivity but also in the hospital, police stations, and fire departments for public interest [10]. Shift work is associated



with a higher rate of sickness absence due to poorer work time control, i.e., employees being less able to control the timing, duration, and distribution of their work time. Poor work time control is prospectively associated with lower subjective health and an increased risk of sickness absence. In contrast, good work time control is associated with improved sleep quality, less depressive symptoms, and a reduced risk of long-term sickness absence [12].

2.3 Government Regulations

2.3.1 Working Hours

Working Hours are the time to do work, can be carried out during the day and / or at night. Working hours for workers are regulated in [5], particularly articles 77:

1. 7 hours a day and 40 hours a week for 6 working days per week, or
2. 8 hours a day and 40 hours a week for 5 working days per week

If the maximum hour exceeds (more than 40 hours), the working time is considered as Overtime Work so that the worker is entitled to overtime pay.

That provision of 40 working hours does not apply to certain business sectors or occupations. [13] regulated the types and nature of work that are constantly carried out:

1. Health services
2. Transportation services
3. Transportation equipment repair services
4. Tourism business
5. Postal and telecommunications services
6. Electricity supply
7. Clean water service network
8. Oil and gas fuel supply
9. Self-service businesses
10. Shopping centers
11. Mass media
12. Security sector
13. Conservation institutions
14. Jobs that if terminated will disrupt the production process, damage the material, and include maintenance / repair of production equipment.

However, any excess working hours performed by workers in carrying out the work as listed above must be counted as overtime that must be paid because it is a worker's right that protected by law.

2.3.2 Overtime Work

Based on Article 1 paragraph 1 of [14], overtime is working time that exceeds 7 hours a day for 6 working days and 40 hours in a week or 8 hours a day for 8 working days and 40 hours in a week or working time on weekly rest days and/or on official holidays stipulated by the Government. Overtime work can only be done a maximum of 3 hours per day and 14 hours in 1 week excluding weekly breaks or official holidays.

2.3.2.1 Overtime Work Calculation

1. Calculation of Overtime Wages on Working Days

Table 1.
Overtime Wages on Working Days

Overtime Hours	Formula	Remarks
1 st	$1,5 \times 1/173 \times \text{Monthly wages}$	100% of Wages, if the prevailing wages in the company consists of the basic wage and fixed allowances.
2 nd , 3 rd	$2 \times 1/173 \times \text{Monthly wages}$	75% of Wages, if the prevailing Wage in the company consists of the basic wage, fixed allowances and non-permanent allowances, provided that the monthly wage cannot be lower than the minimum wage

2. Calculation of Overtime Wages on Holidays/ Rest

Table 2
Overtime Wages on Holidays

Overtime Hours	Formula
6 Working Days per week (40 Hours / Week)	
1 st 7 hours	$7 \text{ hours} \times 2 \times 1/173 \times \text{Monthly wages}$
8 th	$1 \text{ hour} \times 3 \times 1/173 \times \text{Monthly wages}$
9 th – 10 th	$1 \text{ hour} \times 4 \times 1/173 \times \text{Monthly wages}$
Official Holidays Fall on the Shortest Business Day e.g. Friday	
1 st 5 hours	$5 \text{ hours} \times 2 \times 1/173 \times \text{Monthly wages}$
6 th	$1 \text{ hour} \times 3 \times 1/173 \times \text{Monthly wages}$
7 th – 8 th	$1 \text{ hour} \times 4 \times 1/173 \times \text{Monthly wages}$
5 Working Days per week (40 Hours / Week)	
1 st 8 hours	$8 \text{ hours} \times 2 \times 1/173 \times \text{Monthly wages}$
9 th	$1 \text{ hour} \times 3 \times 1/173 \times \text{Monthly wages}$
10 th – 11 th	$1 \text{ hour} \times 4 \times 1/173 \times \text{Monthly wages}$

Anyone who violates the provision of overtime wages as regulated in article 78 paragraph 2 and article 85 paragraph 3 of the Law No.13 of 2003, will be subject to a **minimum imprisonment of 1 month, a maximum of 12 months and / or a**

minimum fine Rp 10,000,000 and a maximum of Rp 100,000,000. Regarding this sanction, it is stated in the provisions of the Manpower Act article 187 paragraph 1.

2.3.3 Excessive Working Days

The company will release official holiday for the employee based on joint decree of 3 ministers:

1. Ministry of Religious Affairs,
2. Ministry of Manpower and Transmigration, and
3. State Minister for the Empowerment of State Apparatus

This schedule of holiday apply for non-shift employee, and for shift employee, they follow their shift schedule, including the day off. However, the calculation of overtime refers to those schedules for calculation of overtime during holiday.



Figure 1
National holiday from Indonesian government

Excessive working day is the difference between shift and non-shift workdays. The difference may occur, because the different way to determine the day off between that two work types. Therefore, if we compare the workdays between shift and non-shift worker, there will be different workdays. Usually, the amount of shift workdays more than non-shift workdays.

2.4 Company Regulations

The regulations related with working hours are stated in [15], article 17 to 20:

1. Working time is the time for all employees to do work during the day and night. Controlling the entry and return times is carried out using a time recording machine. Working time consists of non-shift, shift, and overtime.



Table 3
Shift and Non-shift working time

Type	Days	Working Hours	Rest Hours	
Non-shift	Mo – Thu	07.30 – 16.30	12.00 – 13.00	
	Friday	07.30 – 16.30	11.45 – 12.45	
Type	Shift	Working Hours Including Rest	Regular Working Hours	Excessive Working Hours
Shift	I	22.00 – 06.00 (8 hours)	7	1
	II	06.00 – 14.00 (8 hours)	8	
	III	14.00 – 22.00 (8 hours)	7	1

2. Regulation about Overtime:
 - a. A maximum of 3 hours in 1 day and / or a maximum of 14 hours in a week and / or a maximum of 56 hours in a month
 - b. A maximum of 8 hours in 1 day to perform work during the weekly rest time or official holidays set by the company

3 Method

According to [1], three types of personnel scheduling address a range of problems and solution approaches for different industries: (i) shift scheduling, (ii) day-off scheduling (involves assigning days off between workdays over a given planning horizon), and (iii) weekly tour scheduling (arises when shifts and days off are scheduled simultaneously).

Aggregate planning is concerned with developing a specific course of action for the production system to meet anticipated demand [4]. Management must first prepare a forecast of the total market over the planning horizon in aggregate terms. The objective of aggregate planning is to allocate capital and labor resources effectively to meet the anticipated demand over the planning horizon.

The stages in the heuristic method are:

1. Determine the demand for each period.
2. Define what capacity is at regular and overtime in each period.
3. Determine the cost of labor, the cost of worker layoff, and the cost of added inventory.
4. Considerations of company policies applicable to workers and levels of supply.
5. Develop alternative plans and observe the total costs.

The method for finding efficient shift work patterns conducted by literature review for shift scheduling, and also related regulations as a theoretical basis before evaluating and compiling the efficient shift pattern as the flow process below:

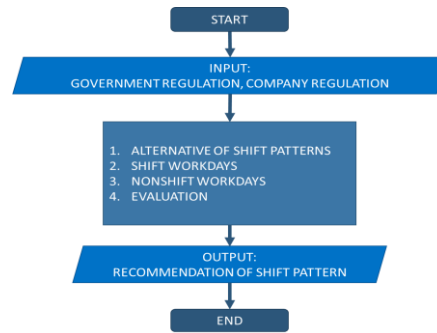


Figure 2
Flow process for getting efficient shift pattern recommendation

Shift schedule was generated within one year using three types of shift pattern. The next step is to calculate the workdays for each shift day patterns within one year. Employee with non-shift schedule are following the national holiday and collective leave that issued by the government. Then, the next step is to calculate the workdays for non-shift employee within one year. Finally, the most important thing would be giving recommendation of shift pattern based on Excessive Working Days.

4 Result

4.1 Shift Schedule

4.1.1 Shift Schedule Generation Result

Shift schedule was generated within one year using three types of shift pattern, based on 2017 calendar, to handle the work within 24 hours.

1. 3 Shifts, 3 Groups, with 5 days work, 2 days off

This pattern divides the division into **three** groups with five days of work in a week and with **two** days of rest in the weekend.

Group	January																														
	sun	mon	tue	wed	thu	fri	sat	sun	mon	tue	wed	thu	fri	sat	sun	mon	tue	wed	thu	fri	sat	sun	mon	tue	wed	thu	fri	sat	sun	mon	tue
I	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
II	OFF	1	1	1	1	1	OFF	OFF	2	2	2	2	2	OFF	OFF	3	3	3	3	3	OFF	OFF	1	1	1	1	1	OFF	OFF	2	2
III	OFF	2	2	2	2	2	OFF	OFF	3	3	3	3	3	OFF	OFF	1	1	1	1	1	OFF	OFF	2	2	2	2	2	OFF	OFF	3	3

Figure 3
Shift schedule pattern with 5 days work 2 days off



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Month	Shift Day pattern 5 2	Shift Day pattern 7 2	Shift Day pattern 6 2
January	22	23	24
February	20	21	21
March	23	23	23
April	20	23	22
May	23	24	24
June	22	21	23
July	21	24	23
August	23	24	23
September	21	22	22
October	22	22	23
November	22	23	24
December	21	24	23
Total	260	274	275
Average	21,7	22,8	22,9

Figure 7
Workdays within one year for 3 types of shift pattern

4.2 Workdays Calculation for Non-Shift Workers Result

Employee with non-shift schedule are following the national holiday and collective leave that issued by the government.

NO	DATE	WEEK DAY	HOLIDAY
1.	1 January	Sunday	New Year's Day
2.	28 January	Saturday	Chinese New Year
3.	28 March	Tuesday	Day of Silence
4.	14 April	Friday	Good Friday
5.	24 April	Monday	Ascension of Prophet Muhammad
6.	1 May	Monday	Labour Day
7.	11 May	Thursday	Buddha's Birthday
8.	25 May	Thursday	Ascension Day
9.	1 June	Thursday	Pancasila Day
10.	25-26 June	Sunday-Monday	Eid Al-Fitr
11.	17 August	Thursday	Independence Day
12.	1 September	Friday	Feast of the Sacrifice
13.	21 September	Thursday	Islamic New Year
14.	1 December	Friday	Birth of the Prophet Muhammad
15.	25 December	Monday	Christmas

Figure 8
National holiday

NO	DATE	WEEK DAY	HOLIDAY
1.	2 January	Monday	New Year's Day
2.	27, 28, 29, and 30 June	Tuesday, Wednesday, Thursday, and Friday	Eid Al-Fitr
3.	26 December	Tuesday	Christmas

Figure 9
Collective Leave

Then, the next step is to calculate the workdays for non-shift employee within one year. From the schedule, the result can be obtained as below:

Month	Workdays Calendar (A)	National Holiday (B)	Collective Leave (C)	Non Shift Day (D)
January	21			21
February	20			20
March	23	1		22
April	20	2		18
May	23	3		20
June	22	1	4	21
July	21			21
August	23	1		22
September	21	2		19
October	22			22
November	22			22
December	21	1	1	20
Total	259	11	5	248
Average	22	2	3	21

Figure 10
Workdays within one year for non-shift employee

4.3 Shift and Non-Shift Workers Comparison

The comparison of shift and non-shift employee related with their working days can be obtained as below:

Table 4
Shift and Non-Shift Workers Comparison

MONTH	WORKING DAYS						EXCESSIVE WORKING DAYS			
	(1) CALENDAR WORKING DAYS	(2) NATIONAL HOLIDAY	COLLECTIVE LEAVE	(3) NON-SHIFT = (1) - (2)	(4) 3S 3G 5-2	(5) 3S 4G 7-3	(6) 3S 4G 6-2	(7) 3S 3G 5-2 = (4) - (3)	(8) 3S 4G 7-3 = (5) - (3)	(9) 3S 4G 6-2 = (6) - (3)
JANUARY	21			21	22	23	24	1	2	3
FEBRUARY	20			20	20	21	21	0	1	1
MARCH	23	1		22	23	23	23	1	1	1
APRIL	20	2		18	20	23	22	2	5	4
MAY	23	3		20	23	24	24	3	4	4
JUNE	22	1	4	21	22	21	23	1	0	2
JULY	21			21	21	24	23	0	3	2
AUGUST	23	1		22	23	24	23	1	2	1
SEPTEMBER	21	2		19	21	22	22	2	3	3
OCTOBER	22			22	22	22	23	0	0	1
NOVEMBER	22			22	22	23	24	0	1	2
DECEMBER	21	1	1	20	21	24	23	1	4	3
Total	259	11	5	248	260	274	275	12	26	27

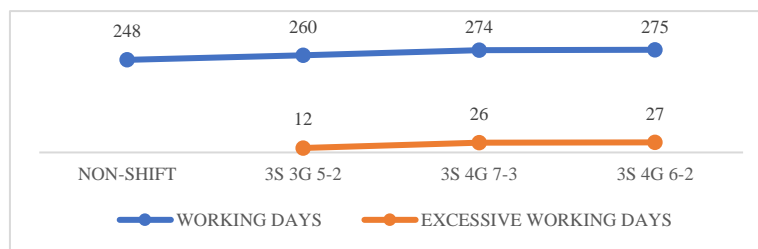


Figure 11
Comparison of Working Days and Excessive Working Days



From the above comparison, one alternative should be chosen with consideration of company and government regulation, and also the human factor itself (worker).

1. 3 Shifts, 3 Groups, with 5 days work 2 days off
Pro: appropriate with government regulation, low cost
Contra: cannot be implemented due to company regulation, need more time to calculate the payment
2. 3 Shifts, 4 Groups, with pattern A (7 days work 3 days off)
Pro: appropriate with government and company regulation, once a month, shift employee gets 3 days off
Contra: company must fill more position which resulted to the increasing of employee costs, need more time to calculate the payment
3. 3 Shift 4 Group with pattern B (6 days work 2 days off)
Pro: appropriate with government and company regulation,
Contra: company must fill more position which resulted to the increasing of employee costs, need more time to calculate the payment, once a month, shift employee gets only 2 days off

From the advantages and disadvantages, alternative 2 would be chosen as the best option for scheduling shift worker, with optimum Excessive Working Days (26 days), so it would bring the most benefit for the company (optimum cost) and the workers (more OFF days).

Conclusions

Along with the manufacturing industry's need to increase the production volume, many industries rely heavily on shift work to optimize production. At the workplace, the duration and timing of work are crucial to determine how long employees are exposed to other working conditions and how much time is available for recovery, leisure activities, or private obligations. Shift work means a work schedule in which a worker replaces another on the same job within 24 hours. Shift work is commonly used in the manufacturing industry to increase productivity and in the hospital, police stations, and fire departments for the public interest. The aggregate planning is used to allocate capital and labor resources effectively to meet the anticipated demand over the planning horizon. A specific method for aggregate planning is the heuristic method, by determining the need for each period, defining what capacity is at regular and overtime in each period, determining the cost of labor, the cost of worker layoff, and the cost of added inventory, using considerations of company policies applicable to workers and levels of supply, and developing alternative plans and observe the total costs.

Government regulations and company regulation is the main guidance for creating alternative of shift patterns. Shift schedule was generated within one year using three types of shift pattern, based on 2017 calendar, to handle the work within 24 hours. The next step is to calculate the workdays for each shift day patterns within one year. Employee with non-shift schedule are following the national holiday and collective leave that issued by the government. Then, the next step is to calculate the workdays for non-shift employee within one year.



From the advantages and disadvantages of the proposed shift patterns, alternative 2 would be chosen as the best option for scheduling shift worker because it is appropriate with government and company regulation, and also, once a month, shift employee will get 3 days off.

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Barriers to the Competitiveness of Beer Industry Suppliers in the Application of Industry 4.0 Solutions - Presentation of the Partial Results of an Empirical Research

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Abstract: The paper examines the attitudes of the supplier base Industry 4.0 solutions from the point of view of competitiveness in one of the markets of Hungarian agricultural products, the Hungarian food industry, including the supply chain of beer production. I use the "Visegrád Four" countries as the basis for the regional comparison, and then I use the Hungarian answers, which came to the questionnaire of my own primary research, in context through in-depth interviews using the foreign results.

Keywords: competitiveness, Industry 4.0, empirical research, beer industry, raw material

1 Introduction

On the one hand, the aim of my study is to examine the issue as a scientific novelty, different from the focus of cross-industry research, which examines only countries, pointing to the specifics of a given industry, in this case the beer industry.

Another aim of the study is to identify the factors that are currently obstacles in order to increase the competitiveness of Hungarian SMEs, so that they can be addressed by recognizing them.

2 Literature review

From an international perspective, that is, across continents, we may encounter different consumer preferences, raw materials, and technology, and I refrain from discussing this due to the size limitations of this publication. Even in Europe, we



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can only rely on the description of general trends, because beer consumption has undergone and is undergoing a significant transformation in recent years thanks to the revolution in craft beers. Small beer companies influence the market for materials of multinational companies on the raw material and packaging side (i.e. the demand for more hops is directly related to the increase in the supply price, assuming full capacity utilization), but more importantly, on the demand side, they contribute to the change of preferences by educating consumers: while during previous economic crises a significant part of consumption is consumed by economy beers, resp. own-brand beers, with the advent of new recipes (or, in fact, the breweries that produce them), consumers are increasingly confronted with names hitherto unknown to them (such as IPA, such as Indian Pale Ale or APA, American Pale Ale, etc.), by trying them, on the one hand, newer beer-consuming layers become involved, and on the other hand, the preference of already consumers changes and consumption shifts towards more charismatic, more aromatic beers.

Compared to the products already on the market, the more aromatic beers mentioned above belong to a higher, often premium price category, so the proportion of products consumed changes in the slightly growing market. Understanding the general European trend described above, my basic concept was to examine the Central and Eastern Europe (CEE) as a constrained area, but I see that due to historically different developments (i.e. belonging to the former Soviet bloc), due to the different development of the economies (see the date of EU accession), I narrowed it down to countries with similar economic performance and European Union development goals, therefore I chose the cooperation of the Visegrad Four (Szegedi, Papp and Malouin, 2018).

In the case of the Czech Republic, there is a generally positive attitude and openness on the part of senior management rather than at lower levels of the corporate hierarchy. Companies don't even have an industry 4.0 strategy and no designated staff member to oversee the topic. Now, companies don't know exactly what to expect from these new tools and unfortunately, they have no idea of the relevant costs. In the absence of this, Basl's research sheds light on the fact that technology-induced improvements cannot be translated into practical life by management, among the factors that motivate employees, because most employees do not have knowledge of the subject. However, the joint research of Basl and Kopp also reveals that there are already companies in the Czech Republic that use these new solutions, but at the same time they can be financed by a small number of companies on the one hand and by highly capital-intensive companies on the other. The solution is used by several researchers to increase state subsidies, respectively. seen in the application of publicly funded programs. As for the beer industry, aggressive proliferation of commercial brands has emerged since the '90s, with new multinationals entering the market investing to expand available capacities and meet group-level production expectations.



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In Poland, research by Werner-Lewandowska and colleagues has shown that Polish workers are ready for such a change in the industrial environment in terms of competencies and are optimistic about the future, it is not in the way of change. The emergence of the following three factors is seen as lacking in current Polish companies: corporate capabilities, engineering knowledge and infrastructure. The first two are a factor that can be developed in the short term, but infrastructure issues go deeper into corporate operations: a negligible proportion of companies still use robots. This trend is not new, anno, the global beer giants appearing in the country after the change of regime saw the key to this, not in mechanization and automation, but in the transformation of existing business processes, based on the professional knowledge and experience of management members. The reason for the acquisition of the complete companies was that the groups of companies did not have knowledge of the local markets, it would not have been commercially justified to set up new factory units because not all the data required for the business plan were available.

Regarding Slovakia, according to the research of Grenciková et al. (2019), most Slovak companies do not plan to develop at all, however, those open to development plan to develop themselves in the field of industry 4.0 without horizontal or vertical partnership. At the same time, more and more of these companies are seeking external expertise.

This openness began with the transformation of regional economic processes, the disintegration of Czechoslovakia, when Heineken, SAB and AbIn appeared on the market and began their operations by transforming local supply chains, listening to local suggestions. As with other transformations, bulk purchases have become the norm rather than the purchase of fragmented quantities. The lack of information on the products to be procured locally among the products needed for production called into question the structure of the own operation, the acquisition of existing breweries with a well-established supplier base using proven processes was a logical step in the free markets after the change of regime.

According to the summary of Marionova et al. (2006), it is typical for the region that after the change of regime, Western multinational companies began to expand, but this was accompanied by varying activity and investment from country to country. Nowadays, as mentioned earlier, due to the large manufacturers, the markets of the countries are highly concentrated, the sources of innovation and R&D activities are these multinational companies.

Beside of the international outlook, we shall not forget the other Hungarian businesses neither:

Pányi had highlighted the stakeholder involvement as key success factor in the Industry 4.0 change management, using the automotive sector as example (Pányi, 2018);



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Király, Kis Jakab and Reicher had examined the representative of the transportation sector and they had found that reducing working hours (which can be an essential benefit of the Industry 4.0 tool application) can contribute for the development of the firm. (Király, Kis Jakab, Reicher, 2018);

Comparing the retail sector's developments to the above mentioned, Lekovic and Katai had published that the electronic retailing -which is strongly correlates with the IT background of the operations- had contributed the most to the overall revenue of given companies (Lekovic, Katai, 2016);

From software usage point of view, we have to mention a study from 2016: Horváth had shown in his paper that his research selected company had introduced a new software for the operational management, which is clearly help to the management to balance the resources (Horváth, 2016).

3 Methodology and results

After reviewing the literature, I conducted in-depth interviews with well-known company executives in the field to gain a better understanding of the terminology and to have up-to-date information from the industry. I examined the textual imprint of the in-depth interviews with content analysis, with the researcher's curiosity as to what are the most commonly used terms, call words, and what message does verbal communication associate with the topic. In addition to the direct e-mail inquiries reaching 350 professionals after the interviews, the research was also published on the LinkedIn professional community portal in the Corvinus Alumni Club (3739 members), the Hungarian Business Association (6478 members) and the Procurement People Network (6725 members). questionnaire.

Of the approximately 17,000 potential respondents, I recorded 111 responses, representing a rate of 0.65%. When sharing the questionnaire, I targeted and asked for the completion of those who are the Hungarian suppliers of multinational beer companies operating in Hungary.

The significance level of the Cramer indicator is 0.013, i.e. the relationship is statistically significant, so I reject the null hypothesis that there is no correlation between the variables. A value of 0.276 indicates a weak-medium relationship. Each of the respondents completed both questions, so two samples of 111 respondents form the basis of their cross-tabulation analysis. The primary task of the respondents was to indicate what their main activity is, i.e. in which direction the supply chain is in relation to the brewery.

To analyze the two in-depth interviews conducted, I used a description of their text, they were the units of analysis. I carried out the research from two points of view:



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on the one hand, in a quantitative way, I counted the most common words and phrases related to the topic, and on the other hand, in a qualitative way, focusing on the content. At the same time, I analyzed this content on two levels: on the one hand, at the level of manifest, i.e. visible, easily manifested, surface content, and on the other hand, at the level of latent, i.e. hidden, but decipherable, decipherable content. The following five words were most frequently mentioned: “New” 6 times, “Real” 5 times, “Product” 4 times, “Moment” 4 times, “Technology” 4 times. From the frequency of the words, I concluded that the two most common words confirm the forward-looking, innovative nature of the topic, and refer to the immediate, real-time application of the solutions. Differentiates these solutions in the process. The product could be included in the keywords because, on the one hand, the products of Industry 4.0 are present as products to be sold on the market, and on the other hand, the buyers can improve the quality of the output of their own production. The words duration and technical solutions refer to the implementation of multiple data measurements instead of statistical averages, and to the independence of the measurement from human intervention. Regarding the questionnaire, the respondents were competitive and. Of the industry 4.0 solutions that contribute to this, digital illiteracy was mentioned 84 times, lack of financial support 82 times, and lack of support for research, development and innovation 76 times as the most common barriers. The second most mentioned group belongs to the barriers with 70 and 40 mention frequencies. Missing or outdated information and communication technologies (68 mentions), “Outdated production technologies, processes” (61 mentions) and “Lack of skilled labor” include 46. The medium frequency of mention suggests that companies have indicated barriers to competitiveness in relation to their own current manufacturing / service activities, i.e., in my interpretation, not only barriers to competitiveness in relation to industry 4.0, but also in their day-to-day operations. As the respondents had multiple response options, it is also worth noting that the fewest mentions were given to the narrowing market opportunities (mentioned 4 times) and the lack of expansion opportunities (mentioned 5 times) as an obstacle. That is, they see these two components as the least disruptive, as they do not see their own market shrinking, and they know exactly what expansion opportunities are available to them.

54% of the respondents work for companies with less than 50 employees, 17% work for a company with between 50 and 100 employees, and companies with more than 100 and 400 employees have the same number of respondents, two did not answer the question.

The headcount data show a match between the number of SMEs registered in Hungary and with data on employment of micro-enterprises and in logistics (more precisely with the low number of family businesses typical of transport), cf. the distribution of answers to the question about the company's field of activity.

More than 80% of the respondents are FMCG manufacturing service partners, which of course includes HR services, IT services, real estate management services



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and logistics services, among others, so the population surveyed with the questionnaire is relevant and valid for the dissertation. The proportion of responses from FMCG companies is close to 10%, which also gives an analysis of the market under investigation.

The distribution related to the registered office highlights the predominance of the Central Hungary region, however, in addition to the two missing answers, it contains answers from all three large regions. The division of the territory of Hungary was made due to the headquarters of the 3 large brewing companies already discussed in the dissertation (Sopron, Budapest and Bócs), with the intentional omission of the county or other territorial investigation units of EUROSTAT.

Almost half of the respondents (48.65%) have a quality assurance certificate, 42% have a value between 2 and 5 and 7% have more than 5 certificates, 2 people did not answer here either.

Findings

As a summary of the manifest content of the interviews, it can be said that the importance of the data and analyzes was emphasized by the subjects of the interviews as the foremost, primary step in the processes of Industry 4.0. It is important, so to speak, essential for companies to have a detailed understanding of the technology and to be open to what they do not yet know.

I analyzed the latent content from the tendency of certain concepts and the co-occurrence of the elements and their legally recurring features: I see the lack of manpower and the affinity for the integration of processes in the management of supply chain actors as key, unspoken factors. The current and future shortage of manpower means that the working time spent on the production of one unit of product must be reduced, and thus the further use of mechanized, automated solutions is recommended. The openness and attitude of the management towards integration is a strategic element of the company's operation, which in the long run determines the applied technologies, costs and the closeness and depth of cooperation.

The experience and theoretical knowledge of the practicing company professionals and managers on the topic highlighted the need to examine the supply chain, i.e. not only the internal, logistical and production processes of brewers, but also the processes and inputs that preceded it. It was particularly interesting to me, as the conclusions of the discussions, that companies were open to independent, professional guidance if they did not have to bear the costs themselves or were presented with "good practices" from other companies, i.e. exactly the solutions that could be applied to them. Feedback also indicated that so far businesses can only deal with the topic on the basis of separate knowledge bases, a common cross-section is missing: a guide applied to Hungary, negotiating the beer industry and



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assisting SMEs (or even only industry technology report or industry analysis with Industry 4.0 focus). could apply his thoughts and suggestions is not yet available. I believe that answering these questions in my dissertation is a scientific added value and novelty.

Due to the answers to the questionnaire, the most frequently mentioned factors shed light on an interesting trend, which could also be a concluding sentence of my study: the current Hungarian brewing suppliers, which supply to multinational brewers, resp. on the one hand, they admittedly do not understand digital trends (i.e. digitally illiterate in this respect), as their production processes or administrative tasks have been backed up to date with online, real-time or possibly automated solutions it goes in that direction. At the same time, the most important conclusion due to the lack of financial and R & D & I subsidies is that the examined companies do not feel development as an internal compulsion, but as a result of an external impact, a task to be supported and implemented from external sources. The lack of support for the above subsidies is echoed in the other responses, namely that, for example, missing or outdated information and communication technologies should not have been in the second most common mention if self-development had been a priority for companies. As companies do not finance technological developments themselves, they cannot enter the market more efficiently at a given cost level or more cost-effectively at a given production volume, which may put them at a competitive disadvantage in the short term, for example in neighboring countries. trends have been identified and are being implemented for implementation. In the case of non-stationary activities, companies in neighboring countries may take advantage of the reduction of barriers to the free movement of services and gain a competitive advantage over Hungarian companies across borders.

Only one direct material supplier responded, evidently from the brewery's input side. On the other side, 3 responses were received (due to the low number of pieces compared to the sample size, the focus of the research on which the dissertation was based was the upstream side), but this customer side - due to the complexity of the Hungarian economy - can be represented by other actors in the supply chain (for example, if a malt producer has a pub and can take advantage of a previously established business relationship). Representatives of 10 production companies filled in the questionnaire, which refers to the producers of other possible substitutes with similar characteristics in addition to the three large breweries (for example, soft drink producers for non-alcoholic beers and champagne for stronger, buck beers). 8 Indirect material suppliers shared their opinion, their portfolio includes consumables, logistics equipment (e.g. EUR pallets, CHEP trays, etc.). Representing the largest set of 89, manufacturers 'service partners from all segments of the business process, such as HR, IT, etc., appear.



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Summary

The current Hungarian brewing suppliers, which provide direct and indirect products and services to multinational brewers, do not understand the digital trends, as their production processes or administrative tasks have been supported by online, real-time or possibly automated solutions to this day, despite the fact that the market is heading in that direction. Due to the lack of financial and R & D & I subsidies, my research pointed out that the examined companies do not feel development as an internal compulsion, but as a result of an external impact, a task to be supported and implemented from a source outside them. By removing known barriers to competitiveness, using software and hardware available in the markets (even so-called "boxed"), domestic companies could improve their productivity, economy and be able to expand into new markets.

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