



BA SCHOOL OF
BUSINESS AND FINANCE

**BA School of Business and Finance
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**KNOWLEDGE MANAGEMENT COMPETENCE FOR ACHIEVING COMPETITIVE
ADVANTAGE OF PROFESSIONAL GROWTH AND DEVELOPMENT**

Collective monograph

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The collective monograph offers a description of sustainable development in the context of knowledge management as a competitive advantage. The authors of individual chapters chose such a point of view on the topic that they considered the most important and specific for their field of study. Theoretical and applied problems of knowledge management and competitive advantage are investigated in the context of economics, education, culture, politics and law.

CONTENTS

Kaspars Muceniķs RESTRUCTURING MANAGEMENT TO INCREASE COMPETITIVENESS FOR TRADING COMPANIES IN LATVIA	5
Dzintra Atstāja, Natālija Cudečka-Puriņa, Rudīte Vesere INFLUENCE OF COVID-19 ON WASTE MANAGEMENT AND CIRCULAR ECONOMY	38
Jekaterina Kuzmina MEASURING FINANCIAL HEALTH OF LATVIAN PRIVATE HIGHER EDUCATION INSTITUTIONS	51
Liubov Smoliar, Olha Ilyash, Nataliia Koba, Olena Trofymenko STRATEGIC IMPERATIVES OF KNOWLEDGE MANAGEMENT IN AN ORGANIZATION	70
Iryna Myhnovetska FORMATION OF RELATIONSHIPS AS THE BASIS OF SUCCESSFUL PERSONALITY DEVELOPMENT	97
Olena Lazarieva INNOVATIVE ASPECTS OF LAND USE DEVELOPMENT	111
Iryna Tolmachova INNOVATIVE APPROACHES TO FORMATION OF MEDIA COMPETENCE OF FUTURE SPECIALISTS IN THE PROCESS OF PROFESSIONAL TRAINING	127
Oksana Redkva, Viktor Tsekhanovych EUROREGIONAL COOPERATION IN THE CONDITIONS OF MODERN TRANSFORMATION CHANGES	142
Serhii Tsyrunyk, Andrii Krysak, Larysa Krysak, Tetiana Nechyporenko (Sitash) DIGITAL TECHNOLOGIES FOR PROFESSIONAL GROWTH AND INNOVATIVE DEVELOPMENT OF EDUCATIONAL INSTITUTIONS	156
Veronika Zaitseva ONLINE LEARNING IN FINE ARTS FOR INCLUSIVE EDUCATION	177
Mykola Kozlovets, Danylo Samoilenko, Liudmyla Horobchuk KNOWLEDGE MANAGEMENT IN THE CONDITIONS OF TRANSLINGUISM	189
Nataliia Danylevych, Svetlana Rudakova, Liudmyla Shchetinina, Alla Vasylyk SOCIO-ECONOMIC SECURITY AND INNOVATIVE ACTIVITY OF COUNTRIES: INDICATORS, RELATIONSHIPS AND DEVELOPMENT GUIDELINES	203
Oleksii Hutsaliuk, Iuliia Bondar, Iryna Sedikova, Liliya Filipishyna ECONOMIC RISKS IN CORPORATE MANAGEMENT OF THE DEVELOPMENT BY ASSOCIATIONS OF JOINT STOCK COMPANIES	225
Anna Petrykina FORMATION OF SPECIALIZED CREATIVITY AS BASIS FOR SUCCESSFUL PERSONAL SELF-REALIZATION	238

Viktor Zamlynskyi, Anatolii Livinskyi, Iryna Zakharkiv, Tetiana Korneeva CURRENT DEVELOPMENTS IN MANAGEMENT OF HUMAN RESOURCES	252
Maks Ratnikov, Natalka Zemzulina, Viktoriia Kirieieva ANALYSIS OF THEORETICAL AND PRACTICAL TOOLS OF POLITICAL SCIENCE IS AN IMPORTANT FACTOR IN DEVELOPMENT OF PROFESSIONAL COMPETENCE OF POLITICAL SUBJECTS	266
Araksia Mkrtchyan T. THE PROBLEM OF DEVELOPING LOGICAL THINKING IN THE CONTEXT OF IMPROVING METHODS OF TEACHING MATHEMATICS	279
Julia Kholodna, Alina Krasna ANALYSIS OF TRENDS IN THE DEVELOPMENT OF INNOVATIVE ACTIVITY OF SMALL AND MEDIUM-SIZED ENTERPRISES	294
Viktoriya Kovpak, Svitlana Kozyryatska, Anna Bakurova MEANINGFUL MATRIX OF THE NATIONAL IDEA AS A CONCEPTUAL LANGUAGE OF THE UNIVERSAL NATION BUILDING NORMS IN THE UKRAINIAN INFORMATION AND COMMUNICATION ENVIRONMENT	308
Olha Seleznova, Valentyna Kozlovtseva, Victoria Bondar, Yevgeniia Gordiichuk FUNCTIONAL ASPECTS OF ENTERPRISE MARKETING ACTIVITY MANAGEMENT	324
Dace Civča, Dzintra Atstāja, Viktor Koval BUSINESS CONTINUITY PLAN TESTING METHODS IN AN INTERNATIONAL COMPANY	341
Halyna Chernenko, Nataliia Opanasenko REFORMING THE NEW UKRAINIAN SCHOOL UNDER CONDITIONS OF PROFESSIONAL COMPETITIVENESS ON THE LABOUR MARKET	366
Iryna Omelchenko, Vadym Kobylchenko INTER-SUBJECTS INTERACTIONS WITH ADULTS AS A DETERMINANT OF PERSONAL DEVELOPMENT	382
Svitlana Namestyuk, Olena Stefurak, Yuliia Vilchanska A NEW READING OF THE CLASSIC: MODERN METHODS OF KNOWLEDGE MANGEMENT IN THE FIELD OF LITERARY THEORY	395
Alla Dakal STATE POLICY REGULATING SUPPORT OF TALENTED CHILDREN IN UKRAINE	408
Volodymyr Dubnytskyi, Nataliia Naumenko, Valeriia Pysarkova FUNDAMENTALS OF HIGHER EDUCATION IN THE DIGITAL ECONOMY	419
Tereza Korsaka SOURCES OF FUNDING AS SUPPORT FOR DEVELOPMENT OF LATVIA'S REGIONS	435

RESTRUCTURING MANAGEMENT TO INCREASE COMPETITIVENESS FOR TRADING COMPANIES IN LATVIA

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ABSTRACT

Global economic development processes create a situation for companies to plan their long-term development in order to maintain competitiveness. This is facilitated by factors such as increasing competition, market bottlenecks, technological development, modernisation, restructuring, etc. There are several developmental skills, one of which is mergers and acquisitions. It is a business development tool, the primary mission of which is to provide company growth. The mergers and acquisitions of companies is a complex process that is closely related to the particular situation and the reason why the decision to take over and merge is generally taken. Mergers and acquisitions create opportunities, exploit synergies, offer new products and services, and increase business value. With proper post-merger planning and a focus on key success factors and processes, companies can avoid depreciation and create the basis for future success. For a successful merger, it's important to identify possible errors and resolve issues after the merger has been completed. Implementation of integration is one of the factors determining the success of the merger and acquisition process. Most of the main challenges come from the integration phase of the actual realisation of mergers or acquisitions.

Key words: merger, acquisition, integration

INTRODUCTION

In the last twenty years, various studies (KPMG, 2018, Deloitte, 2019, Ernst&Young 2018, Sorainen 2018) have yielded different results in terms of mergers and acquisitions. Research has shown that more than half of global takeovers have failed, as merger results are less than expected. The owner and manager of the company are in charge of managing the merger and acquisition process, which is associated with the introduction and management of changes in the company.

In general, research on mergers and acquisitions consists of two different types of research, which deal with either theoretical or empirical experience. Researchers in the process of mergers and acquisitions often have different arguments to justify their research. Social processes are mainly explored in order to find out the causes of the problems created by the merger process and find a solution. It is inappropriate for a well-considered merger and acquisition transaction to begin without scientifically justifying this process in order to make an economically sound decision on mergers and acquisitions. Therefore, the main problem for the modern manager and owner of the company is the management of the process, which is related to the introduction and management of changes in the company.

The aim of the paper to develop a certain system for managing the merger and acquisition process and to carry out its approbation.

The author of the work puts forward the following tasks in order to achieve the purpose of the research:

1. to study the factors influencing the merger and acquisition process;
2. to find out the normative documentation of the regulatory bodies in the process of taking over and merging the merger, as well as its influence on the management of the process;
3. to gather synergies of mergers and acquisitions;
4. to evaluate the results of the merger and acquisition process in Latvian trading companies;
5. to develop proposals for improving the management of mergers and acquisitions, as well as their successful implementation.

The problem in the research of the mergers and acquisitions management process is extensive, and all the related issues in the promotion paper cannot be viewed. Due to its limited scope and work theme, it has several limitations. Because of the limited scope of the research, the merger of the company is not analysed in detail in the work, because in Latvia the trade sector is predominantly taking over business. The impartiality of research opportunities is affected by the lack of up-to-date statistical data. Available data from company Lursoft is limited to the period from 2000 to 2018, while the data available for the period until 2017 (in some cases until 2016) are available to the Central Statistical Bureau of the Republic of Latvia. The turnover of the investigated companies is from 5 to 850 million euro, with a staff of up to 6,000 employees. The work does not analyse investments as a utilisation of the financial resources of the merger and acquisition process. The work does not address the problem of financing mergers and acquisitions. Due to the limited work volume, the influence of foreign investments on the process of mergers and acquisitions of Latvian trading companies is not explored separately. The effectiveness of business operations has been investigated on the basis of accounting and other financial data in accordance with publicly available annual accounts and assumptions made. The accounting policies of each company and the preparation of the annual report are not studied separately.

The author has identified and defined the different features and characteristics of mergers and acquisitions, improved the process of managing mergers and acquisitions, and created the business performance measurement model MA index.

1. ANALYSIS OF RESULTS OF MERGER AND ACQUISITION IN LATVIAN TRADE COMPANIES

Companies in the world compete with each other, and there are always companies that are more successful than others. Businesses take every opportunity to succeed. One of these options is mergers and acquisitions. The key to this process is to increase the competitive advantage of the company over other market players, and this process is one way to increase market share.

When corporate managers can no longer achieve their goals through internal growth, they often start mergers or acquisitions (Recardo, Toterhi, 2015, Fiocco, 2016). Companies use the merger and acquisition process to increase financial stability and remain competitive on global markets (Sobolev, 2015). The terms merger and acquisition (takeover) are very vague. In practice, they are usually used explicitly. However, their terminology is different. A wide variety of definitions can be found in the extensive literature and on the internet. An acquisition is defined as the acquisition of one enterprise by another and the combination of assets of two enterprises of equal size. A merger requires the cooperation of the management of the target company to combine assets, whereas an acquisition does not. A merger is inherently friendly, while an acquisition can be both friendly and unfriendly. Merger of two or more independent market participants in a merger to become one of the market participants, or to obtain a decisive influence over other market participants. A merger can be when two separate companies decide to continue their activities in a single organisation. Whereas a business transfer is a transaction consisting of the purchase transaction, with one company taking over another company towards full management with the objective of making the second a subsidiary or incorporating it into the company's current business. The takeover process of a company's shares or assets of a sale to move another company owned. Effective acquisition strategy provides significant growth of the company (Ashon, Cook, Schmitz, 2003).

Mergers or acquisitions can be achieved by: horizontal integration; vertical integration; related or unrelated diversification. Horizontal integration merger transaction sector companies that are direct competitors of production and the market segment in the field. Horizontal takeovers may lead to increased productivity, especially if companies are similar, but some of them use different resources that complement each other (Kapoor, Lim, 2007). Vertical integration merging the customer and the manufacturer or the supplier and the manufacturer. This can happen by the merger of two or more undertakings or company launching new directions. Vertical integration is the acquisition of one or more suppliers or distributors of a company's goods and services (Gabrielsen, 2003). Vertical integration is used to increase and get more power to the market. Companies often use vertical and horizontal acquisitions in order to gain additional market power within it (Haleblian, Dever, McNamara, Carpenter, Davison, 2009). There is also the opportunity to join with a company that operates in another sector that is not related to the current activities of the company – this is diversification. Such transactions do not provide companies the opportunity to capture new clients or to control a larger market share - they can take this action to reduce risky activity income volatility with relatively stable income that provides courses of action.

One of the objectives of companies in making acquisitions is to gain tax relief or to reduce business-related risk (Miller, Le Breton-Miller, Lester, 2010).

The author believes that the acquisition allows the acquiring company to reduce competition in the industry, as well as the integration of the acquired business company. Clustering is relevant for companies who want to expand their business and strengthen their position in the market.

Nowadays, companies, when choosing the type of merger, want to assess the potential benefits. In assessing the synergies it is necessary to determine not only the synergies that can be obtained, but also those that can form another merger case. If the synergies that can be obtained in the company are smaller than those which can be competitors, then the company will be the loser in this situation. The expected synergies may take various forms. Traditionally, companies are planning to get synergy to reduce headcount; achieve high volume efficiency; the acquisition of new technologies; better access to markets, control over the industry. Merger of companies also improves financing opportunities.

P. Drucker shows that mergers and acquisitions will only be successful if the purchaser knows it is sure to be purchased in order to promote the company (takeover of the object) operation. Mergers and acquisitions targets can be divided into business, investor, and shareholder business objectives include business development and ensure the increase in business diversification, the faster acquisition of new markets, disposal of competitors by buying competitors and by taking market share; the aim of investors is investing free funds, participation in profitable business and undervalued asset purchase; general objectives of the association (co-operation) or the establishment of strategic investor attraction of company shares in the sale, the willingness to sell the business as well as financial resources for this (Colliens 2017).

M. Martynova, S. Oosting and L. Renneboog studied the results of mergers and acquisitions (profitability) in Europe; they found that the combined turnover significantly outperformed the average company in their performance industry before the merger, but the merged entity's commercial profitability dropped significantly after the takeover (Martynova, Oosting, Renneboog, 2007).

R. Noe observed that 60-80% of all mergers are financially unsuccessful, as measured by the results of the stock market or by profit growth. In turn, A. Fridman concluded that 58% of mergers do not reach the set goals. M & A success rate is very low - only about 30-50% (Martynova, Oosting, Renneboog, 2007). Therefore many researchers in the field of business strategy attempt to identify the variables that influence the success or failure rate. Integration speed is referred to as a success factor (Bauer, King, Matzler, 2016).

Researching the issue of merger failures, the author came to the conclusion that each mergers and acquisitions transaction is different, because each company involved in the process, is unique and different from others. However, the method used is similar. Used several methods to find a “winning formula” by which to predict the joint and the acquired company's results. However, the fact is that until now, such a solution has not yet been found and the percentage of errors continues to be high. One of the reasons for the success or failure of the company's mergers and acquisitions lies in the way the integration is carried out between the companies. The author believes that the key factor for success of the company's mergers and acquisitions is to create and motivate the management team that will focus on new business objectives.

Company managers are responsible for the achievement of corporate goals of performance and the methods chosen. In order for companies to implement their chosen development strategy through mergers and acquisitions, it must be based on mergers and acquisitions to evaluate the results - should try to calculate the company's results and the expected effectiveness both before and after the transaction.

Researchers and practitioners have carried out several studies on the results of mergers and acquisitions. Different sources of literature over the past three decades, describe a number of methods. The author became acquainted with a number of international studies, dominated by the company's purchasing activities and research merger results. Research findings vary depending on the chosen performance evaluation and methods, which is an important factor in both researchers and practitioners drawing conclusions on the success or failure of mergers and acquisitions. Some authors recommend the use of mergers and acquisitions in the evaluation method based on public research and direct such to corporate profitability check, stock market awareness or the efficiency aspect. Various methods used in one country may not work in another (Sethi, Krishnakumar, 2010). Earlier studies indicated that the impact of the transferred research can be measured by observing the reaction of the stock market or changes in the company's efficiency, at the same time looking at the accounting dynamics (Tang, 2015). Most researchers have used profitability (gross and commercial profit margin, equity and assets profitability, EBITDA) performance data. By analysing and identifying the reasons for the balance sheet, changes can be identified in the company's financial stability improvement or deterioration. It is not always the case that the sales increase is positive, so this change must be analysed in the context of cost and profit changes in volume. Company's financial stability assessment of the financial statements in changes to be analysed in the context of the amount of profit and changes in equity for the assessment of the impact of the most important items on profit.

Impact of mergers and acquisitions on the efficiency of the company have been studied by M. Jensen, A. Shleifer, R. Vishny.

Evidence that mergers and acquisitions increase the efficiency of enterprises, was found by R. Coase transaction cost-effectiveness, H. Manne discipline and M. Bradley, A. Desai and E. Kim theories.

The work of P. Healy, K. Palepu and R. Ruback in adapting the accounting data for the study, suffers from subjectivity resulting from the acquisition process used in the accounting standards used and the financial methods. Studies were conducted by several researchers on the basis of the accounting data: R. Melicher, D. Rush, P. Guest, S. Malhorta, M. Bild, M. Runsten, J. Harrison, M. Hitt, O. Bertrand, R. Hoskisson, R. Ireland, H. Krishnan, A. Miller.

Briefly summarising the author agrees with A. Neely in believing that the results of the assessment method give a continuous demonstration of the desire of theoreticians and practitioners to find solutions for effective business management. It shows two research directions: what indicators are included in the performance measurement system; the qualities required for integrated performance measurement system indicators (Zeglat, AlRawabdeh, AlMadi, Shrafat, 2012).

The author agrees with the statement that the use of the horizontal method of analysis can assess the company's financial stability, positive or negative trends. The most important abnormalities of financial statement items should be analysed in the context of the statement of changes in equity. The author conducted a study on mergers and acquisitions in the results of trade in Latvia. Significant increase in the number of companies in the sector. Increase in domestic demand for directly influenced trade has grown. The author believes that the company's performance is assessed by the financial accounting criteria used in the context as they provide the value of the expression, comparability, and has accumulated experience in the financial accounting methods to use. The author of the study continued with the results of the mergers and acquisitions process.

The trading sector plays an important role in attracting foreign direct investment. The volume of high-quality investments is especially topical for countries that restructure their economies from one type of business to another, which includes Latvia. Therefore, it is important to create an environment conducive to investment and to bring it in line with a national policy that sets out the priorities that it wants to achieve. This process has to be seen in the context of current economic development trends. It should also be taken into account that in today's world not only do companies compete, but countries are also attracted to investments in the economy and people's welfare. Therefore, it is important that the country has as few barriers as possible for maintaining a favourable investment environment for a long and predictable period. Organisations use economic, financial and fiscal considerations to make mergers or acquisitions in order to focus their activities on entering a new market in order to maximise economic activity, as well as optimise distribution conditions (Banulescu, Popescu-Cruceru, Leuciuc, 2012).

Trade industry has leading role in the total Latvian economic. Trade plays a significant role in the EU and Latvian GDP parcel. European Union, 15 countries out of the 27 leading role in the formation of GDP holds trade industry (European Union, 2013). In recent years Latvia has reduced trade in GDP - from 16.8% in 2006 to 14.4% in 2019.

In recent years, the Latvian economic structure by sector has changed little. The economy (in 2018 there were more than 100,000 companies), the greatest contribution to bring trade (more than 23 000 companies), financial services (more than 1000 companies) and construction (more than 8 000 companies) companies, as well as companies engaged in operations with real estate (more than 6 000 companies) (economically active enterprises by main type of economic activity (Centrālā statistikas pārvalde, 2020).

The average turnover of a Latvian company in 2018 was 0.58 million euros (see. Figure 1). The average profit per company was over 37,000 euros in 2018.

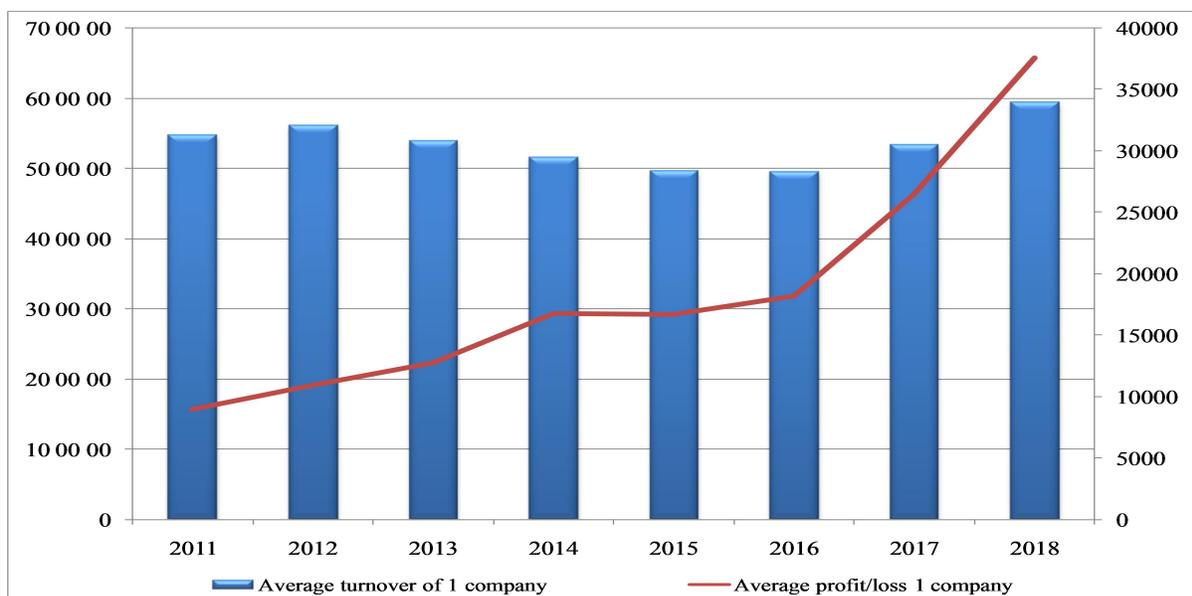


Fig. 1. Company average turnover and average profit/loss ratio in 2011-2018. (in EUR)

Source: author's calculations by Lursoft (2020)

In the national economy, not only did the average turnover of enterprises increase, but also the average commercial profitability level of Latvian enterprises - from 2.11% in 2011 to 6.41% in 2018. In contrast, the commercial profitability ratio of the trading company increased from 1.00% in 2011 to 2.72% in 2018 (see Figure 2).

Still, in developing new forms of commerce, new technological solutions in customer service arise, as well as other factors affecting trade.

Research on mergers and acquisitions has extensively explored potential sources of failure and success. However, despite the increasing attention of researchers, only a small number of studies have in fact studied the merger and acquisition process. Behavioural factors at an individual and organisational level hinder rational and effective decision

making before, during and after acquisition, and show that the communication climate is essential for promoting effective integration and can serve as a basis for improving the results of the merger and acquisition process (Friedman, Carmeli, Tishler, Shimizu, 2016, Savovic, 2017, Graebner, Heimerik, Quy, Vaara, 2017).

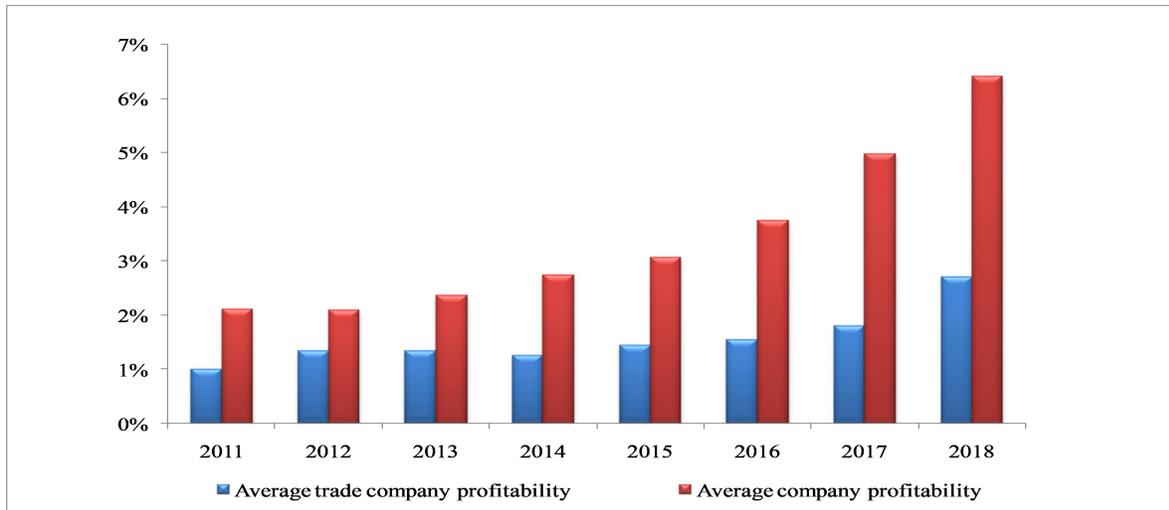


Fig. 2. Company average commercial profitability as a percentage of 2011-2018, %
 Source: author's calculations according to the Central Statistical Bureau and Lursoft (2020)

Among all the mergers and acquisitions related to marketing industry analysis, the author has chosen the 21 largest (by turnover), commercial enterprises, which the company's mergers and acquisitions experienced from 2000 to 2012. Additional selection condition - if shares were sold to the company and the number of shares sold exceeded 25%.

The selection process assessed the following trading companies operating in the sector: SIA "Circle K Latvia"; A/S "Elko Group"; SIA "Rimi Latvia"; SIA "Moller Auto Latvia"; A/S "Drogas", SIA "ALTIA Latvia", SIA "ALSO Latvia", SIA "Tapeks", SIA "LMT Retail & Logistics", SIA "Magnum Medical", SIA "Euroaptieka", SIA "Latvijasaptieka", A/S "Sentor Farm aptiekas", SIA "BENU AptiekaLatvija", SIA "Akselss", SIA "AMIC Latvia", SIA "Neste Latvia", A/S "Virši-A", SIA "DEPO DIY", A/S "Interbaltija AG", SIA "Mego", which provided 12% of the TOP 500 company's total turnover.

Based on the company's financial results, data on the activities of the company was analysed (turnover, profit/loss statement). For information on changes in the target company's business, the author used the company balance sheet data, which was approved by a certified auditor. The study was accompanied by changes in the company's balance sheet figures of five years after completion of the company's mergers and acquisitions transaction. During the period from 2000 to 2018 it was possible to compare the company's performance prior to the company's merger or acquisition as well as after the transaction.

Latvian trade merged and taken over by a number of companies is small. The author uses only mergers and acquisitions transactions, which were concluded between 2001 and

2012. 2013-2018 data were taken into account in order to obtain comparable financial data after the transaction. Business data such as turnover, gross and commercial profitability, the EBITDA before the transaction and after it has been considered and analysed. Research needs was used for completed mergers and acquisitions transactions only.

To view and analyse changes in the economic activities following the merger and acquisition transaction, the company's gross and commercial profitability, as well as asset and equity profitability indicators were compared with the industry average profitability indicators Latvian. Given the fact that the study used qualitative research methods from different data sources, it is possible to draw definitive, credible conclusions. Summarising the analysed trading company financial indicators, the author concludes that mergers and acquisitions have a positive impact on most of the studied companies' financial results. After investigating the trading company financial analysis of the company's mergers and acquisitions until 2018: 81% of companies have increased the EBITDA and increased commercial profitability; 66% of companies have increased turnover; 48% of companies have an increased gross profitability index.

An important factor is that 81% of companies have increased the company's EBITDA. The greater the EBITDA that is obtained, the more the cash flow from operating activities is shared. This indicator has a direct impact on the company's turnover and costs. Developing and pushing cost-effective products and operating costs, the company increased cash flow from the EBITDA. Sixteen out of twenty one companies analysed in this study have increased the cash flow of companies. Higher cash flows also contributed to the recovery of Latvian economic growth, which increased domestic consumption and increased retail turnover. This study indicated that decisions of managers and owners about changes in the company, namely mergers or acquisitions, have shown good results. Almost 60% of companies have better financial results than average for other trading companies in Latvia. This demonstrates that mergers and acquisitions provide operational and financial synergies.

Based on the financial results of the study, the author continued to study, and it was carried out within the framework of senior manager interviews if the companies were involved in the mergers and acquisitions process. The author interviewed the employees to get inside information on integration, which consisted of each company's results.

From October 2007 to October 2015, the author conducted 138 trade company high and mid-level staff questionnaires. Respondents (company employees) were selected from the Lursoft database using the predefined selection criteria:

- Trade companies with turnover of over 5 million EUR/year were selected from the Lursoft database (200 companies as of 24 October 2007);

- through mergers or acquisitions, trading companies with turnover over of 5 million EUR/year (Lursoft 21 enterprises until 24.10.2007);
- Number of companies surveyed: 200;
- 138 employees, from 68 trading companies, agreed to respond.

The aim of the questionnaire was to ascertain the employees' assessment of the results of the merger of their represented companies. The author proposed a list of possible responses for the evaluation of respondents, as well as the opportunity to indicate other factors. Summarising the results of the survey, for each of the factors, the average arithmetic value was calculated by dividing the total points by the number of respondents who gave their rating.

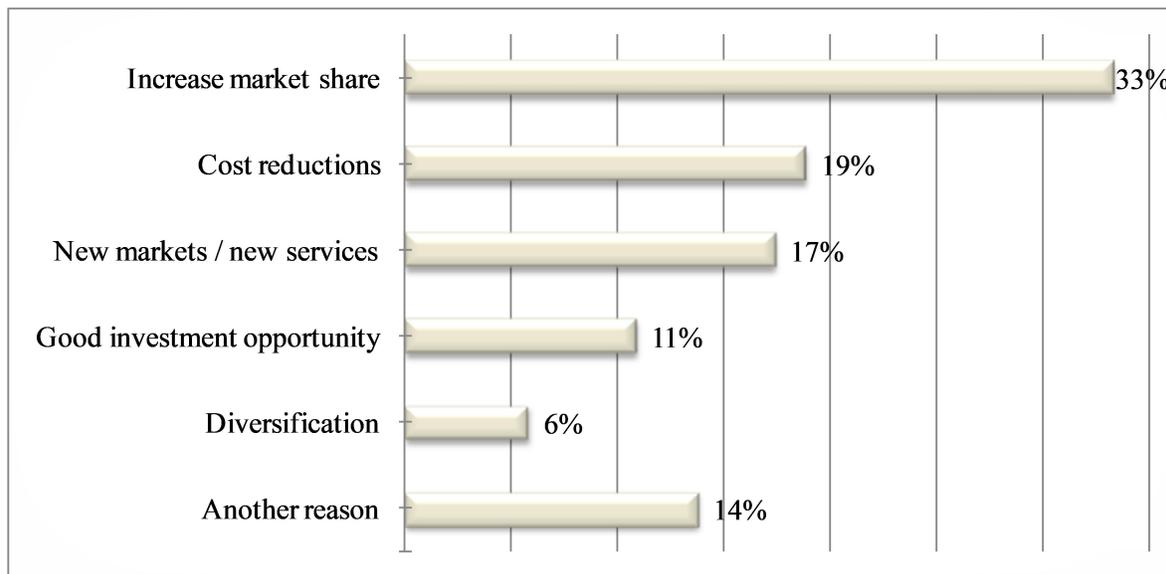


Fig. 3. Results of merged and taken over by business managers' survey, in response to the question: "What was the merger and takeover target?", $n = 138$

Source: author's developed business surveys 2007-2015, analysis of the results

The survey found that 33% of respondents believe that commercial mergers and acquisitions are aimed at increasing market share, 19% of respondents think that the goal was the company's cost reduction, 17% of respondents were aimed at new markets or new service offering opportunities (see Figure 3).

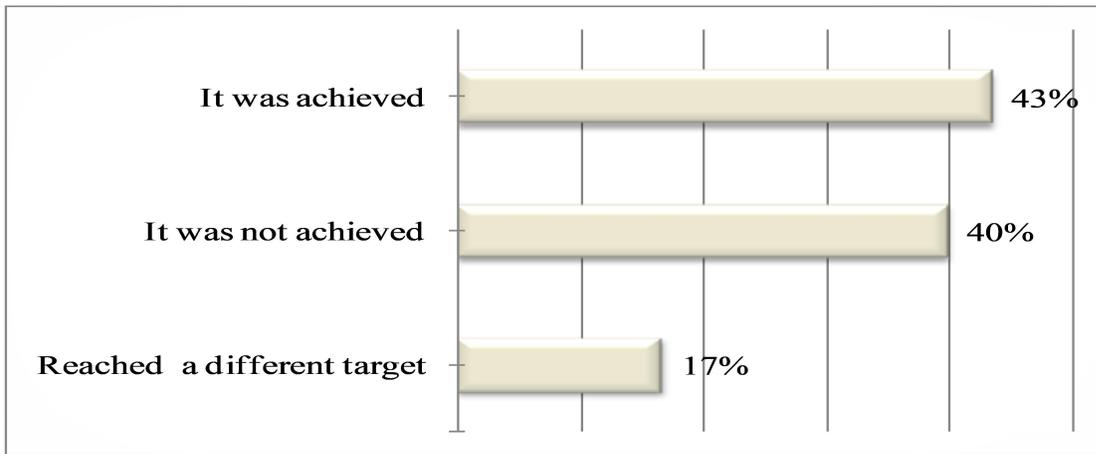


Fig. 4. Results of merged and taken over by business managers’ survey , in response to the question: “Are the objectives of mergers and acquisitions achieved?”, n = 138
 Source: author's developed business surveys 2007-2015, analysis of the results

The survey found that 43% of respondents admitted that the objective of mergers and acquisitions was achieved, 40% of respondents believe that the target was not achieved. It is interesting that a large number of respondents (17%) think that a different purpose was reached (see Figure 4). The company's financial results show that the objective of the company’s mergers and acquisitions has been achieved, the company's financial situation is improving - but staff survey results show the opposite - the majority of respondents believe that the goal is not reached, or they have reached another goal.

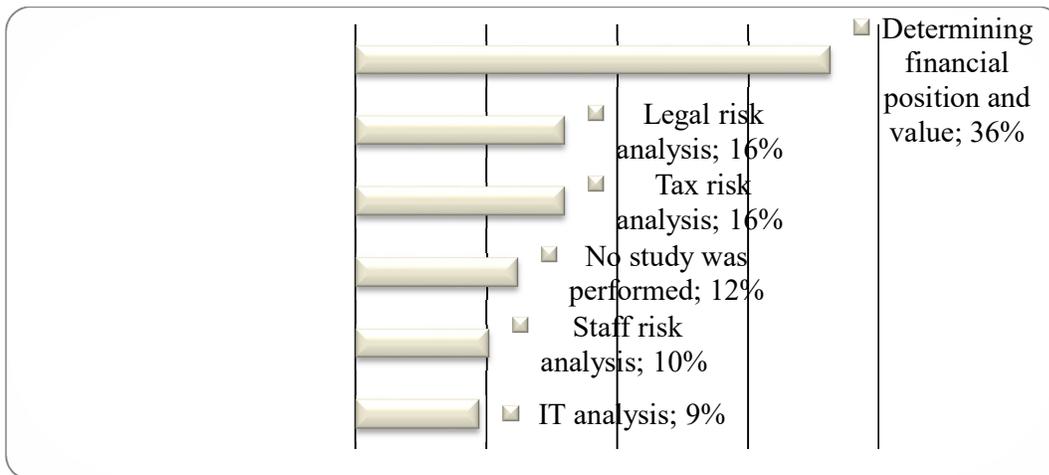


Fig. 5. United and assumed business survey results, in response to the question: “What kinds of business due diligence processes were made in your company?”, n = 138
 Source: author's developed business surveys 2007-2015, analysis of the results

The survey results showed that before most mergers and acquisitions the companies have included the financial position and the value of (36%) (see Figure 5). Almost 16% of respondents focused on the legal analysis of the risks.

In turn, 12% did not have any business due diligence. The survey results show that companies focus directly on the financial arrangement and legal risk mitigation. However, as acknowledged contributors, personnel risk analysis is also essential. For businesses that are paid high premiums, stakeholders expect significant synergies from their activities. This means that it is important to focus on managers and executives. The company is only waiting for success if it will work in a unified approach, where the human dimension will be an integral part of the financial indicators, because one cannot exist without the other.

Often, when mergers and acquisitions are completed, corporate executives admit that too little time is devoted to planning and integration. Nowadays, managers evaluate companies and perform due diligence before the transaction. In turn, business integration is the last important merger and acquisition process stage, during which not only are the documents legally drawn up, but two hitherto independently functioning companies are also physically combined. How successful the held enterprise integration will be, depends on the business manager and the owner's activity.

2. MERGER AND ACQUISITION PROCESS IMPROVEMENT IN TRADE COMPANIES FOR MANAGEMENT COMPETITIVENESS

Evaluating marketing mergers and acquisitions results, it identifies the actions that could be improved. Two main activities to improve the trade mergers and acquisitions process are overlooked: mergers and acquisitions process is not complete, the author believes that it is necessary to improve the steps of the mergers and acquisitions process; to assess the company financial position, being used by many indicators. Using this method the manager analyses a large financial number of coefficients. Analysis of mergers and acquisitions was performed on the basis of the company's annual report data. The company's financial result of the analysis was the basis for the thesis author's assessment of the company's formula for creating.

By assessing the merger results it is concluded by the author that the evaluation of the company's mergers and acquisitions results must be based on economic characteristics in accordance with the specifics of the sector. Trade mergers and acquisitions in Latvia have not been effective enough; it is necessary to improve the basis of the filing of the mergers and acquisitions process.

Summarises the facts set out in the thesis that prove that mergers and acquisitions are complex and resource intensive. The scientific studies analysed by the author show that the company's efficiency can be used to report financial data in the calculation of these different absolute and relative figures, respectively, comparing, combining and interpreting them. Major key indicators of financial statement changes have a significant impact on the company's financial stability.

Based on the results of the study, it was concluded that a number of financial ratios indicate the company's operational efficiency. Choice of indicators will depend on the result of the determination of the model, so the correct choice of indicators will build an accurate working model. Analysis was chosen for a variety of financial indicators (ratios), which were divided into four groups according to their importance: liquidity; viability; solvency; activity.

Mergers and acquisitions performance detection model was based on the principle - of each factor group selected, at least one factor of degree of importance showed the greatest difference between the mergers and acquisitions process to related and unrelated companies. To arrive at the equation, variables were carried out for the following procedures:

1. The statistical significance in the observation of different alternative functions, including each independent variable;
2. Evaluation of correlation between the variables;
3. Surveillance forecasting accuracy between different profiles;
4. Judgement of the author of the study.

The aim of the study is to find out what factors influence the results of mergers and acquisitions, how much the company's EBITDA is, and how it would be possible to classify companies with a high and low rate for regression.

The study used data for the following indicators:

- y - EBITDA/Turnover Indicator;
- x1 - gross profit margin;
- x2 - profitability indicator before interest payments;
- x3 - indicator of profitability of taxable profit;
- x4 - indicator of commercial profitability;
- x5 - asset profitability indicator;
- x6 - return on equity;
- x7 - return on equity;
- x8 - asset turnover index;
- x9 - fixed asset turnover index;
- x10 - turnover rate of current assets;
- x11 - total liquidity ratio;
- x12 - current liquidity ratio;
- x13 - absolute liquidity ratio;
- x14 - EBITDA/assets;
- x15 - equity/liabilities;
- x16 - turnover/assets.

Table 1. Statistical index block Coefficients

Model		Unstandardised		Standardised	t	Sig.	Collinearity Statistics	
		Coefficients		Coefficients			Tolerance	VIF
		B	Std. Error	Beta				
1	(Constant)	.023	.003		8.022	.000	1.000	1.000
	x2	1.027	.024	.917	42.176	.000		
2	(Constant)	.011	.004		2.875	.004	.733	1.364
	x2	.956	.027	.854	34.802	.000		
	x14	.108	.022	.122	4.967	.000		
3	(Constant)	-.003	.005		-.580	.562	.692	1.444
	x2	.988	.027	.882	36.100	.000		
	x14	.312	.047	.353	6.653	.000		
	x5	-.254	.052	-.265	-4.868	.000		

Source: author's research results

The best model of the proposed three is the second, which includes two variables of the profit before profit from the profitability indicator (x2) and EBITDA/assets (x14) indicator (see Table 7), since in the third model, for two variables, the profitability (x5) and EBITDA/For assets (x14), the VIF score is still above the recommended value of 5.0.

As a result of the research, a linear regression model was developed that predicts EBITDA/turnover values as follows:

$$y_t = 0.956x_{2,t} + 0.108x_{14,t} + 0.011 \quad (1.)$$

where

y_t -EBITDA/turnover indicator at time t;

x_2, t - profitability before interest payment profitability indicator at time t;

x_{14}, t - EBITDA/active index at time t.

By optimising the linear regression model parameters with the Stepwise procedure, the author obtained several models (see Table 2).

Table 2. Model summary

Model Summary ⁱ					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.917 ^a	.842	.841	.05184	
2	.927 ^b	.860	.859	.04888	
3	.934 ^c	.872	.871	.04664	
4	.936 ^d	.877	.875	.04595	
5	.941 ^e	.886	.884	.04430	
6	.943 ^f	.889	.887	.04368	
7	.944 ^g	.891	.889	.04332	
8	.944 ^h	.891	.889	.04327	.625

Source: author's research results

Analysing the statistics of optimised model parameters, the author concludes that the best model with as many variables as possible and non-multicellularity problems (SWF <5) is as follows:

$$y_t = 0.932x_{2,t} + 0.001x_{7,t} - 0.012x_{12,t} + 0.074x_{14,t} + 0.007 \quad (2)$$

Profitability indicator (x2), return on equity (x7), current liquidity ratio (x12) and EBITDA/assets (x14) influence the EBITDA/turnover value (y) on profit before interest payments. The gross profit margin (x1) does not participate in any optimised model.

Trading company resulting from the merger of EBITDA to sales ratio is increasing. In view of the above analysis, it is possible to formulate a number of factors affecting the company's EBITDA. It can be concluded that the EBITDA is influenced by the following factors:

1. Net turnover. Turnover growth rate, which is usually expressed as a percentage in relation to the previous period, is one of the first things that creditors, company executives and professional financial analysts look at when evaluating the company's business operations. The reason is simple - the revenue from sales impacts virtually all other indicators. If the other variables remain constant, the net turnover of considerable change will leave its impact on both the company's balance sheet and income statement.

2. Profitability before paying interest. Profit before interest payments is the amount that shows how profitable the total economic activity is, without taking interest payments and taxes into account.

3. Return on equity indicates the return on equity capital of each owner of the euro. In this way, you can compare the return with other potential investment types.

4. The current liquidity ratio reflects the ratio of the company's current assets (without stocks) to short-term liabilities. A higher ratio indicates a higher level of liquidity (greater opportunities to meet the company's current liabilities). Coefficient 1.0 shows that the carrying amount of current assets is exactly equal to the book value of current liabilities.

5. EBITDA/assets. Return on total assets is the proportion that determines the EBITDA against the company's total net assets. The ratio is considered as an indicator of how effectively an enterprise uses its assets to generate income.

With the company's performance model, investors can measure the companies they plan/want to invest in. For those companies with an MA index above the critical value, the company's operating results were valued at a higher level, but those with an MA below the critical value were financially in need of financial support from shareholders.

To achieve the desired outcomes, an enterprise needs a joint development plan that includes goals, strategy, forecasts, as well as information on the current situation and budget, as the process of achieving results is continuous. The market and competitors are changing, so plans need to be supplemented. The strategic plan may also be hampered by

the resource management system used by the company if it is not sufficiently connected with the production and organisation of work, which prescribes the order of certain processes.

Based on seven process steps in mergers and acquisitions, the author has perfected the merger and acquisition process, the content of which is presented based on the defined stages (see Figure 6).

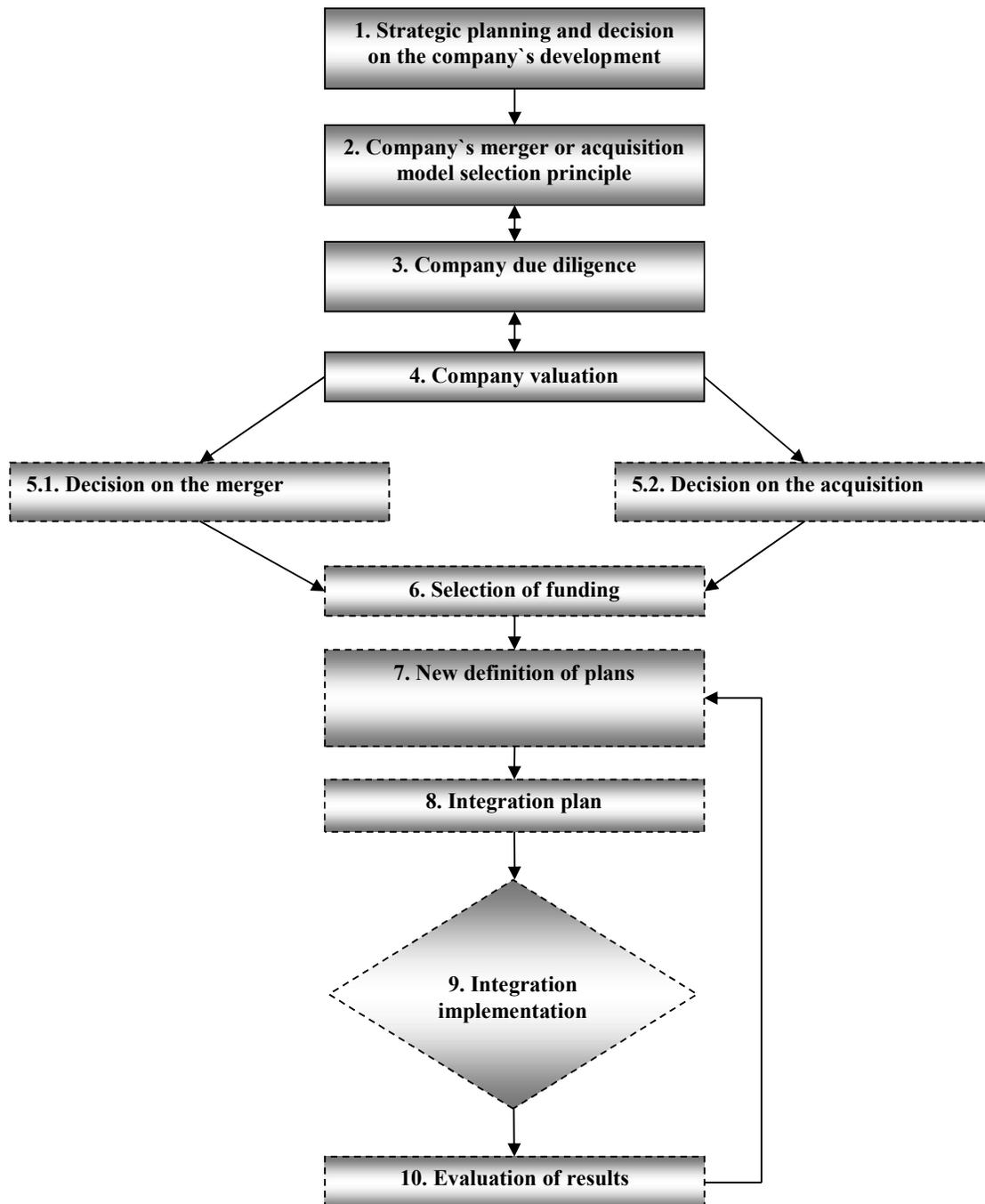


Fig. 6. Trade mergers and acquisitions process

Source: author developed

The work of the merger and acquisition process developed by the author is based on several stages. As a rule, companies have many different directions of development (both internal and external), but if they choose mergers and acquisitions (as the direction of external development), then they must also have a goal. In this case, the company needs to develop and improve its strategic management processes to ensure successful mergers and acquisitions. Due to the fact that most (almost 80%) of the company mergers and acquisitions studied, organised the transaction and entrusted business consultants with the search, the author developed an improved process for mergers and acquisitions of trading companies.

The author has improved its mergers and acquisitions management process; the approach is based on several stages (see Figure 6).

1. Strategic planning and decision on the company's development

When deciding on what the company's growth strategy will be, one of the solutions is mergers and acquisitions. After the decision all the next steps are inherently geared towards change. Strategic decisions are also related to the company's organisational structure. Be responsible for the effective development of strategic plans, the company's management in order to ensure organisational and methodological prerequisites, and care should be taken to bring about the objectives of the development plan and deadlines.

2. Company's merger or acquisition model selection principle

Company merger or acquisition means that the company has to choose the appropriate model, as well as under which conditions an acquisition/sale or merger will be. The model is built in accordance with the company's strategic decision on development. In addition to the need to develop the company's reorganisation plan. Businesses must be able to actively respond to changes in the market. If the company's reorganisation plan has been prepared, it is able to change the plan, based on new data, as well as the results of market trends. The reason for the change of plans can also be the company's due diligence results. If they are significantly different from those planned, the company may decide to change the company's merger plans, and carry out business acquisitions or refuse all of the transaction.

3. Company due diligence

Company's due diligence procedure means a complete analysis of the company. Due diligence process usually begins after the company's acquisitions are agreed in principle. But it is essential that the trial takes place before the transaction becomes irreversible.

4. Company valuation

Company's financial data do not indicate the company's management style and sustainability, market trends, quality of work and other things, which is a very significant development in the long run. The company's value is one of the most important indicators of the business in the case of buying/selling.

5. The decision on the merger or acquisition

Due diligence evaluating data and receiving the company's assessment, deciding on the next targets. When the target company has been selected and evaluated, the merger or acquisition process decides the transaction price and what kind of payment method you choose - whether payments will be made through its own or borrowed funds, cash or shares.

6. Selection of funding

Mergers and acquisitions are part of the natural business cycle. Mergers or acquisitions can help the company expand, gather knowledge, move to a new market segment. However, these options are related to the costs of both parties. The available financing options are as follows: change of equity or shares, cash payment, loans, initial public offer, bond issue. The best method of financing for the company to use depends on the buyer and seller, their respective parts, the value of the assets and liabilities. Each method of financing of the merger or acquisition has its own hidden fees, obligations and risks, and the buyer and seller are under an obligation to conduct a thorough examination of the transactions. However, most companies are doing their utmost to create a more diverse, stronger company that can cover the cost of mergers and acquisitions with unused funds.

7. New definition of plans

The author offers company managers (owners) to define the new company's short-term and long-term plans, as well as identify new visions and goals of the company. It is defined by the owners of the company, what the mergers and acquisitions process wants to achieve. It is necessary to emphasise the new objectives and growth strategy development phase to predict the company's possible solutions.

8. Integration plan

Mergers and acquisitions in the process of integration already speed up thought in the planning stage, and a decision should be taken prior to the deal, because the programming speed is also affected by cash flow. If the two companies with different traditions and cultures merge into one, it takes considerable time. However, with proper planning, this process can be shortened.

Several exploration companies in the integration process were able to reduce the period of uncertainty for their employees, customers and suppliers. In the company integration process, the company pays most attention to the internal organisation, and less on external factors, such as customers. As a result, the customers' growing uncertainty raises several questions: What will the supply of goods and services of the company be after the acquisition? What will the new pricing policy be? Will it work with customers? This uncertainty can lead to customers refraining from using competing suppliers. Therefore, the integration process aims to significantly reduce customer uncertainty, especially in companies where customer loyalty is not high. The uncertainty of their employees with

regard to their place in the future of the company is sometimes caused by a lack of motivation, and to some extent may be harmful to the company's operation. The author supports the rapid integration of the company's approach, as it will lead the combined company and transfer to better results.

The second reason for integration planning is to minimise the cost of the integration process, which depends on other factors. When business integration is faster, it is dedicated to a shorter period of time, and hence the cost is less. Integration costs are taken into account in the implementation of integration programmes, but if the enterprise integration stage is beyond what was planned, it can lead to the need for additional resources (money, staff, etc.).

The third reason for integration planning is that it should be started as soon as possible to accelerate the return on investment. As the company's acquisition usually requires large investments, the company's owners and managers want the return of capital from investments in the quickest time. Rapid integration is usually a positive impetus to the company's access to finance in the future. The fourth reason is that the company's management should be given considerable time to complete business integration. As the company's managers (owners) take the other important strategic decisions, it reduces the management options to address it directly. Thus, over time, less and less resources are devoted to the integration process, because the company activity continues in line with market trends.

The fifth reason is that from a competition point of view, shortening of the integration period reduces the time in which the company is exposed to attacks from competitors. After acquiring, the company's competitors are often used in the integration phase, when the company is confused about their customers in order to convince some customers to switch to them. During the study, the author concluded that the company may delay the integration of a significant lack of information about the target company. Unfortunately, the company's Purchase (sale) is interspersed with the owner's fear of losing business (company) and the disclosure of information to a competitor. A new way of taking over companies has appeared in the world and also in Latvia - raiding. It is an unethical and sometimes illegal business transfer. Those undertakings which own valuable resources, such as land, buildings and financial resources, are typically most willing. A person who is adverse to the takeover of assets, who chooses a target for the company itself, does not want to get short-term benefits, but wants to develop and continue the company's operations or respectively merge it with another company. The target company's owner is the main factor hindering the provision of information to a prospective buyer.

Common practice is observed that the organisational changes resist employees, especially in the acquisition. There are many reasons for resistance, such as a lack of

understanding of the business need, fear of termination or poor working conditions, fear of the future in the new organisation and so on. And corporate cultural differences can cause tension and a lack of cooperation, misunderstandings and conflicts. Sometimes delays in some activities, such as in the integration of the two enterprise information systems, leads to delays in the whole process.

The author offers to perform business integration planning, because it is necessary to monitor the progress of the integration schedule. Priorities must be set (which occurs first) and critical processes in planned integration.

There may be several reasons for the decision on relevant company acquisition, mergers and acquisitions:

1. Expand Markets/penetrate new countries (existing products/services);
2. Acquire the technology/products/knowledge;
3. Reduce competition in the industry/sector;
4. Reduce business costs;
5. Acquire a new scope.

Mergers are essentially a cultural encounter of two organisations. Sometimes, if a large company acquires a smaller one, it means a cultural takeover, or even cultural coercion. In other cases, when organisations are equal from an economic point of view, the merger is a battle between the two business cultures. Organisational culture is to a large extent, the identity of the organisation, just like a human personality. Culture is a tool by which the organisation expresses its values from generation to generation and the use of socialisation of the organisation. Enterprise culture threatens personal integrity; people can feel as if the merger creates a loss of identity. The answer to the threat of identity is a convergence of defence.

Merger brings significant changes to the organisation. In turn, the company culture is one of the most stable. Therefore, in the time of mergers and acquisitions that threaten to change the company's culture, there is a threat to stability.

Organisational culture is largely influenced by the strategy. An organisation that is moving to a specific market, adapts to market requirements and thus develops the organisational culture, giving value corresponding to the importance of this market. Mergers may lead to a conflict, even if an agreement is reached on a strategy that is common to both organisations. The strategic change of direction is the perception of the intellectual changes that can be performed quickly. Organisational culture change is a process that requires a considerable amount of time because it is focused on value changes.

Company leaders want to accomplish organisational change rapidly in order to ensure quick results, combined structure, eliminate the duplication of positions, change the geographical location and so on. For workers who used to act in a certain way, it is

proposed to change the traditional methods. Many perceive this process personally, and it reduces their motivation and performance.

The main problem that occurs between cultures is ignorance, lack of openness. According to the author, one of the keys to success in the merger and transfer process is to understand how to gradually correct speed and merge organisations. Enterprise integration process can take several months and even years. By properly planning the time to initiate mutual learning it is easier to integrate organisational culture.

Business integration is an essential part of mergers and acquisitions. It depends on the company's management decisions taken before and during integration, and on how these decisions are implemented.

The author prepared a number of questions for company managers, given that the acquired company's executives take a variety of strategic and operational decisions. Latvian business executives with a strong focus on innovation and dynamic activity promote a rapid response to changes in the external environment and competition. In addition, they contribute to innovation in order to cope with the problems that exist in the environment, and to win a competitive edge in the industry. While other business executives prefer stability, intense planning and a relatively high level of formality.

9. Integration implementation

Acquisition transactions are often carried out in phases. Transaction process is followed by hard work to integrate the companies, and is usually followed by disappointment that the results are not as positive as expected. Integration process needs to nominate a competent and capable person who can be a business manager. For the person whose responsibility will be the new (purchased, added) company's integration, it is desirable to engage at the earliest possible stage of the acquisition process. Insufficient planning or not assessing the situation does not achieve the expected benefits or reduce costs. Therefore, in company should not be allowed inefficient integration process and suspended normal business operations.

For the integration process to be successful, you need event planning.

1. To inform involved employees of the companies that each company should be working independent till the end of mergers and acquisitions process.

2. Plan the integration measures to be taken after completion of the transaction, but ensure that they will not be implemented before authorisation of the Competition Council: no staff or other organisational changes; not to start joint sales or marketing efforts; not to contact customers or suppliers jointly; not to take joint decisions on measures to be taken after the merger.

Assess the company's financial aspect or mutual compatibility (liquidity, stocks, IT software, taxes, etc.). Process management personnel should be given time and attention in

order to assess the synergies of the transaction. The author offers to start business integration planning right from the early stage. The initial stage is to identify the key points for successful integration, to identify the most important issues that require special attention, and to build a programme that includes targets and deadlines. One of the most widespread errors in the merger process, is that there is a desire to unite the whole, even if it does not matter. Proper planning will help to make progress in the integration process. During the research, the author found shortcomings in the planning of the integration process in 76% of the researched companies.

The integration stage involves a variety of complex situations and organisational changes in the company, which is a temporary situation of instability and uncertainty. This situation affects the stakeholders - business leaders, employees, customers, suppliers. It can interfere with the company's performance. Hence the need for an integration programme that includes decisions to fulfil the process in accordance with the acquired (taken over) company's strengths and weaknesses.

The author of the integration process should focus on the following three changes in the company's business functions: reduction unit; merging units; creation of new units.

The mergers and acquisitions integration process involves several stages, and a number of them are carried out in parallel: to change the company's structure, including senior management (not always), the staff of employment cessation and the role of exchange of some supervisors and workers, the integration process of both companies' information systems, changes in the offered assortment of customers' products and services, changes in organisational culture and the creation of a new organisational culture.

Company's culture is only one of the factors that affect the company's performance. Assess aspects of the organisation (for example, two competing company employees will work after the merger), or the company's cultural compatibility. This has traditionally been referred to as one of the most typical reasons for mergers and acquisitions is not successful - often after the transaction process there is a significant effort to reinvigorate the company, reproduced in the buyer's corporate culture, rather than to create a new culture that would be more appropriate for both companies. Motivate employees to participate in the organisational change process, both before and after implementation of the mergers and acquisitions transaction. Significant organisational changes within the company are explained.

The author argues that the company's cultural integration is crucial for the merger to be successful. Cultural incompatibility can reduce the overall performance and the merger is likely to increase employee job dissatisfaction, thus also affecting the company's financial results.

There is no publicly available research in Latvia on the value of companies operating in the Latvian market brands, but the public relations agency “Nords Porter Novelli” and the newspaper “Day” since 2005, devises the Latvian corporate reputation study. Results of this study showed that there is a close relationship between business investment in their brands, and relationships with partners, customers and employees. Reputation has a significant impact on the company, its impact on consumer choice and loyalty services offered, so the investment in improving the reputation of themselves is justified in the long term and creates added value.

Company's reputation is one of the most important things in business, especially for companies that provide services to a wider range of customers. The author believes that the trading business customers takes account of price, quality of service and the company's reputation. In the trading industry reputation top 2017, there were mergers and acquisitions of related companies: SIA “Circle K Latvia” (11th place), SIA “Neste Latvia” (12th place), SIA “Rimi Latvia” (43rd place) (Company reputation Top 2017).

10. Evaluation of results

In order to assess mergers and acquisitions, results of company performance are compared before and after mergers and acquisitions transactions. Another comparison is between the company and other similar competitors in the industry, who have not completed a merger in the same period.

The author surveyed business executives and acknowledged several errors in mergers and acquisitions, that is, things that have been done better.

1. Companies overpay for transactions. This is often the cause of mergers and acquisitions. The author found that expectations are often set for higher profitability, which is not possible for the company.

2. Integration issues. Company leaders must be flexible in order to reduce the inefficiency or administrative problems encountered in the mergers and acquisitions process.

3. Report on strategic planning. Planning is an important task, which helps determine the success or failure of the merging organisations.

One of the biggest challenges for companies is efficiency - improved processes to do more, save and so on. The author of the study results shows that the effectiveness of the main obstacles is that: employees do not have an understanding of the company's top priorities. A third of employees (29%) believe that they have a clear understanding of the objectives. After a merger or takeover, nearly half of the employees (46%) are willing to change jobs. The author offers drivers to push the team on the basis of clarity about the company's goals. In the merger of companies, workers often lack information on the priorities, objectives, responsibilities, reporting and communication procedures. This leads

to frustration and loss of work efficiency. Drivers must be able to diagnose problems in the company's structure and processes. In turn, the financial quality of the results is an important aspect in assessing the company's financial situation. As the financial indicators increase every year, it can be assumed that the company improves profitability through the efficient use of its resources.

Steps leading to the decision on the takeover transaction (the target company's observation, the target company's choice of negotiating with the target company) affects the success of the transaction. However, in the final analysis the context of the fact of whether the takeover transaction will be successful or doomed to failure, depends on how well the two companies are able to integrate their business. Integration process is set up in the team, which includes both the acquiring and the acquired company's employees who are asked to integrate the two companies in the same way, which would lead to the desired value. Although acquisitions are related to a series of obstacles, the two companies entering the business integration process may reveal additional opportunities for new value detection. If the two companies are looking to each other to gain knowledge and are combined in such a way that it is possible to implement it, the values are likely to appear in the integration process sooner or later. If the integration process is performed carefully and accurately in companies through the exchange of knowledge, there will inevitably be opportunities for growth. This is partly explained by the fact that this newly merged company will be able to avoid the directors and talented employees leaving. Effective integration often allows the merged entity to increase capacity, thus creating additional value. By contrast, inefficient corporate integration interferes with the capacity increase, thereby reducing the overall value. Effective integration is of the utmost importance if the successor company for the acquisition of the company is significantly overpaid. In this case, the acquiring company should have synergy by combining both enterprises, by introducing the necessary changes in order to create as much added value as required to justify the amount overpaid.

After the merger it is often the case that the acquired company's key personnel leave the company, and it is essential to keep the main directors and valuable employees, especially in the cases where the acquiring company wants the target company to gain new skills, should be avoided, that acquired company left valuable employees, taking the fact that the organisation's knowledge is contained in its human capital into account. The involvement of employees in the process of integration reduces the likelihood that they will leave the merged entity. Effective reliability tests are performed to ensure that before the start of the negotiations, the validity of the transaction is sufficiently tested.

In order to prevent the integration of related operational risks, the author for the management of the merged entity states the following:

1. the value of the constituent factors;

2. initial identification of risks;
3. providing regular communication in both vertical and horizontal directions;
4. motivation of key individuals;
5. regular progress assessment;
6. coherent control and reporting implementation;
7. financial and operational reporting provision.

Takeover implementation requires significant management of time and energy. Management costs time and energy consuming to find suitable takeover targets by due diligence in preparing for and participating in discussions, as well as the implementation of the integration process following the transaction. Time and energy spent on potential acquisition transactions cannot be used for other business aspects with regard to implementation. In addition, when starting takeover talks, the target company's executives cease to take any extraordinary actions while the takeover and integration process is not completed.

If the target company's valuation fails to take off, executives willingly transfer the blame to others, or to unforeseen circumstances. Instead, managers should be aware that they are too deeply involved in the takeover process. The desire to pursue a merger processes in many companies is the reason why dependence, transaction closure is much more interesting than fundamental problem-solving. In fact, managers should designate the takeover as one of the possibilities for the company's activities. Acquisition only proves successful in some cases, while in others it fails to deliver the expected results. The author points out that the merging firms are affected by the size of integration: because they are bigger, and because integration is more complex; but the bigger the organisation, the greater the need for integration due to the higher number of units that need to be coordinated. The author argues that the first aim of the company in integration is to standardise operating procedures. This will facilitate communication between the company's employees. The second basic procedure is integration of the accounting system through the establishment of a single operating system. The third objective involves the corporate culture and management point of view. At this level, management, mid-level managers and employees are transferred from one company to another, especially from the target company in order to ensure control of the acquisition. The author of the integration process is divided into two parts: the task of integration and human integration. In addition, the integration of people must precede the task of integration in order to ensure the success of the gathering. Enterprise Strategy determination the author proposes to start with the organisation goal, because the strategy is to make or clarify the objectives and this means creating a new vision for the future, with the wider aim of inspiring the company. Although many experts believe that the company is a profit-making entity, in the author's opinion, this should not be

a major task, as this approach may destroy the whole enterprise in the long run. The author offers companies the aim of ensuring a solid foundation for development. To achieve this goal one needs to develop appropriate courses of action.

Successful mergers and acquisitions depend on the partners involved in the transaction. As mentioned above, mergers and acquisitions are often launched on the basis of strategic factors, market expansion, the necessary approach to trading experience, etc. Strategic differences between companies can create synergies and improve competitiveness for the new company. However, the reality is that it is often difficult to anticipate measures that are needed at a given time in order to achieve good results of the merger at the earliest possible stage. The author emphasises that the success of a company depends on the ability to create added value after the merger has taken place. The author considers the key to this success to be the integration process. The main goal of integration is to make more effective use of the existing opportunities. It is important for the merging companies to maximise the benefits of the integration process in the integration process.

According to the author, three factors are important for the further development of mergers and acquisitions:

1. Businesses should define their corporate strategy for 3, 5 and 10 years. If mergers or acquisitions are more beneficial than other development models within a chosen strategy, the extent to which an entity will be able to realise its potential in the proposed merger or acquisition transaction. As the main goal of the strategy is to increase the value of an existing company, the potentially chosen company should be as close as possible to the conditions defined in the strategy.

2. The calculation of financial analysis should be based on an analysis of the company's historical accounting overviews and calculation of the most important financial indicators that allow the forecasting of future profits, as well as assessment of the merits of potential mergers and acquisitions.

3. Team that will help the company to work and develop successfully.

CONCLUSIONS

Based on the results of research conducted by the author, the following conclusions have been made:

1. The concepts of “merger” and “acquisition” differ in the integration process and over time. The author proposes to define an acquisition as the takeover of a business. Horizontal integration is characteristic of merger and acquisition transactions in Latvia.

2. The results of mergers and acquisitions are synergies (such as the reduction of staff, economies of scale, the uptake and introduction of new technologies, better market access and control over industry), diversification of activities and the adaptation strategy.

The synergies are divided into three categories: operational synergy, financial synergy and strategic transformation. The synergy of the company's operations can be achieved both through horizontal and vertical integration. After the completion of the merger and takeover process, the turnover, profit and profitability of most of the companies under investigation have increased. Almost 60% of companies' financial results are better than average in other trading companies in Latvia. Mergers and acquisitions provide operational and financial synergies.

3. Business buyers, strategic investors, financial investors, investment funds. In the Sorainen study in 2016-2017, 74% of business acquisitions were acquired by a strategic investor who helps to work in new markets, acquire new management and technical knowledge, exchange experience and expand business development.

4. In managing the merger and takeover process, the risk factors are the significant difference between the planned activities and the activities actually carried out, the lack of common methodology for the integration of the merged and acquired company, the decisions of the company manager (owner), the lack of cooperation between the employees.

5. Enterprises have different goals and objectives, but the strategy of the merged and acquired companies must be related to the mission, goals and activities of the merged entity, thus becoming part of the company's strategic planning process.

6. Tasks for mergers and acquisitions are the acquisition of information for the improvement of management processes, the efficient use of resources involved in the management of employees, and the acquisition of evidence for the increased importance of human resource management.

7. The benefits of a merger or takeover, unlike the creation of a new company, are as follows: an existing company has already entered the start-up phase and has proven its presence in the market, has regular customers and suppliers, has easier access to finance, does not have to look for and train staff.

8. In mergers or acquisitions, it should be taken into account that it is not always possible to trace the history of the business, so the company must be carefully scrutinised to avoid the risk of fraud by financial and legal means.

9. Financial analysis of companies plays an important role in mergers and acquisitions. Tasks of the analysis: to determine the efficiency of the company's activity and possible development directions. Economic activity analysis is a prerequisite for planning. In order for a company to plan its future operations, it is necessary to analyse the results of the previous activity.

10. Due diligence investigation and evaluation of a company is necessary prior to the merger and acquisition of the company, as well as attention to reputation, thus recognising the potential risks. According to the company's position, valuation task and the nature of the

forecast income, the following valuation techniques are usually used for the company's analysis: asset technique (cost method), market data comparison technique (comparison technique) and revenue technique. An EBITDA multiplier is also used to determine the value of a company in Latvia. The most important factors affecting the value of the company are EBITDA, equity and net profit.

11. The following documents are examined in the due diligence investigation of the company: company agreements, government (municipal) permits, company statutes and regulations, warehouse documents, debt instruments and agreements, court records, judgments and orders, environmental documents, employment contracts and cooperation agreements, documents relating to the company's property and assets, internal documentation, subsidiaries, accounting, fixed assets, liabilities, guarantees, tax policy, subsidies, insurance.

12. The share of trade in the overall structure of the national economy is stable. In Latvia, the share of trade in gross domestic product in 2018 was 14.1%.

13. Analysis of the obtained data shows that between 2011 and 2018 the average turnover of enterprises (from 0.54 million euros in 2011 to 0.58 million euros in 2018) has increased, as well as the average commercial profitability of Latvian companies (from 2.11% in 2011 to 6.41% in 2018). Meanwhile, the average commercial profitability of trading companies increased from 1.00% in 2011 to 2.72% in 2018.

14. According to the employees of the companies involved in the merger and acquisition, the quality of the products and the reputation of the company was recognised as a key asset of the company. Highly valued company relationships with customers. By contrast, the experience and knowledge of business owners (managers) is the lowest rated. Knowledge has become the main asset of economic resources and competitiveness. Employees surveyed consider the lack of resources (working capital) for the development of the company to be a major drawback. According to the survey, most of the surveyed employees (more than two thirds) evaluated the changes in the company negatively.

15. The study draws attention to the accounting performance of companies by using the annual report on the performance measurement tool of companies. In order to take external factors affecting demand for certain goods into account, the performance of the companies under consideration is adjusted to the average of the trade in the sector concerned.

16. The analysis of the Latvian market is hampered by a lack of information, as no details are available for many of the transactions that have taken place. Meanwhile, international sources of information such as Merger Market (a company that deals with acquisition and merger transactions) only include transactions ranging from three and more million euros in their accounts.

17. The failed process of mergers and acquisitions demonstrates its inadequate readiness: the managers of the company have no experience in managing change, employees are not timely and adequately informed about the merger, the company has not made a personnel and financial assessment of the merger and takeover. Inadequate training makes it difficult for companies to integrate. In the study, the author identified that 76% of the surveyed companies lacked integration planning.

18. Risks of merger and takeover of Latvian trading companies: overpayment for the acquired companies, managers of the acquiring companies overestimate their ability to manage or evaluate the prospects of the target company, the decision on acquisition related to the welfare of the existing company manager, transaction execution problems, the need to improve the integration of companies, erroneous strategic planning . The process of merging and taking over is not fully managed. Research into the impediments to process improvement, regardless of the company, mentions the same reasons - enterprise integration and corporate culture. The author of the doctoral thesis believes that the integration of a company depends to a large extent on how the manager of the company (the owner of the company) defines the goals of the combined and the acquired company. An important condition for the integration process is the longer planning time before the acquisition of the company and the related decisions taken by the managers of the company. The main prerequisite for a successful merger transaction is the regular evaluation of the results achieved in the integration process.

19. The author's research results show that there is a lack of employee awareness of the company's main priorities among the main obstacles. By combining businesses, employees often lack information. This results in frustration and loss of work efficiency. Managers need to be able to diagnose problems in the company structure and processes.

20. Comparing financial ratios to unified and unincorporated companies, there are statistically significant differences in three indicators: unincorporated companies have higher gross margins, but lower current liquidity and lower equity to liability ratios.

21. The lack of efficiency of the company as well as the financial indicators of the sector makes it difficult to analyse statistical data both in the author's theoretical research and in the empirical analysis.

22. The financial analysis of trading companies showed that 81% of companies had an EBITDA score. Thus, the results of the research confirm the hypothesis put forward in the thesis that the increase of profitability is the result of the system of merger and acquisition process management. The five companies' MA index readings did not exceed the average business performance, while the three trading companies have a high index in the MA index. Organised management processes enable the company to be more efficient, productive and competitive.

23. The process of managing mergers and acquisitions of trading companies developed in the promotion work, incl. the integration process and functions of the MA index (which is already used by companies such as *SIA Eventus Corporate Finance* and *SIA AG Capital*) need to be checked in other sectors of the economy in order to carry out comparisons and the research of companies from other sectors.

As a result of the research, the author has developed the following suggestions for increasing the efficiency of takeover and merger processes:

Theoretical and methodological proposals:

1. An enterprise that plans to conduct a merger or takeover management process needs to develop a plan that includes the following steps: strategic decision making, choice of company merger and takeover model, due diligence investigation of the company, company valuation, choices of financing, definition of the new business goal, integration plan, implementation of integration and evaluation of results.

2. In the process of managing mergers and acquisitions planning, evaluate the existing activities of each company. According to this, a decision is made on the future operation of the company, which allows one to plan and analyse the company's income and expenses, forecast financial indicators.

3. In the planning of mergers and acquisitions, the section "Internal Processes" of the Strategic Map of the Balanced Scorecard needs to be supplemented with the following subprocesses: Company due diligence, Valuation, Defining New Enterprise Goals and Integration. The Company's due diligence helps to identify and assess problems, as well as to take action to address potential shortcomings. In the "Customers" section you need to add: processes, predictability. The "Financial Perspective" section needs to be supplemented with sub-processes: company performance above average in the industry, effective financial decisions made, planned company development.

Suggestions for business leaders:

4. The management of the companies, through the integration of the merged or acquired company, must ensure regular communication in both vertical and horizontal directions, control and financial, as well as operational reports.

5. In the annual accounts of an enterprise, it is necessary to include an EBITDA calculation (calculated on the basis of the annual report of the company) in order to better reflect the company's profitability and determine the free cash flow.

6. Planning enterprise integration in a timely manner, as managing a merger and takeover process is important in successfully integrating businesses. Managers should direct the team to provide information on priorities, goals, responsibilities, reporting and communication procedures.

7. For companies that intend to expand their business by acquiring and repurchasing other companies, using the author's merger and takeover management process, defining their corporate strategy for 3, 5 and 10 years, the calculations should be based on an analysis of the companies' previous accounting records, creating a team, which will help the company achieve its goals.

Suggestions for the Central Statistical Bureau of Latvia:

8. The Central Statistical Bureau of the Republic of Latvia shall establish an analysis of the efficiency of the enterprise as well as the financial indicators of the sector and the function of the author for determining the MA index. This will reduce the lack of statistical data that the author encountered when analysing statistical data in both theoretical research and empirical analysis.

9. Check and compare the results of mergers and acquisitions - Latvian companies in trade and other sectors, as well as results of mergers and acquisitions of European companies.

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INFLUENCE OF COVID-19 ON WASTE MANAGEMENT AND CIRCULAR ECONOMY

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ABSTRACT

This chapter presents a critical review of negative and positive impacts of the pandemic and provides an insight on how, with application of wise and sustainable risk assessment, present situation might lead to more resilient, sustainable and low carbon economy. A new post-Covid-19 world is about to be developed and in this aspect the mistakes of the past shall be left in the past and new, circular, carbon neutral economy with different consumer behaviour, supply chains and other economic aspects is about to be developed and implemented. The paper provides an overview of Covid-19 impact on global economy as well as focuses on situation in Latvia. It analyses the systems dynamics of certain policy instruments, their impacts on overall waste management system in the country and on transition towards circular economy. It also provides a set of recommendations for policymakers in order to stimulate the implementation of circular economy.

Key words: Covid-19, circular economy, sustainable development, waste management

INTRODUCTION

The year 2020 without any doubt will be written down in the history as a breaking point in many aspects. Waste management and circular economy will not be an exception. The outbreak of coronavirus disease (COVID-19) in late 2019 is far more than a global health crisis. It is affecting our societies and economies and has had a deep impact on our everyday lives (UNEP, 2020).

Indeed, the COVID-19 pandemic has distorted the world's operating assumptions, revealing the absolute lack of resilience of the dominant economic model to respond to unplanned shocks and crises (Pinner *et al.*, 2020). It has exposed the weakness of over-centralization of the complex global supply and production chains networks and the fragility of global economies, whilst highlighting weak links across industries (Ibn-Mohammed, *et al.*, 2021; Sarkis *et al.*, 2020). While the world has witnessed the positive environmental implications of nationwide lockdowns brought upon by Covid-19 such as cleaner rivers and clearer skies (Gardiner, 2020), the same is not the case with respect to solid waste management.

The pandemic has altered the waste generation dynamics, creating woes among policymakers and workers involved in sanitation (Sharma, *et al.*, 2020). As highlighted by Policy Learning Platform (2020), at the same time, in some cases more waste has been generated. Many people had more time at hand and cleared out their houses, cellars and attics. In Germany, this resulted in long lines in front of recycling centres accepting bulky waste and waste electrical & electronic equipment. In Belgium, the collection containers for second-hand textiles had been closed and people had to keep the used clothes at home. And everywhere in Europe, the illegal dumping of waste increased, and an entire new waste stream entered streets and household bins: personal protective equipment (PPE).

Global economy relies on deeply intertwined supply chains, sustained by more than 100 billion tons of raw materials entering the system each year. It has been unsustainable for decades, and in just a few months since the coronavirus outbreak began, it's become clear that it is dangerously fragile as well. One of the more comprehensive solutions to improve resilience is the circular economy (Kechichian, Mahmoud, 2020). According to UNEP (2020b), Covid-19 will lead to a greater production and consumption of household and personal health related products, that could be single-use and contain valuable resources like plastics, textiles, metals, electronics. Covid-19 waste, and any other waste, must be collected and treated adequately to avoid littering or uncontrolled incineration causing impacts to human health, ecosystem quality, biodiversity, including impacts on soil, rivers, coastal lines and in the marine system. Waste Management is one of the most important sanitary barriers to prevent dissemination of illnesses and diseases. It is important to recall that the continuity of the waste services is not only for municipal waste but also for hazardous industrial and healthcare waste (ISWA, 2020). Each person produces nearly half a tonne of municipal waste per year in the EU on average, which means that every week more than 20 kg of municipal waste is generated per household. Total annual waste generation in the EU amounts to 5 tonnes per capita. Preventing distortions in waste management, including separate collection and recycling of waste, is crucial for the health and safety of our citizens, for the environment and for the economy (EU, 2020).

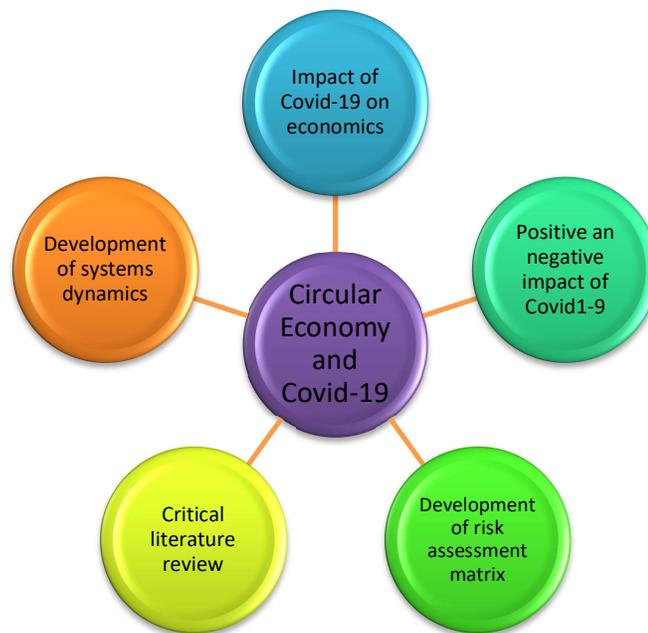


Figure 1. Methodological framework of the chapter

Source: by authors

Management of waste generated by the Covid-19 crisis

With the inception of Pandemic, it is clear that volume of healthcare facility waste, as well as household waste, in particular face masks, tissues, hand sanitiser bottles, etc. has skyrocketed. In addition, a huge volume of packaging appeared. Currently all the loose products in the supermarkets are packed in plastic wrapping. Only certain range of internet shops offer an option for end user to chose whether to opt for paper or plastic packaging. In many cases the shops pack the goods in additional bags/wrapping which makes the proportion of packaging waste for consumer to increase dramatically and if recently the Zero waste lifestyle adherents were quite successful in cutting down the useless packaging, then now the problem popped-up again. Now, in the last quarter of 2020 it is possible to identify the main problem points that have been identified with the crisis and implementation of lock-down measures.

One of the critical points was ensuring that waste management, recycling services, treatment and disposal facilities **will not be disrupted** and no extra risks for public health will be created by improper waste management (ISWA, 2020). The interruption of waste management services would have an instant impact on human health, environmental contamination and increase of additional infection risks. In current unprecedented crisis it is of primary importance to secure the continuity for the economies to be able to focus on the main problems of the day.

In the context of the coronavirus crisis, it is even more important that citizens **separate** well their **waste** and ensure the flow of clean streams of recyclables towards the

waste treatment facilities. Citizens should be informed about any temporary changes to the waste collection practices that affect the way they deliver waste for collection and further treatment (EU, 2020). This was a first struggling point for Latvia during the first lock-down, as the first thing that was announced by waste management companies was to stop waste sorting. This was explained not only by their concerns of potential infection in the waste but also by the general lock-down, by limiting the operation of certain waste treatment plants and by difficulties of trans-border waste shipments.

During the first lock-down, increasing problems in the processing and recycling of waste rised. Especially the markets for sorted textile and plastic packaging are starting to fail because of a lack of demand for the recycled products. Some of the textile collection and sorting companies were asking the public not to donate textile right now, others only wanted to collect at a (high) price (NVRD, 2020). Gladly this action was swiftly put an end by the waste management companies alongside with the Ministry of Environment, which explained the citizens the necessity of waste sorting and which issued comprehensive informative materials. Simultaneously European Union Member States acknowledged the importance of waste treatment continuity and the operations were resumed.

Overall this is only one part of waste sorting processes, the other one, which requires special attention and regulations – is the operation of waste management companies and the sorting station workers. It is crucial to ensure health and safety measures for waste workers. According to ISWA (2020), some countries, like United Kingdom even have classified waste workers as “key workers”, meaning that they can continue to work, whilst educational and care provision for their children will be provided. The European Agency for Safety and Health at Work (2020) has provided general guidance how to help prevent the spread of the coronavirus at the workplace. This guidance is designed to assist employers and businesses in providing advice to staff in non-healthcare settings on the novel coronavirus.

Third measure, discussed within this chapter concerns **healthcare waste**. During a pandemic, the tendency of most of the hospitals is to manage all their waste as hazardous waste. This can overload the healthcare waste capacity of the hospital, and create an emergency associated with a sudden increase in the required capacity for proper collection, disposal and treatment (ISWA, 2020). In these circumstances the Confederation of European Waste-to-Energy Plants emphasized the importance of Waste-to-Energy. As incineration safely destroys viruses and other pathogens at high temperature. The waste is put directly into the bunker, and then discharged into the furnace through the feeding chute by an overhead crane, thus avoiding human contact with the contaminated waste (CEWEP, 2020).



Figure 2. Waste sorting requirements in Latvia, during Covid-19 crisis

Source: adopted from MEPRD (2020)

The waste to energy industry had a good opportunity in these difficult times for it (as recently EU had a position to limit construction of new Waste to energy plants, taking into account the risks of overcapacity of existing plants) to stress it's importance and integrity of waste treatment options. This crisis demonstrates once again how important the integrated approach to waste management is where every waste stream needs to find the most sustainable way of treatment without endangering human health or the environment (CEWEP, 2020).

In addition, the crisis emphasized the importance of control over waste streams, according to ISWA (2020), if waste is moved off-site, it is critical to understand where and how it will be treated and destroyed, requiring traceability measures to register and ensure its adequate destination. There still are range of countries, lacking infrastructure to treat healthcare and other infectious and hazardous waste. In those cases, and as an exceptional measure, the waste produced in healthcare facilities during the Pandemics shall be send to be stored in sanitary or engineered landfills on a separated area, isolated from the regular waste, and with immediate daily cover. Sanitary Landfills are an indispensable part of any waste management system and in pandemics, in the absence of thermal treatment, those infrastructures are an adequate final sink for healthcare waste, but certain procedures have to be applied.

RESULTS AND DISCUSSIONS

New reality, derived from Covid-19 crisis

The World Health Organisation declared the COVID-19 pandemic on the 11th March 2020, which saw global supply chains severely disrupted and strained, and the financial market unsettled, resulting in a cross-border economic disaster. Lockdowns and border closures shattered the core sustaining pillars of modern world economies, with the economic shock due to these measures still being weighed across the globe (European Union, 2020).

As stated by (Hepburn *et.al.*, 2020) all G20 nations have implemented restrictions on mobility (IMF, 2020) such as ‘self-isolation’ and ‘social-distancing’. These restrictions have reduced the spread of the virus, but with severe economic consequences. On the supply side, an estimated 81% of the global workforce has been hit by full or partial lockdown measures, with unprecedented job losses and furloughs (ILO, 2020). On the demand side, consumer spending has fallen as it is no longer possible to travel, including to shop for discretionary items, go to restaurants, or for experience-based activities (Hepburn *et.al.*, 2020; Andersen *et al.*, 2020).

Aviation volumes have collapsed, with international airlines projecting a reduction of 503–607 million passengers and losses of US\$112–135 billion in the first half of 2020 (UNICAO, 2020). Consumer confidence is falling (OECD, 2020) and job losses and furloughs simply exacerbate spending contractions as workers lose their incomes.

The recent evidence demonstrates the elasticity of bottom-up initiatives by both private companies (e.g. breweries producing disinfection alcohol for medical applications from residue products) and individual citizens (e.g. maker's movements producing mouth masks from textile leftovers and supplying hospitals and care facilities) to recycle locally available resources and thus reduce import dependency. These initiatives have proven their potential to flexibly address urgent shortages (Wuytsa *et al.*, 2020). Brands big and small, from Prada and Dior to Tanya Taylor and Knixwear, retooled to produce essentials in short supply, such as PPE (Brydges, Hanlon, 2020).

In particular, French luxury conglomerate Kering will produce face masks in the workshops of its brands Balenciaga, Gucci and Saint Laurent. Also in Europe, the Stockholm-based H&M Group announced that it would make masks and other necessary equipment, while Inditex, parent company of Spanish fast-fashion brand Zara, said it would produce hospital gowns and masks (Los Angeles Times, 2020). Thus it has to be understood, that these initiatives and change of profile are not only part of corporate social responsibility, but also a measure or a step to keep the fashion industry running, as Workers Rights consortium (WRC, 2020) conducted a survey of Bangladeshi garment manufacturers, estimating buyers have cancelled \$1.44 billion worth of garment exports.

Beyond the fashion sector, responsible packaging firms continue to innovate on sustainable and recyclable consumer goods, despite the rise in single-use plastic packaging as a result of quarantine-related home deliveries and fears associated with reused materials. The food and beverage sector, for its part, is working with organizations to redirect surplus food to those most in need (Kechichian, Mahmoud, 2020).

In case of Latvia, the crisis has also lead to certain innovations. The first lock-down was mostly focused on the supply chain re-design, as most businesses being paused, the increase for food supply and supermarket delivery skyrocketed. The existing supermarket chains required about two weeks to adopt to the changes. In addition, vast majority of offline shops were forced to switch to online, resulting in post service increases. As the basic personal protection equipment became mandatory, a lot of local fashion manufacturers started offering vast majority of face masks.

Table 1. Assessment of Covid-19 brought risks within waste management sector

Type of risk	Description
Increase of mixed waste	Lack of segregation at source.
Increase of infectious/ hazardous waste	Lack of data on household infectious / hazardous waste, as it all is being collected as unsorted waste.
Increase of littering	Visual increase of waste from PPE.
Suspension of recycling	Especially in the first weeks of pandemics the recycling processes were suspended as the borders were closed.
Lack of awareness	Initially there was absence of information regarding waste management, how to do it in a safe and sustainable way.
Reuse of disposed PPE	In Latvia and in a range of countries it has been observed that certain population class used disposed PPE, which could result in additional infections.
Lack of PPE for waste management workers	Initially the PPE was deficit, in addition in many countries, it had to be provided by employees themselves.

Source: by authors

The authors have evaluated and considered a range of risks associated with waste management during Covid-19 pandemics. The Table 1 highlights main of them. These risks were identified in the first stage of lock-down, in spring of 2020. Although, it is important to highlight that certain countries might have still be struggling to overcome them in the current stage of the full or partial lock-downs.

Figure 3 depicts influence of Covid-19 on Latvian waste management system, where:

- red lines show the influence of Covid-19;
- purple lines show the influence of Ministries of Environment guidelines;
- green lines show the influence of Ministries of Agriculture guidelines;

Second wave of lockdown has more serious impact on economy in the long-term.

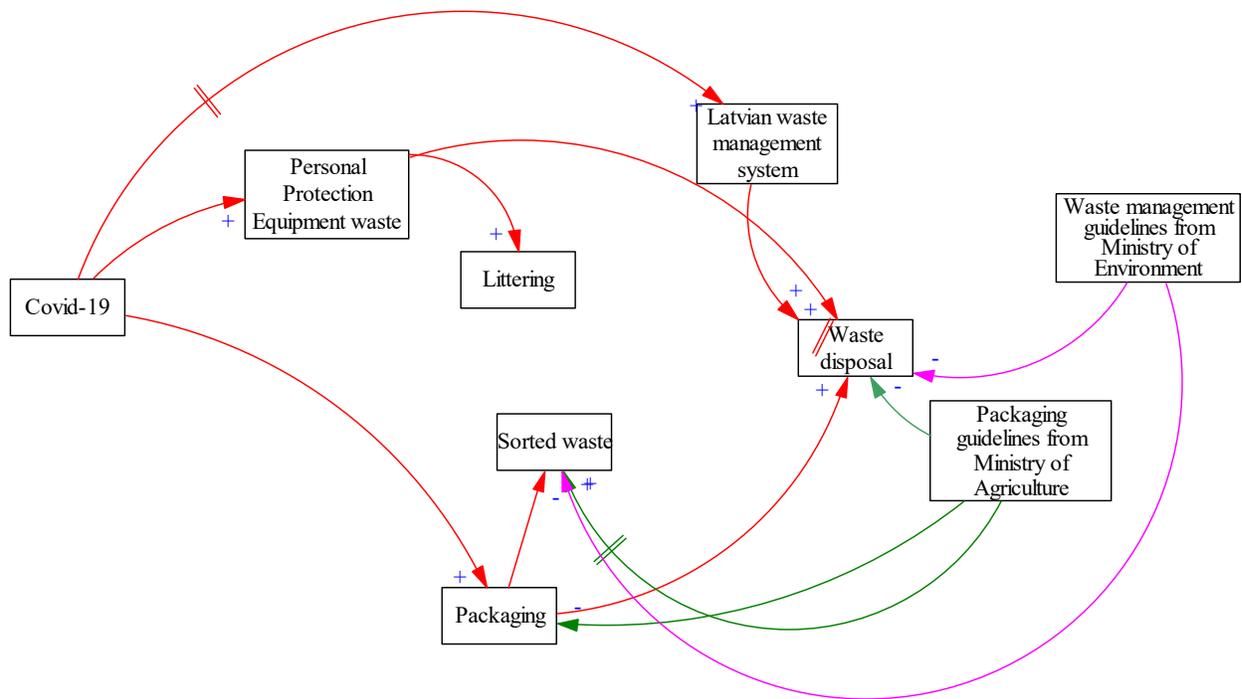


Figure 3. Systems dynamics of Covid-19 and Latvian waste management system

Source: by authors

The table below provides a comparison of measures adopted by the Latvian government:

Table 2. Lockdown restriction measures

	Spring lockdown	Autumn partial-lockdown	Winter lockdown
Boorders	closed	open within EU countries	open with restrictions
Kindergartens	online	Full-time	Full-time
Schools	online	Full-time for grades 1-6	Online or full-time with major restrictions for grades 1-4
Universities	online	online	online
Work	distance, when possible	distance, when possible	distance, when possible
Entertainment	cancelled	limited	cancelled
Retail	open, with restrictions on weekends (food, pharmacies, hardware stores)	open, with restrictions on sq.m for the weekends	open, with restrictions on weekends (allowed - food, pharmacies; forbidden – alcohol, tobacco)
Catering	only take-away	open, with restrictions	only take-away
Public transport	limited capacity	masks	masks, limited capacity (up to 50%)
Gyms	closed	individual trainings	individual trainings with range of restrictions

Source: by authors

The analysis of first and following restrictions shows that the actions taken have impact on:

- increase of waste generation at households (simultaneously decrease of waste generation at offices, public places);
- increase of packaging consumption at retail (additional packaging for hygienic reasons);
- increase of sales of electric and electronic equipment (increase of packaging consumption);
- decrease of air pollution and traffic congestions;
- increase of unemployment and increase of new business ideas (handmade sector);
- decrease of administrative costs for businesses (office maintenance, travel costs);
- increase of real estate sales in the suburbs.

In addition, in Latvian case all the shops that do not have online purchase possibilities, have been struggling with the restrictions and many of those were forced to close the businesses. This also includes the so called bulk shops (Zero Waste shops), which have gained major popularity recently and have great impact on cutting packaging waste. But simultaneously almost none of them offer the client online purchase possibilities. Another phenomena that has been observed recently, is that the population has significant drop in use of bottled water. This is explained by the fact that people work from home and either use tap water, or opt for big volume drinking water bottles.

Luckily the Covid-19 has brought also a range of positive changes, mostly linked with environment. The authors have presented these factors in the figure below.

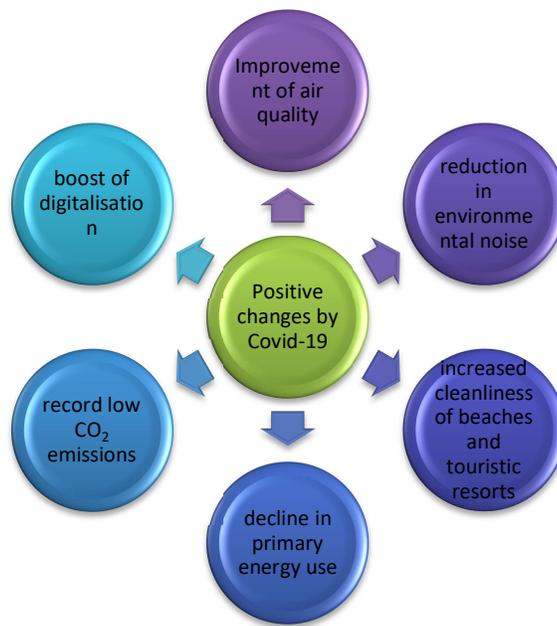


Figure 4. Positive impacts of Covid-19

Source: by authors

The changes are not due to the right decisions from governments in terms of climate breakdown policies and therefore should not be misconstrued as a climate triumph. More importantly, life in lockdown will not linger on forever as economies will need to rebuild and we can expect a surge in emissions again (Ibn-Mohammed, *et al.*, 2021).

The pandemic followed by lockdowns of the countries has revealed once again the dependency and overreliance of the whole world from one country as a manufacturing hub. The shortage of many items was so dire in many countries that the principle of circular economy, such as re-use, is already been unwittingly re-commended by respectable bodies such as the US Centres for Disease Control and Prevention (Ranney *et al.*, 2020). Moreover, the authors can conclude based on the literature review, that this year has led many countries to consider seriously the necessity of circular economy framework on a state level.

Such framework would be focusing on:

- promotion of re-use, sharing economy for certain goods, especially those, which cannot be produced in the particular country;
- promotion of green logistics;
- development of waste management regulations in conjunction with local production, manufacturing and recycling;
- development of new biodegradable products;
- promotion of bioeconomy and bio-based products;
- development of shared and active mobility (incl. cycling, walking infrastructure);
- development of smart cities (incl. social distancing aspects, if necessary).

The European Union and South Korea have both adopted Green Deals as central pillars to their economic recoveries, both leveraging regenerative models and circular economy principles (Kechichian, Mahmoud, 2020). Latvia also takes into consideration the adopted Green Deal and Sustainable Europe Investment Plan when planning possible support activities for the entrepreneurs. Moreover, on September 4, 2020 Latvia has adopted Cabinet of Ministers decree No.489 “On the Action Plan for the Transition to a Circular Economy 2020-2027. year” (Latvijas vestnesis, 2020).

CONCLUSIONS AND FURTHER RESEARCHES DIRECTIONS

Circularity can be practiced at all levels now and in the future, from disinfecting face masks that save lives, to deploying SMART regional policies and strategies that maximize resource use, decrease pollution, and create countless business opportunities (Kechichian, Mahmoud, 2020). According to the study carried out by University of Warwick (2020), it is essential, that circular economy is being adopted for all industries, with different strategies for each one. when looking at post-pandemic period of restructuring business, it could be

useful embracing the transformative capabilities of digital technologies for supply chain resilience by leveraging: big data analytics for streamlining supplier selection processes; cloud computing to facilitate and manage supplier relationships; and Internet of Things for enhancing logistics and shipping processes. The analysis undertaken by the authors has led to a conclusion that the year 2020 with the pandemics has been a good booster for circular economy and although it has brought the world's economy in many areas in the recession and survival phase, it is vital at this moment to seek opportunities in order to make the revitalization of economy faster and going into the sustainability direction. This is why the authors have developed a range of policy directions that it is recommended to be implemented in any country's circular economy plans or frameworks. It is important now for policymakers of Latvia as well as of other countries to undertake a feasibility check of existing or planned circular economy strategies, to consider the most affected sectors of economy in order to develop short- and long-term action plans, that would not only foster transition towards circular economy but also have reasonable practical solutions, including policy support, mentoring and financial instruments.

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MEASURING FINANCIAL HEALTH OF LATVIAN PRIVATE HIGHER EDUCATION INSTITUTIONS

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ABSTRACT

Management of the higher education institution is becoming more and more complex, therefore, it requires modern tools and methods in order to insure sustainable development of the organization and to meet different shareholders' interests. There is an extensive research on the field of efficiency measurement and management of the higher education institutions, while the topic of financial health within this discussion is less covered. The objective of the current paper is to cover the existing gap and to provide the management of the higher education institution in Latvia with an acceptable financial efficiency measurement tool – financial health index – useful in the process of setting the institution's strategic goals, as well as performance measurement. Current research is designed to discuss the development of financial health index based on the American methodology, adjusting it to the Latvian case; to propose further development of the index through the proper definition of factors' weights; as well as to provide first analysis while applying the index.

Key words: *Latvian private higher education institutions; financial health; efficiency measurement.*

INTRODUCTION

The process of decision-making as well as the process of general management of the higher education institution is becoming more and more complex and complicated. Different stakeholders are introducing new requirements (sometimes controversial to each other), information flows are increasing their speeds, new technologies are getting more power. As a result of these changes management of the higher education institution requires modern tools and methods in order to insure sustainable development of the organization and to meet different shareholders' requirements, to find satisfactory answers to changing necessities both from the society as well as politicians and governmental authorities. It is worth considering that since the beginning of the XXI century there have been clear modifications in the sector of higher education, when the institutions providing educational services have moved near to the economic sector. These changes were primary introduced by different models applied in the society and as the consecutive response to the transformation processes within the society (more details could be found in the research papers by Gumport (2000); Vaira (2004); Kezar (2004); Gumport (2005); Goastellec and Välimaa (2019) and Franco et.al. (2019) and others). The changes and transformation process mentioned above should be imbedded in the following construct: in the last decades of the previous century the higher education sector was seen as one with lack of powerful

management due to the limited market competition (or even absence of competition in particular regions), while in the beginning of the XXI century there was a clear move towards more competitive and market-based system as for example in the Baltic States and other European countries. This trend was supported by the application of different factors: first, one could notice the sufficient move from the higher education mainly evaluable for the exclusive parts of the society to the mass education in the universities and high schools; second, the issue concerning increasing competition in the sector accompanied by the reduction of the governmental support to the higher education institutions; third, one could notice the necessity to demonstrate added-value proposed to the customers (potential students and society as a whole) and application of performance management criteria and approaches.

Discussion of the factors mentioned above and their implication for the management of the higher education institutions could be followed in the works published by Alexander (2000); Huisman & Currie (2004); Burke (2005); Horta & Vaccaro (2008); Hazelkorn et.al. (2018) and Aithal & Kumar (2019) and others). Additionally, the studies mentioned above demonstrated high necessity for performance management techniques in the industry of the higher education to be used for setting performance goals, in-depth analysis of the results achieved, evaluation and adjustment to the strategies different requirements of the stakeholders. The author of the current research paper strongly believes that the management of the higher education institutions in order to overcome the challenge of complexity needs modern tools and methods, while performance measurement and management are significant part of these tools and methods. On the other hand, it is worth considering that regardless the existence of research there is no common definition of performance, while different scientists highlight just some of the aspects or factors. The author would like to agree with Armstrong and Yu et. al. as their ideas about performance are similar to the author's believes and findings, that will be shown in the following parts of the research paper. Armstrong (2009) concluded that performance in the higher education institutions is not only about achieving or non-achieving the goals previously defined, but also how these goals have been achieved, therefore it is necessary to understand inputs, outputs and processes. Yu et. al. (2009) have shown that the main outcome of performance measurement and management should not be the report, but it is mainly about strategic decisions taken in the changing environment within limited information. The findings of the research works mentioned above increased author's confidence in the necessity to develop the research topic.

Being aware of the importance of performance management in the higher education sector the author have performed literature review in order to identify research gap. Based on the extended research the author is able to claim that, on the one hand, there is an

extensive research on the field of efficiency measurement and management of the higher education institutions, while on the other hand, the topic of financial health within this discussion is less covered. Only a few authors are seeing the necessity to discuss the issue, while financial health and financial performance are critical factors to insure sustainable development of the organization of any kind. The considerations mentioned above allowed the author to formulate the goal of the research as following: the objective of the current paper is to cover the existing gap and to provide the management of the higher education institution with an acceptable financial efficiency measurement tool – financial health index – useful in the process of setting the institution’s strategic goals, developing and implementing strategies, as well as performance measurement. In order to achieve the research goal, the author is using the methodology of ratio analysis in higher education developed by KPMG in cooperation with Tahey et al. (2015), adjusting it to the current situation in Latvia – selecting necessary and potentially sound financial criteria, determining their weight in the model based on experts’ opinion. The author would like to argue that the paper contributes to the fundamental discussion of evaluation tools and methods on the field of higher education institution management and allows to determine further questions for analysis and scientific discussion like inclusion of financial efficiency measurement in the ranking models for evaluation of higher education institutions on the country level. So that current research paper has both theoretical and practical implications. On the theoretical ground it is filling in the existing research gap as well as providing bases for further analysis. From the practical point of view, the methodology described could be applied by the management of higher education institutions not only in Latvia, but also in other European countries, where competition among different higher education institutions becoming more severe and modern management tools are required.

LITERATURE REVIEW

The author would like to underline that there is extensive research on the field of efficiency measurement and management of the higher education institutions, while the topic of financial health within this discussion is less covered. The kind of conclusions were made based on the analysis and applying the following methodology: literature search is based on the systematic methodology concept as described by Tranfield et al. (2003), who were one of the first scientists showing that process of systematic review previously used in the domain of medicine can be applied to the management in order to gain consistent data and reliable knowledge on the field. Further details about the approach could be found by Denyer and Tranfield (2009) and by Pfefferkorn et.al. (2017). The study was done using scientific database – Web of Science. Below the author describe the five step approach applied to the literature analysis: Step I: definition of the research topic and identification of

the major keywords: “performance” and “higher education” and “measurement” or “management”; “efficiency” and “effectiveness”. Step II: definition of research areas and setting the following search restrictions, as: business economics and/or mathematics and/or public administration and/or operations research management science and/or social sciences. Step III: determination of the final amount of research papers for further analysis resulting to ~ 900 papers. Step IV: reducing the total amount of scientific articles to ~ 300 by reading the abstract (following topics were considered as being less relevant and excluded from the further analysis: studies about impact of higher education on different sectors and domains; studies analysing performance of students, etc.). Step V: further analysis of the papers and classification; preparation of the summary from the results gained.

Having analysed around 300 scientific articles the author is able to conclude that first publications on the field have been dated around 1980, while the topic got special interest from the side of academic research after 2010. The mainstream of researchers is representing United Kingdom (around 1/4 of the papers), possibly because in the United Kingdom there was a starting point for the research on the field, as well as because the first papers covering the issue were published, followed by the USA (less than 20%), while distribution of authors in other countries like Italy, Spain, Portugal is from 5% to 10%. It should be mentioned that based on this results special attention were paid to the financial efficiency measurement approach in the United Kingdom and in the United States. Around 20% of all research articles are conceptual papers, while the rest is of empirical nature. While examining the literature, it became obvious that some works focussed on performance of teaching and/or research and others on performance of administrative or support services: ca. 30% cover teaching and research issues, about 23% are discussing teaching and research and support services, while the same number is devoted to the support services; the rest is mixed. Last, but not least the classification could be done according to dimensions of efficiency, effectiveness and quality. The particular point is of greater importance for the current research paper and is going to be discussed in details below. One of the first authors identifying and discussing the issue of performance in the domain of higher education was Lindsay (1981) claiming that at the time modern methods institutional assessment differ in their capability to deliver necessary information and there is necessity to determine and measure both efficiency and effectiveness. In the later years the mainstream of the researchers on the field connected performance measurement with the issue of efficiency, follow for example: Agasisti and Dal Bianco (2009); Agasisti and Johnes (2009). While the other group (less numerous according to the results achieved) is talking about a combination of both efficiency and effectiveness, as for example: Busetti and Dente (2014); Rodgers (2007); Taylor (2014). The smallest number of researchers are

trying to provide evidence about the combination of performance measurement through quality definition and determination, as for example: Thapliyal (2014). The author has studied also the combination of two factors like area of research papers and performance dimension chosen by the researches leading to the following conclusions about the density of the articles analysed: the mainstream of research papers concentrates on the quality issues within teaching and research (the proportion is almost equal), while only a small quantity of them study the efficiency of supporting services. The most surprising conclusion out of the literature review was the fact that financial efficiency of the organization providing higher education services is addressed by a limited number of research papers. Table 1 provides the summary of the latest relevant studies on the field covering the topic financial efficiency of the higher education institutions.

Table 1. Summary of the latest relevant studies

Author(s):	Year of Publication:	Questions Addressed in the Study:
Ćwiąkała–Malys and Mościbrodzka	2017	The research paper prepared by the authors is an addition to the authors’ previous research on the field of financial efficiency evaluation in the domain of higher education. The current analysis is covering a number of countries within the European Union and is discussing the efficiency question within the financing issue.
Tran and Villano	2018	The authors are applying advanced dynamic network data envelopment analysis method and are determining the divisional efficiency, as well as evaluating this efficiency in relation to the overall performance of education institutions during 2011 till 2013 within the Vietnamese higher education system.
Modugno and di Carlo	2019	The authors are talking about the efficiency issue from the point of view of the drawbacks and chances of the cost accounting perspective. The analysis is highlighting the problem of fostering universities’ financial sustainability and the further application of the results.
Günay and Dulupçu	2019	The authors have used data envelopment analysis to quantify the comparative financial efficiency of the universities in Turkey during the time period of 2004 to 2013.
Mousa and Ghulam	2019	The authors study the efficiency of institutions of higher learning in Saudi Arabia during 2008 to 2014 with the goal of assessing the efficiency scores.

Source: Kuzmina et.al. (2020)

Based on the findings described above the author is seeing the necessity to discuss the issue in greater details, while financial health and financial performance are critical factors to insure sustainable development of any organization. In the coming part of the paper the author would like to pay attention to the performance management system as an essential part within the financial management framework. Even though the practical application of performance management system will not be discussion within the current paper, but it provides the theoretical background for management decisions.

PERFORMANCE MANAGEMENT SYSTEM AS INTERACTION OF DIFFERENT ELEMENTS

Higgins (1989) as one of the first authors who have developed the idea of performance measurement system for higher education institutions. According to him the two aspects: effectiveness and efficiency, should be considered; while the system should be based on the three elements, including: first, definition of the mission of the organization, including the levels of teaching, research and support services; second, development of strategic analysis and planning, where the importance of indicators is underlined; third, management information system. Moreover, it should be considered that Higgins' structure is the first suggestion for the combined performance measurement system including organizational and individual performance. The discussion has been developed by further researchers, as for example Ho et al. (2006) have determined important decision issue within the management of higher education institutions like budgeting and scheduling, allocation of resources and performance management. The authors propose, that the process of higher education system could be built using similar approach as within the process in the producing industry, while financial resources should be determined as main inputs of performance management framework. The analysis of the mentioned research papers helped the author to arrive to the conclusion about the necessity of performance management system that could be presented as following concept as described below: Step I: Measurement and evaluation of organizational and individual performance. Introduction of Step I allows to present performance management framework with the purpose of improving quality of the provided services to the students, public, business etc. The goal could be achieved by providing information on the performance. Moreover, one should consider that the concept developed should be seen as result-oriented and market-oriented, therefore the accountability of both efficiency and effectiveness is necessary.

The concept within the Step I could be organized as following: first, to describe goals/objectives; second, to select the number of crucial indicators; third, to assign goals/objectives and crucial indicators to the financial planning and strategical analysis, insuring the persistent connection between goals/objectives and allocation of limited resources. Step II: Disclosure of the results within the performance-study. The concept within the Step II could be organized as following: first, to insure the monitoring/evaluation of the process (including correction of errors); second, to perform measurement of organizational and individual performance in the timely manner; third, to perform evaluation of organizational and individual performance in the timely manner; forth, to provide consecutive reporting to the shareholders and internal as well as external stakeholders. Step III: Adjustment to the strategic management decisions to the results determined in the step I.

Moreover, the current concept insures the establishment of the link to the strategic management policy within the organization, as it is providing the adjustment possibility to the strategic management decisions due to the existing evaluation of performance. Within the current discussion particular attention should be paid to the step I, including measurement and evaluation of organizational and individual performance. Moreover, the author would like to concentrate only on the issue of the financial health and financial efficiency of the higher education institution, while the other aspects within the performance management system should be discussed in the further analysis.

DESCRIPTION OF THE METHODOLOGY AND DISCUSSION OF ADJUSTMENS PROPOSED

In order to achieve the research goal, the author is using the methodology of ratio analysis in higher education developed by KPMG in cooperation with Tahey et al. (2015), adjusting it to the current situation in Latvia. So that current part is going to be devoted to the description and analysis of the methodology, providing explanation to the assumptions and adjustments done, as well as showing the new development of the existing approach. It is worth mentioning that first attempt of the application of the approach developed in Latvia was done by Mavlutova and Ziemele (2012) and Cernostana (2018), but the author would like to renew the discussion and propose further development to the method. It is worth considering that the further discussion is going to be about Composite Financial Index (CFI) covering the issues of liquidity, operational results, performance of assets and debt and capital management. Within the current research paper, the author is using CFI as equivalent to the financial health index. The methodology is in line with the approaches used by rating agencies (Moody's and S&P are using them in the quantitative scoring), banks and financial institutions for credit risk determination and evaluation, so that it is based on the rational component proven by the practical experience. The methodology proposed by Tahey et al. (2015) in cooperation with KPMG proposes the usage of four main ratios that would be further summarized within the index.

The author of the current article would like to pay attention to these ratios and share the comments in order to contribution to the application of the ratios in practice. According to Mavlutova and Ziemele (2012), Tahey et al. (2015) the CFI consists of four measures mentioned below. Primary Reserve Ratio (PRR) is a measure, showing the level of financial flexibility of the organization; moreover, simultaneously PRR could be seen as a degree of a sustainability and indirect measure of liquidity within the organization, as it indicates how long the organization can survive using reserves and without relying on net assets, as well as, it indicates the affordability of strategic plans. The higher the calculated ratio, the higher the level of the flexibility of the higher education institution to organize its operational

activities including proposing changes and adapting to the changing environment. On the other hand, low ratio, for its part, should not be seen as very critical, in the case when significant investments either in fixed assets or in intangible assets have been made. PRR is equal to Net Current Assets divided by Total Costs, where Net Current Assets are equal to current assets minus short-term liabilities; and Total Costs – all the costs included in the profit and loss statement minus loss from elimination of long-term investments. Threshold level to indicate financial health of the organization: 0.4 – according to the model the ratio of 0.4 means that the organization in order to provide financial flexibility should provide around 5 months of expenses. The author of the current paper is less risk-averse, and after having discussions with the experts in the industry would like to propose the ratio of 0.25 – meaning that the organization in order to provide financial flexibility should provide around 3 months of expenses. The possible explanation is based on the evidence that the tuition fees are usually paid 4 times a year.

Viability Ratio (VR) is an indicator of debt management within the organization. VR is equal to Net Current Assets divided by Long-term Debt. Threshold level to indicate financial health of the organization: It is suggested that the ratio of 1.25 could be considered as the average indicator within the industry. However, it is mentioned that each organization should determine the acceptable level based on the analysis of operating liquidity and long-term liquidity and paying attention to the strategic targets of the organization. At this point the author of the current paper would like to agree to the explanation provided and is going to keep to the ratio threshold level.

Return on Net Assets (RoNA) could be seen as a measure of economic return, indicating the trend over years and therefore being suitable for analysis. RoNA equals to Current period changes in net assets divided by Total net assets multiplied by 100. Threshold level to indicate financial health of the organization: 3% to 4% above the rate of inflation. The author of the current paper after having discussions with the experts in the industry would like to propose the ratio of 4% as a healthy level of RoNA also considering the fact the higher education institutions do not only fulfil the business function, but also a social one, which limits the return potential.

Net Operating Revenues (NOR) measures the operating performance of the organization from day-to-day operations. NOR equals to Net unrestricted operating revenues divided by Total unrestricted operating revenues multiplied by 100. Threshold level to indicate financial health of the organization: 2% - 4% could be seen as a goal over the extended period. The author of the current paper has performed the analysis on the European educational sector analysing public companies traded on the stock exchange within the sector and determined the NOR equal to 2.59%. The author would like to propose

the usage of the ratio for the further analysis as setting above mentioned companies as a benchmark insures the transparency of the value.

After the four ratios have been calculated it is necessary to establish the strength scale of each ratio. The procedure requires the setting of minimal and optimal limits, which are imbedded in the united value scale from one to ten. It is important to consider that the threshold levels to indicate financial health of the organization mentioned above are crucial to determine the limits. The sum of the ratios previously adjusted to the strength and the weight provides the calculated CFI, appropriate to be used for further analysis, year-over-year comparison of financial efficiency and to support strategic decisions of the organization.

WEIGHTINGS OF RATIOS WITHIN COMPOSITE FINANCIAL INDEX: ISSUE AND SOLUTION

While determining the CFI one should consider that a single score lets weaknesses in separate ratios to be balanced by strengths in other ratios. As the kind of approach allows determining overall financial health, not just separate components of financial health of the higher education institution, it is necessary to use the weighting factor consistently for each of the ratios. Moreover, if considerable modifications in scores result from year-to-year comparisons, the clarification will be associated with economic factors and managerial decisions, not different weighting plans. Tahey et al. (2015) have determined the following weightings applicable to the higher education institution with long-term debt as demonstrated in below (in case the organization has no long term debt the ratios are shown in brackets): PRR – 35% [55%]; VR – 35% [0%]; RoNA – 20% [30%]; NOR – 10% [15%]. The author is concentrating further on the first case - higher education institution with long-term debt due to the existence and usage of such a financing structure. In different case further adjustment should be made. It is worth considering that no particular in-depth explanation about the basis for weighting decision was provided. During the number of online webinars, it was stated that the kind of numbers are suggested by the auditing companies according to their best-practice experience, but could be changed in the case of necessity. The author of the current paper would like to argue that the weighting of the factors in the index represent the crucial issue and further clarification is necessary. Moreover, the issue has not been discussed previously and the author would like to fill in the gap. As a potential solution the following approaches could be used: first, usage of equally weighted factors in the index – the approach is less appropriate as Tahey et al. (2015) claim that “in a “normalized” institution, the suggested weighting would be more heavily skewed toward measurement of retained wealth and less toward current operations. The principal reason for this is the belief that retained wealth and strategic use of debt are stronger indicators of long-term institutional financial health than measures depending on a single year’s performance”; second, determination of weightings based on the previous

experience or experts' suggestions – the approach is possible if the index is used for internal purposes only as comparison among different peer-group participants is less possible due to the lack of consistency. Moreover, the kind of approach do not provide the comparison possibilities within on organization, so that the disclose of the financial situation to the stakeholders is not given; third, determination of weightings by applying weight-optimization algorithm – the author of the current research paper would like to underline that kind of solution would provide both the explanatory bases for weight of each ratio in the composite index as well as insure transparency and possibilities of comparison.

In order to solve the weight determination problem, the author would like to apply findings described in the paper by Becker et.al. (2017), who made the study on the composite indexes and developed a number of approaches permitting development of composite indicators to recognize the properties of weights. The prosed approach consists of three steps: In the first step it is necessary to measure the significance of each indicator to the composite index applying non-linear Pearson correlation ratio, estimated by Bayesian Gaussian processes. It is worth considering that in composition indexes the aggregation formula has very often linear features, while a non-linearity relationship between different variables could be determined through correlation between these variables. According to Becker and Saltelli (2015) in this case it is necessary to use non-linear Pearson correlation ratio that provides the possibility to measure the probably non-linear effect of each variable on the composite index.

The second step requires to estimate and to examine the effect of each variable isolated from others using regression analysis. At this point it is worth considering that the intention is to determine the degree of input factor uncertainties on the model output. Moreover, the author would like to overcome the problem of existing negative correlation signaling the conceptual problem concerning the use of the variable within the index. The issue has been studied in the scientific literature and is addressing the problem by the application of regression-based approach. The author of the current article is using the process described by Becker et.al. (2017), including the following steps as determination of splines for every variable, use of regression analysis for each variable, estimation the residuals out of the regression and finally evaluation of correlated and uncorrelated sensitivities of the variable within the index.

The third step is the optimization process that determines the weights to be fitted within the pre-specified values of the index. The kind of values could be determined either by the experts or by a requirements of the model (as in the case of CFI), while the optimization algorithm is based on the Nelder-Mead simplex search method (Lagarias et.al. (1998).

DETERMINATION OF WEIGHTINGS BY APPLYING WEIGHT-OPTIMIZATION ALGORITHM: PROCESS DESCRIPTION AND RESULTS

In the current part of the current research paper the author would like to share the results applying weight-optimization algorithm to solve the weighting issue. The author would like to claim that the kind of approach would increase the explanatory power of the index, also due to the disclosure of the methodology used. The calculations were performed using Matlab tool and following approach: in the first step it as necessary to provide calculation of 4 median ratios (PRR as X1; VR as X2; RoNA as X3 and NOR as X4) and composite financial index (as Y) over period of several years for the sample including 13 higher education institutions in Latvia. In the second step the author determined actual influence of each variable (X1; X2; X3; X4) selected in the previous step and found out that there is some inequality in the influence by gaining the following results: X1 = 0.6030; X2 = 0.5516; X3 = 0.7888 and X4 = 0.7818. Therefore, one can arrive to the conclusion that it is necessary to go into details by breaking down the influence from correlations from the influence of the variable on its own. The analysis was performed in the third step and the following result was achieved (graphical demonstration is presented in the fig. 1): contributions from correlations dominate the influence of each variable; while some nonlinearity exists and should be considered further on.

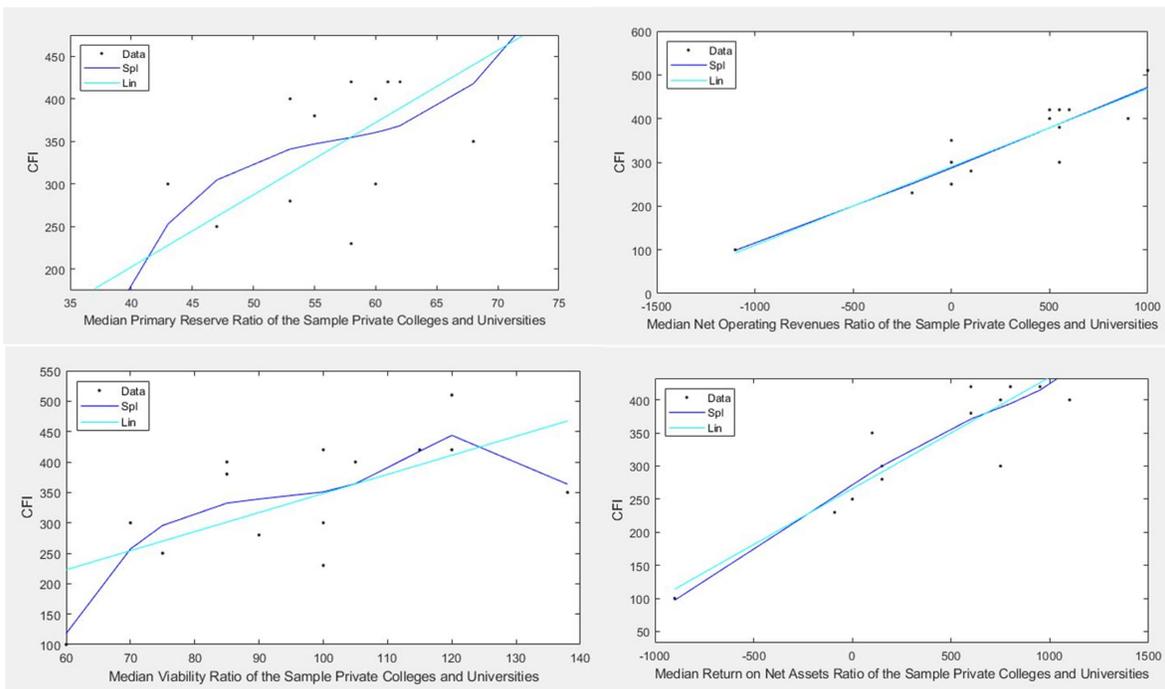


Fig. 1. Determination of influence: testing variables and CFI

Source: Kuzmina et.al. (2020)

In the fourth step it was necessary to start the iterations process in order to determine the index weights respecting both the linear and non-linear correlation of the variables.

After small number of iterations – 33 – the process stopped because the size of the current step is less than the value of the step size tolerance and constraints determined to the estimation process. As a result „new“ index weights were determined: $X1 = 20.98\%$ (instead of 35%); $X2 = 58.40\%$ (instead of 35%); $X3 = 4.69\%$ (instead of 20%) and $X4 = 15.93\%$ (instead of 10%). It is worth mentioning that „new“ index weights is skewed towards VR, so that debt management is becoming one of the critical factors for the organization long-term performance. Last but not least it should be mentioned that the determination of the CFI of the organization is first step inside the performance measurement system within the organization. In order to make any strategical decisions applying the methodology developed by the author it will be necessary to gather information for several years (a period of at least 3 to 5 years is advised from the experts) and make comparison to the peer-group as far as possible. The author is intending to use the methodology to make performance evaluation of Latvian private colleges and universities in the coming research papers.

FINANCIAL HEALTH OF LATVIAN PRIVATE HIGHER EDUCATION INSTITUTIONS

Last part of the current research paper is covering the practical implementation of the developed methodology described above. The author would like to start the discussion with short description of the sector of Latvian higher education institutions providing some general information and statistical data. Afterwards, the author is calculating financial health index in order to make comparison and deliver preliminary conclusions about the state of finance in the Latvian private higher education institutions. The Latvian higher education system is a part of the Bologna process, and follows the 3-cycle system, including academic or professional Bachelor's degree programmes, academic or professional Master's degree programmes and Doctor's degree programmes. Latvia operates a so-called dual system of tertiary-student financing model, within this model a part of students (ca. 40%) are studying free of charge, while a second part is paying tuition fees introduced by the higher education institution. The kind of system is applied by government-dependent institutions, while in Latvia operates sufficient number of private institutions (13 as for the year 2019) financed by tuitions fees paid by students. It is worth considering that according to the latest OECD (2020) report public spending on higher education is relatively low in Latvia (ca. 0.9% of GDP in 2016 compared to 1.1% on average across the OECD countries), so that they do not reflect the increase in national wealth, as for example between 2010 and 2016, Latvia's GDP increased by 21%, while payments to the institutions within tertiary education sector fell by 24% according to the report data mentioned above.

Therefore, financial performance and sustainability of the higher education institution is one of the crucial factors, specially within private higher education institutions not benefiting from the state support, but experiencing similar problems like decreasing number of students due to demographical factors, aging of professors (even though the number of academic staff is stabile during the last couple of years), as well as competition issues getting more stiff. Some of the conclusions mentioned above about higher education sector are also supported by the statistics provided by the Central Statistical Bureau of Latvia (fig. 2).

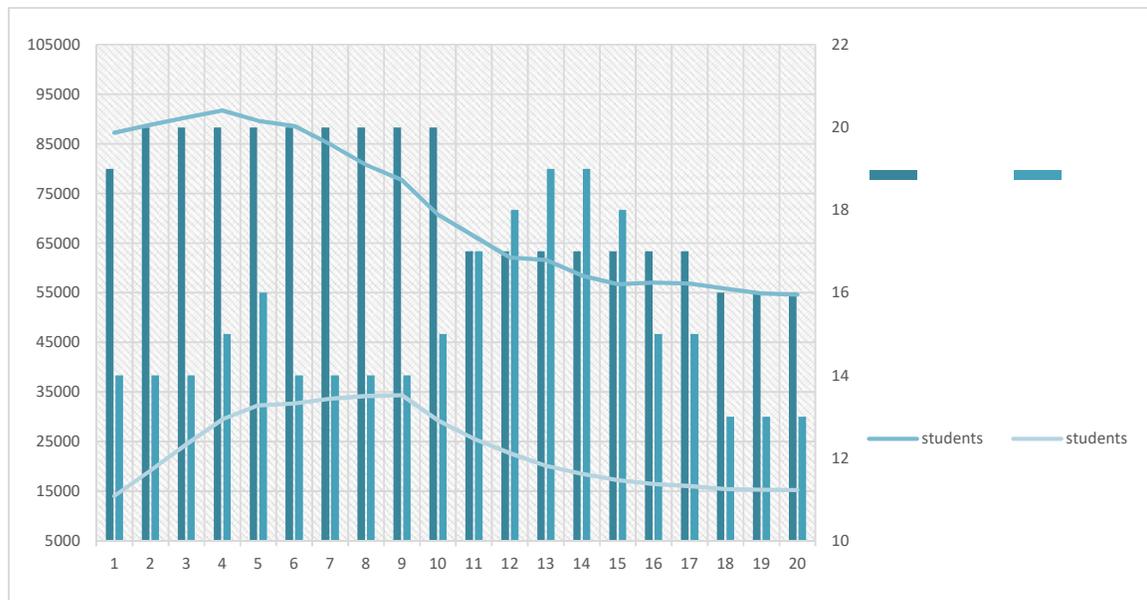


Fig. 2. Number of higher education institutions and enrolled students from 2000 till 2019
 Source: Central Statistical Bureau of Latvia (2020)

As it was mentioned in the previous part of the current research paper in the first step it is necessary to provide calculation of 4 median ratios in order to determine CFI over period of last 5 years for the sample including 13 private higher education institutions in Latvia. It is worth considering that the sample was limited to the number of private higher education institutions in Latvia present in the sector for the last 5 years (excluding currently non-existent organizations), while the time period chosen for analysis of trends, calculation of ratios and determination of financial health index is limited to the period of free evaluable financial data for the selected sample. Fig. 3 provides the median ratios for the selected sample.

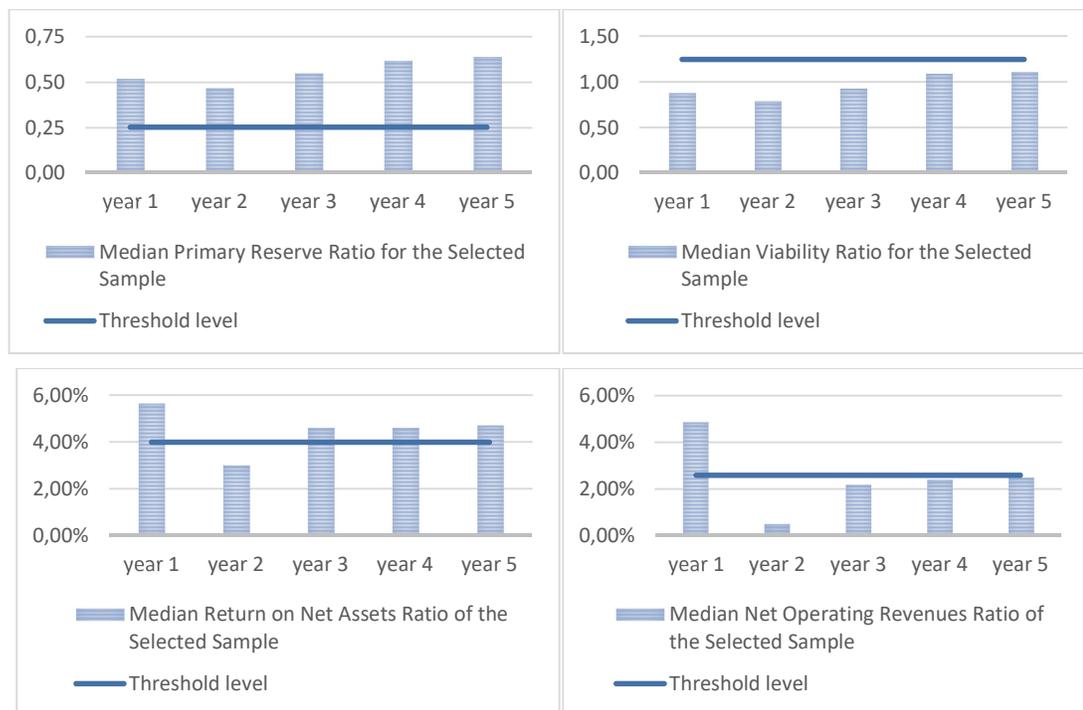


Fig. 3. Median ratios for the selected sample vs. threshold levels

Source: created by author

The PRR as defined above indicates resource sufficiency of private higher education institution in Latvia over the last five years. The data show that Latvian private higher education institutions during the period of study were able to maintain sufficient level of short-term financial stability above the threshold level of 0.25 determined by the author and explained above. The VR is a measure of debt management capability of the organization; it indicates the improving trend (but still below the threshold level equal to 1.25), signifying that private higher education institutions in Latvia do not have sufficient funding to manage the debt in the effective manner. The trend development indicates particular problem that should be solved in the coming periods otherwise it could endanger existence and development of the organizations. RoNA deals with investment performance of the organization. The majority of time it is above the threshold level of 4% indicating the positive trend, but it is worth considering that performance depends on number of overall economic and social factors that cannot be controlled by the institution so that hikes should be evaluated with caution. NOR shows that the median of the organizations is not able to operate within the level of the available resource (threshold level as explained above is set equal to 2.59%). The data are showing positive trend, but the level is still low and indicates the weakness of the private higher education institutions. Every ratio determined above shows exclusive financial factor. In the coming step the ratios should be divided by the strength of the factor and multiplied by the weight of the factor determined based on the model. The weights of the factors and strength factors are determined by the scoring scale as

presented in the table 2 based on the previously estimated threshold levels. The scoring scale runs from 1 (minimum level) up to 10 (indicating the maximum level).

Table 2. Calculation of strength factors

SCORING SCALE	1	3	10	FACTOR WEIGHT
PRIMARY RESERVE RATIO	0,08	0,25	0,83	20,98%
VIABILITY RATIO	0,42	1,25	4,17	58,40%
RETURN ON NET ASSETS RATIO	1,33%	4,00%	13,33%	4,69%
NET OPERATING REVENUES RATIO	0,86%	2,59%	8,63%	15,93%

Source: created by author

Based on the calculations above one can conclude that the median CFI level is 3,39 indicating the ability of the higher education institution to face the challenging business environment and the necessity to direct financial resources to allow transformation of the organizations (the interpretation of the score is based on Tahey et al. (2015) and presented in table 3).

Table 3. Interpretation of the index

<i>index range</i>	<i>strategic implication</i>
<i>index in the range from 7.00 to 10.00</i>	deploy resources to achieve robust mission
<i>index in the range from 6.50 to 9.00</i>	allow experimentation with new initiatives
<i>index in the range from 4.50 to 7.00</i>	focus resources to compete in future states
<i>index in the range from 2.50 to 5.00</i>	direct resources to allow transformation
<i>index in the range from 1.00 to 3.00</i>	reengineer the institution
<i>index in the range from -1.00 to 2.00</i>	consider substantive programmatic adjustments
<i>index in the range from -2.00 to 1.00</i>	consider debt compliance and remediation issues
<i>index in the range from -3.00 to 0.00</i>	consider structured programs to conserve cash
<i>index in the range from -4.00 to -2.00</i>	consider whether financial exigency is appropriate

Source: Tahey et al. (2015)

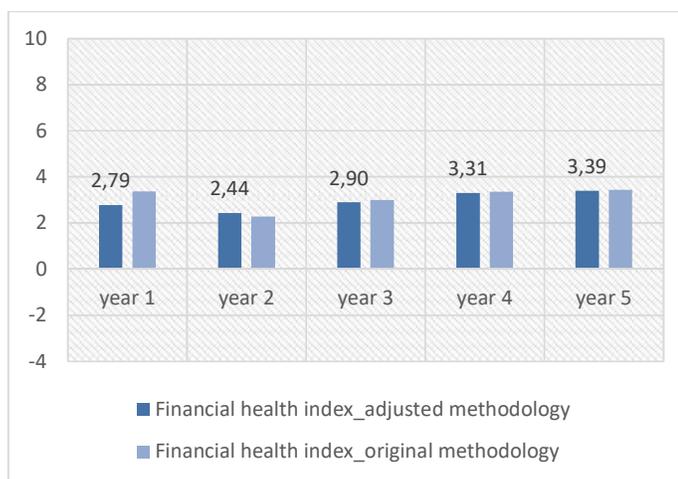


Fig. 4. Financial health index of the Latvian private higher education institutions: calculated using adjusted methodology vs. original threshold levels and weights

Source: created by author

The change of the CFI – financial health index of the Latvian private higher education institutions is demonstrated on the fig. 4. Summing up it is necessary to conclude that the calculations above demonstrate implication of the developed methodology within the current research paper, achieving the goal to provide the management of the higher education institution with an acceptable financial efficiency measurement tool – CFI or financial health index – useful in the process of setting the institution’s strategic goals, as well as performance measurement. It is worth considering that the application of the adjusted methodology as proposed by the author provides slightly different results as the original one, but on the one hand, it allows to draw similar conclusions, on the other hand, it provides higher level of credibility of the results due to the fact that threshold levels and factors' weights are not just chosen (and could be changed by the applying higher education institution as it is the case within the original approach), but calculated based on the model or set based on the national expert opinion. Moreover, the calculated level of the index could be considered as a benchmark level and could be used for the further analysis of the particular private higher education institution operating in Latvia.

CONCLUSIONS

Based on the performed research the author has arrived to the following conclusions: management of the higher education institution is nowadays becoming more and more complex and complicated due to the increasing stakeholders` requirements and necessity of modern tools and methods in order to insure sustainable development of the organization. The existing research is addressing the issue only to the limited extend – there is an extensive research on the field of efficiency measurement and management of the higher education institutions, while the topic of financial health within this discussion is less

covered. The well-known truth is that the financial health (and therefore also determination of financial performance) is critical factor to insure sustainable development of the organization of any kind, and the author is addressing the issue by developing and describing the methodological approach.

CFI covering the issues of liquidity, operational results, performance of assets and debt and capital management and proposed by Tahey et al. (2015) in cooperation with KPMG could be considered as one of the possible solutions to address the issue of financial efficiency within the organization. It is worth considering that the approach developed by the American scientists requires further explanations and adjustments, the author is proposing their view on some of the “weak” points within the existing approach and proposing possible solutions.

The author would like to argue that the paper contributes to the fundamental discussion of evaluation tools and methods on the field of higher education institution management and allows to determine further questions for analysis and scientific discussion like inclusion of financial efficiency measurement in the ranking models for evaluation of higher education institutions on the country level. Moreover, it has got practical implication for management of higher education institution not only in Latvia but also in other countries during the time when efficiency and effectiveness of the organization is a primary issue.

Based on the developed methodological approach it is possible to state that the median level of the financial health within Latvian private higher education institutions is sufficient to face the challenging business environment and it indicates the necessity to direct financial resources to allow transformation of the organizations in the future.

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STRATEGIC IMPERATIVES OF KNOWLEDGE MANAGEMENT IN AN ORGANIZATION

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ABSTRACT

This study shows that in methodological terms, the genesis of knowledge management concepts is multivariate and continuous in the process of historical development, and is the result of the relationship between the intellectual process, means of transition from data to information and conceptual knowledge management systems. The use of a transformational matrix of knowledge management models to assess the functional characteristics of knowledge management allowed us to determine the input (financial, physical, intangible and human resources) parameters that ensure the implementation of the process and output parameters – materialized knowledge that forms consumer value. Moreover, we have identified consistent and inverse links of knowledge management with the internal and external environment, which provide a cyclical movement of knowledge and the further development of the process into the "spiral of knowledge". The uniqueness of this scientific approach consists in the development of a business model that is consistent with the structure of Industry 4.0, where the human factor is absolutely critical. The effectiveness of the study lies in the fact that the selected scientific and methodological approaches to knowledge management are strategic imperatives of knowledge management in an organization and they prove the need to form a chain of intellectual support for the process of creating consumer value in an organization, as this chain is involved in business processes of a company. It is proposed to choose the matrix of knowledge management strategies on the basis of a portfolio of strategies (by competitive advantage, knowledge management, by sources of knowledge and by the relationship to technology and personnel), which together help to predict, plan and choose the best way to transform knowledge. To provide organizational support for knowledge management, we have suggested the formation of a knowledge management team based on a mixed approach, due to which a scheme of interaction of its participants has been developed. The conducted study is of theoretical and practical importance as it can be used as a basis for further research in this area, or can be employed by the government and companies' management to make decisions on defining strategic goals of knowledge management of business and of the state as a whole.

Key words: *knowledge society, knowledge management, strategic management, strategy, organization*

INTRODUCTION

The increase in the competitiveness of organizations in the conditions of rapid development of a knowledge society is possible only if companies create new business structures and change the strategic management of resources. The experience of foreign countries shows that the competitive advantages of business make strategic alliances, which act as a source of knowledge and intellectual capital that serves as a source of a company's competitiveness (Ferreira et al, 2018). However, the diversity of views on management, strategy and theory of organization affects the conceptualization of strategic knowledge management in companies.

The absence of the theoretical and applied basis for defining strategic directions of knowledge management and monitoring the social consequences of successful implementation of tools and practices of support and exchange of knowledge in companies reduces the efficiency and productivity of these organizations and, consequently, it reduces the number of jobs and income in Ukraine. Based on this, an important empirical question is whether the direct and inverse links of knowledge management with the internal and external environment of a company, especially with intellectual capital, have preserved and whether such links are consistent with the development of a business model in Industry 4.0. The theoretical and methodological basis of research on this topic is quite diverse, especially in developing countries, which, in fact, include Ukraine, that is why this issue deserves attention.

We believe that a knowledge management strategy requires the study of transformational models of its development, the investigation of the transformation process of an organization's knowledge in strategic knowledge management, the choice of a matrix of knowledge management strategies within the selected portfolio of strategies and strategic knowledge management planning. In addition, it is necessary to verify a knowledge management strategy empirically and prove the ratio between the effectiveness of the interaction of the chosen knowledge management strategy and the level of innovation in a company. In part, we have been able to justify in theoretical terms the existence of direct and inverse links between knowledge management and the internal and external environment in the process of cyclical movement of knowledge into the «spiral of knowledge». At the same time, scientists Zhang et al. (2020) were first, who managed to prove empirically that there is an inverted U-shaped connection between knowledge generation and the speed of innovation and a U-shaped connection between the speed of innovation and the efficiency of knowledge management. Furthermore, this research has contributed to the transnational study of strategic imperatives of knowledge management.

We hope that the proposed strategic model of knowledge management will contribute to the current research on the choice of a matrix of strategies for knowledge management and knowledge exchange. Our study also stresses the importance of the success of strategic knowledge management, which is necessary to link the effectiveness and efficiency of organizations.

1. THE EVOLUTION AND GENESIS OF THE BASICS OF STRATEGIC KNOWLEDGE MANAGEMENT IN AN ORGANIZATION

The ancient Greek thinker Plato (Cooper & Grube, 2002) laid the foundations for the development of an object approach to understanding knowledge as an objective truth independent of man. The English philosopher F. Bacon, who represented empiricism, based his philosophy on the concept of experience, regarding sensation as the only true source of

all knowledge. The mind's function is to organize observation and experiments, which allows the sensations to be correctly interpreted. It becomes possible to talk about the emergence of a *subjective approach* to the interpretation of knowledge as a result of perceiving reality through the prism of the experience of the perceiving subject.

In the process of transition from manufacturing to capitalist production, the role of knowledge as an intellectual resource has changed. Knowledge was used to invent new technologies and produce goods, which led to the rapid development of the electrical revolution as the first scientific and technological revolution.

From the beginning of the twentieth century, knowledge began to be applied to labour activity (the system of scientific organization of labour by the American engineer F. Taylor (Taylor, 2020), which caused a revolution in labour productivity. Thus, this period was marked by the use of knowledge to improve the means of production and develop new forms of labour organization. It should also be noted that the technological consequences of scientific discoveries necessitated involving significant private and public capital investment in the process of their development and successful industrial application.

Since the middle of the twentieth century, due to the rapid development of scientific and technological progress, the «informatization of society» has emerged, which brings about an increase in the value of information. These trends forced scientists to interpret knowledge on the basis of the concepts of «data» and «information», and in some cases, identify them with each other.

In the late 1970s, knowledge began to be used to create new knowledge, so it played an extremely important role in the production process. In the structure of labour resources, the ratio between people employed in the material production and those in the creation and dissemination of new knowledge has changed (Lin, 2011). This time is considered a period of transition to a new knowledge-oriented economy. At the macro level, the knowledge economy concept is formed, the essence of which consists in using knowledge to produce competitive products on the world market, which ensures economic wealth and the country's development (Lin, 2011). At the micro level, a new direction of management of organizations – «knowledge management» - is formed; this indicates the beginning of the interpretation of knowledge from the standpoint of management science and economics of organization.

Hence, in the process of historical development of humankind, the importance of knowledge has undergone radical changes. If before knowledge concerned the human consciousness and it was used to perceive the objective truth, then now it is directly related to the area of human activity and has become the main resource capable of creating a new society (Drucker, 1993). In such a case, knowledge takes a new role – a role of a means of achieving social and economic results.

The conditions of scientific and technical transformations have given rise to new approaches to the interpretation of the «knowledge» category. For example, Professor D. Stenmark of the University of Gothenburg in Sweden (Stenmark, 2002) singles out the following: *value-based/asset* (commodity) and *social* (community) approaches. The first defines knowledge as an absolute, universal truth that can exist outside the subject of knowledge and corresponds to the above object approach. The authors of the second approach consider reality (knowledge) socially constructed. They argue that knowledge cannot be described universally; it is closely linked to people's practice, actions and relationships. The social approach corresponds to the subjective one, but expands it to some extent, emphasizing the connection between knowledge and social interaction. Hence, some scientists consider knowledge universal and independent of circumstances, whereas others view it as situational and dependent on personal experience of people.

Investigating the essence of knowledge, some scholars find the existence of three approaches: *autopoietic theory*, *cognitivism* and *connectionism* (Sveiby, 2001, Davenport, De Long, & Beers, 1998, Graham & Pizzo, 1996). According to the first approach, knowledge is considered in conjunction with man. Information that is data in a particular context is interpreted using internal mental models of man. Cognitivists actually identify knowledge with information, building a strong relationship between the presence of the latter and the competence of an organization. Proponents of connectionism emphasize that knowledge is manifested not only in the minds of individuals, but also in their interaction. In our view, the above approaches are *subject*, *object*, and *subject-object approaches*, respectively.

The latter approach considers knowledge to be complex in nature, combining both subjectivity and objectivity (Smoliar, & Koba, 2008). In our opinion, this is the most rational approach, because certain personal skills of an employee can be manifested and developed only in the appropriate environment under certain circumstances; otherwise, they lose their meaning. In the process of cooperation, new knowledge may emerge that will be objective in nature. Stenmark (Stenmark, 2002) confirms this opinion and argues that personal knowledge is not entirely subjective, but still not completely objective. The academician of the National Academy of Sciences of Ukraine and rector of Igor Sikorsky Kyiv Polytechnic Institute Zgurovsky M. Z. also adheres to this approach, noting that the simultaneous individuality and collectivity of knowledge are among the main features of knowledge in a knowledge society (Zgurovsky, 2020).

In the methodological aspect, the formation of knowledge management concepts is regarded as a continuous theoretical search and justification of approaches in the field of knowledge management. Moreover, the basic principles are singled out, on which various models of knowledge management are built. This approach makes it possible not only to compare the conceptual construction of knowledge management systems in historical development, but also to determine the functional characteristics in the system of this management (Fig. 1).

Stage 1. Emergence and formation of the concept of «knowledge society»

- 1959 - American scientist P. Drucker introduced the term «knowledge worker» in the work «Landmarks of tomorrow».
- 1960 - formation of concepts of a post-industrial / information society in the works of J. Galbraith, J. Bell, P. Drucker, M. McLuhan.
- 1962 - publication of the work of the American scientist K. Arrow "The Economic Implications of Learning by Doing", which substantiates the need to improve the quality of management of the training process of employees, since with the accumulation of their experience the efficiency of functioning increases.
- 1966 - publication of the work of Makhlop F. "Production and distribution of knowledge in the United States"
- 1983 - R. Akscyn and D. McCracken developed a hypertext system, which was called «Knowledge Management System»

Stage 2. Formation of the concept of knowledge management

- 1986 - K. Sveiby published the world's first monograph «The Knowledge Company», devoted to knowledge management. K. Wiig first used the term "knowledge management" in his report at a conference in Switzerland.
- 1987 - the first conference on knowledge management "Managing the Knowledge Asset into the 21st Century" at Purdue University (USA).
- 1989 - the creation of International Knowledge Management Network.
- 1994 - K. Sveiby defended the world's first doctoral thesis on knowledge management «Towards a Knowledge Perspective on Organization». The publication of the book by I. Nonaka and H. Takeuchi «The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation».
- 1991 - T. Stewart introduced the concept of «intellectual capital». The Swedish company Scandia was the first to approve the position of Chief Knowledge Officer (CKO). The publication of I. Nonaka's article «The Knowledge-Creating Company», in which for the first time the term «implicit knowledge» was used in the context of organizational activities.

Stage 3. Spread of the concept of knowledge management

- 1996 - launch of the Knowledge Bank project with KM at the World Bank. The first KM specialties in foreign higher education institutions
- 1997 - first KM department at the Haas School of Business of the University of California
- 1998 - book by T. Davenport and L. Prusak «Working Knowledge: how organizations manage what they know». The launch of the KM project «Live +» in the Swiss Parliament.
- 2001 - the second research report that KPMG Consulting published on knowledge management determined that the progress made by knowledge management since then 1998 was much greater than the intervening two years might suggest
- 2001-2010 – rapid development and spread of knowledge management in organizations both in the world and in Ukraine

Stage 4. Development of knowledge management concepts based on Industry 4.0

- 2011 – Kimiz Dalkir published the book "Knowledge Management in Theory and Practice"
- 2014 - McKinsey & Company generated responses from more than 500 executives from different regions/industries/companies in a survey on the use of data and analytics, knowledge management skills
- 2016 – 2020 – development of theoretical and practical principles that connect the concepts of Knowledge management, Industry 4.0 and Open innovation and form inter-institutional and intra-institutional knowledge management models, characterized by the decentralized exchange of information in the context of Industry4.0

Fig. 1. The evolution of the stages of forming, disseminating and developing the concepts of knowledge management: a historical vision

Source: prepared by the authors on the basis of (Drucker, 1993, Machlup, 2013, Nonaka & Takeuchi, 1995, Masic et al., 2017, Dalkir, 2017, Davenport, De Long, & Beers, 1998)

The concept of knowledge management was formed and singled out at the end of XX century – at the beginning of XXI century. In the process of the formation of the knowledge management concept, the following stages can be considered: the emergence and formation of the concept of «knowledge society»; the formation of the concept of knowledge management; the dissemination of the concept of knowledge management.

Thus, the first stage includes the gradual emergence and formation of the concept of «knowledge society», characteristic of a post-industrial society, which is based on the development of knowledge in a society. For instance, the report of the UNESCO International Commission on Education chaired by Edgar Faure (1972) stated the emergence of a «knowledge society», in which the most important thing is to «learn how to learn». Later, in the Report of the International Commission on Education for the XXI century in 1996 (chaired by Jacques Delors), it was stressed that, in addition, new information technologies can contribute to the «constant renewal of personal and professional competence».

At the second stage, the concept of knowledge management was formed, knowledge management started to develop as a science. At this stage, three main approaches to knowledge management were formed: European, American and Japanese. The theory of a post-industrial society was recognized as a methodological basis of sociology in developed countries.

Whereas, at the third stage, the concept of knowledge management started to spread. Various international companies implemented knowledge management systems in enterprises, consulting companies studied knowledge management processes and conducted surveys of companies concerning knowledge management. The concept of knowledge management began to spread in Ukraine as well.

Finally, the fourth stage is determined by the requirements and challenges of Industry 4.0. The fourth industrial revolution involves the automation of virtually all business processes, the development of Big Data analytics and the digital ecosystem in general. Due to this, companies need to implement new approaches to knowledge management or adapt the existing ones to the high demands of today.

Strategic knowledge management in an organization is a combination of different approaches, theories and concepts and it has a strong interdisciplinary nature, combining certain aspects of personnel management, innovation management, resource theory, computer science, artificial intelligence theory, management of organizational development, sociology and psychology.

In theoretical terms, the following basic principle is common: knowledge management is a set of purposeful, systematic and organized management actions concerning processes in the field of knowledge using various tools and technologies aimed at achieving goals and increasing the competitiveness of an organization.

The analysis of scientific papers indicates the need to clarify the main stages of the transformation process of knowledge in an organization. For this purpose, we have conducted a theoretical study of existing models of knowledge management and carried out their critical evaluation (Table 1).

Table 1. Transformational models of knowledge management

<i>The name of a model</i>	<i>Main provisions</i>	<i>The evaluation of a model</i>
<i>Model of organizational epistemology, von Krog and G. Rus</i>	The authors apply an epistemological approach to knowledge management. They divide knowledge into individual and social. Individuals form groups in the organizational system. Knowledge arises as a derivative of the social interaction of these individuals. Thus, knowledge exists not only in the minds of individuals, but also in their interaction. The authors also identified five factors that hinder the successful management of organizational knowledge: the way of thinking of employees; communications in an organization; the organizational structure; relationships between participants; HR management	The social nature of organizational knowledge and the fact that knowledge is inextricably linked to man (application of connectionism) played an important role in the further development of knowledge management
<i>Knowledge spiral model, four-phase SECI model (socialization, externalization, combination, internalization), I. Nonaka and H. Takeuchi</i>	The authors distinguish between two forms of knowledge – explicit and tacit. The model presents four phases of knowledge acquisition: socialization; externalization; combination; internalization. Knowledge always begins with the individual and in the process of transformation, it forms a spiral that grows with each new turn in both the horizontal and vertical planes, embracing new people and new knowledge.	The model is of great value in the development of knowledge management, as it reflects knowledge in the dynamics: the transition from tacit to explicit form, as well as from individual to organizational. However, it is more focused on the process of creating knowledge. The model also assumes that tacit knowledge already exists, moreover, it does not regard data and information as prerequisites for its formation
<i>Model of three worlds of knowledge, K. Popper</i>	The author considers reality in three worlds: the physical world of inanimate physical objects and living beings; psychological /cognitive world is a personal world of sensations, thinking, perception and observation; world 3 contains the products of thought such as music, stories. The author distinguishes between subjective and objective knowledge. The first involves subjective expectations and thinking, which is in world 2. The second one is the content of thinking, expressed in linguistically formulated theories. The transition from thinking to its content can be embodied in third world objects, as it is codified into a form that can be used by others.	The value of this model lies in the clear distinction between the concepts of «data» and «knowledge». Data exists in the third world and only through the process of thinking, it can become knowledge that belongs to the second world. The difference established by the author allows us to draw an important conclusion: in order for something to become knowledge, it is necessary to evaluate it.
<i>Model of the knowledge life cycle, J. Firestone and M. McElroy</i>	The authors combined several models into one. They defined knowledge as follows: first world knowledge is encoded structures in physical systems that allow objects to adapt to the environment; second world knowledge consists of views that have been personally assessed and verified and of their place in the world; Third world knowledge is general linguistic statements about the world. The model stresses the importance of managing needs for knowledge and managing knowledge supply.	This model takes into account many aspects, unlike the previous ones. In addition, the authors draw a clear distinction between data, information and knowledge
<i>Model of an N-shape organization, D. Hedlund</i>	An N-shape organization is a knowledge-based organization. The model is based on the analysis of two sets of concepts: implicit and explicit knowledge (each type has three forms of knowledge: cognitive knowledge, skill, embodied knowledge), as well as four levels of social aggregation (individuals, small groups, organizations, inter-organizational area). The dynamics of transformation and transfer of knowledge are expressed by the processes: formalization and internalization, the interaction of which is reflection; distribution and acquisition, the interaction of which is dialogue; assimilation and dissemination	The classification of knowledge proposed by the author presupposes the existence of all three types of knowledge (cognitive one, skills, embodied knowledge) in both explicit and implicit forms at all organizational levels.

Table continuation

<p><i>Model of cognition and knowledge, M. Earl</i></p>	<p>Knowledge is divided into three categories: accepted knowledge – «science» (data); feasible knowledge – «judgment» (information); potential knowledge – «experience» (knowledge). Potential knowledge is the most valuable and has the highest potential return. M. Earl assumes that an organization can create and protect knowledge using assets and four functions: making an inventory, i.e. mapping of individual and organizational knowledge; auditing – an assessment of the nature and scope of the planned ignorance, the development of knowledge through cognitive processes; socialization – the creation of events that make the exchange of implicit knowledge possible; testing – learning some experience, actions and discussing unusual situations</p>	<p>The author describes data, information, knowledge, distinguishing them from each other. In addition, the author defines individual processes within knowledge management as a function of an organization. However, it refers only to the creation and protection of knowledge</p>
<p><i>Sense-making model, Ch. Choo</i></p>	<p>The model emphasizes the process of sense-making and focuses on the process of selecting information elements and on their gradual implementation in organizational actions. The main processes in the model are knowledge creation, sense-making and decision making</p>	<p>The author includes the decision-making process in the model, which is not done by other authors and this fact makes this model more complex</p>
<p><i>Model of building and using knowledge, K. Wiig</i></p>	<p>The basic principle of the model: in order for knowledge to be valuable, it must be organized by building semantic networks. It includes the following indicators: completeness, connectedness, congruency, perspective and purpose. The author identifies four levels of internalization of knowledge. He also distinguishes between three forms (public knowledge, shared competence and personal knowledge) and four types (actual, conceptual, expectational and methodological) of knowledge, which together form the matrix of knowledge management</p>	<p>K. Wiig's organizational approach to the categorization of types of knowledge is a powerful theoretical basis for knowledge management in organizations. However, the model focuses on structuring knowledge and does not take into account other knowledge management initiatives</p>
<p><i>I-space model, M. Boisot</i></p>	<p>The author distinguishes between the concepts of «data» and «information», which together represent the information space. Within this information space there is a cycle of social learning, which consists of the following phases: scanning; problem solving; abstraction; diffusion; absorption; impacting</p>	<p>This model combines content, information and knowledge management very effectively</p>
<p><i>Models of complex adaptive systems of knowledge management (ICAS), S. Beer, A. Bennett and D. Bennett, D. Snowden</i></p>	<p>The ICAS knowledge management model views an organization as a self-regulating complex adaptive system, as a living organism associated with independent existence and survival. The main processes in the ICAS knowledge management model can be understanding, creating new ideas, making decisions, taking actions to achieve the desired results. As a result of the action of all factors, there are derivative characteristics, each of which can only be developed. Therefore, knowledge management can be performed through creativity, problem solving, decision making and implementation</p>	<p>By their nature, such models are complex and follow the example of other approaches in imitating connectionism. This model is best suited to reflect the complexity of knowledge management processes. However, there is still no clear single model that would be a solid theoretical basis for its practical application.</p>

Source: compiled on the basis of (Davenport, De Long, & Beers, 1998, Nonaka & Takeuchi, 1995, Choo, 2015, Haggie & Kingston, 2003, Barcelo-Valenzuela et al., 2006)

To sum up, we can identify the following elements of the transformation process of knowledge in an organization (Fig. 2): data collection and information, knowledge acquisition, formalization and preservation of knowledge, transfer and diffusion, use of knowledge. It is worth noting that such a process has input and output parameters as mandatory characteristics in the system of knowledge management. Input parameters are financial, material, intangible and human resources that ensure the implementation of the process. The output parameters comprise materialized knowledge that forms consumer

value (Koba, 2009). These can be products, processes, experience, intangible assets, and so on. Inverse links are also important (Fig. 2), as they ensure a cyclical movement of knowledge and the future development of the process into the «spiral of knowledge».

The close interrelationship with the external environment reflects the interaction of all components of intellectual capital (organizational component – organizational knowledge, human component – individual knowledge, relative component – the interrelations and connection with the subjects of the external environment).

Both sequential linear and inverse connections are possible between separate stages of the transformation process of knowledge and this fact is taken into account in the proposed diagram of this process (Fig. 2).

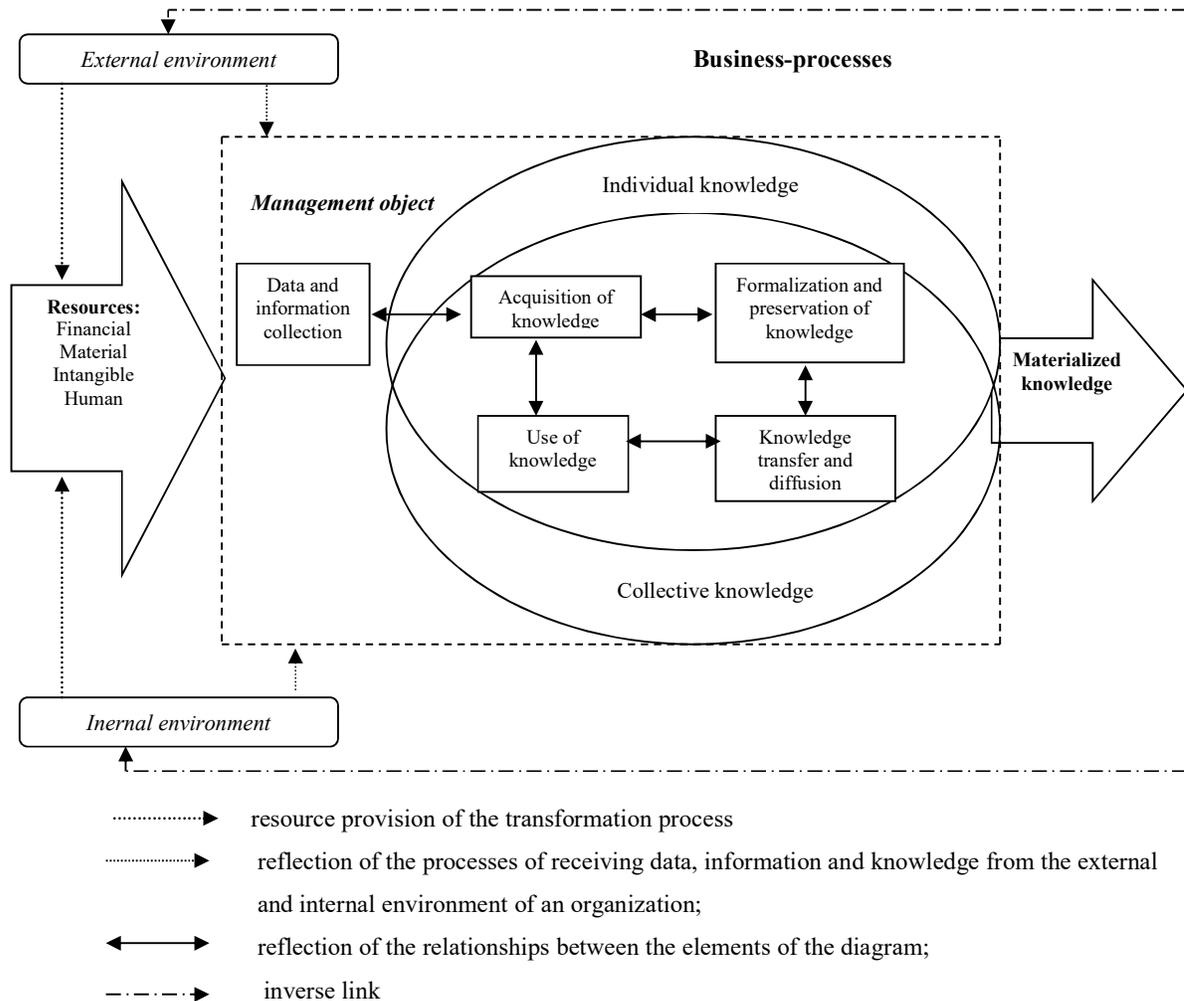


Fig. 2. The diagram of the transformation process of knowledge of an organization in strategic knowledge management

Source: proposed by the authors

Data and information collection involves the use of both internal and external sources (Fig. 1).

Knowledge can be acquired in two ways: creating new knowledge and attracting knowledge in the finished form from the external environment. It should be noted that the first way of acquiring knowledge by an organization has a number of advantages over the second one. First of all, it is because the knowledge attracted is more accessible and can be attracted by competitors, which means that the competitive advantages based on them will not be long-term. The new knowledge is «grown» directly in a company and it does not involve problems with its adaptation, and the benefits based on it are the strongest and long-lasting. One of the main sources of expanding employees' knowledge is their direct practical activity, in the process of which, on the basis of attempts and errors, it is possible to check the effectiveness and validity of decisions and actions taken, as well as to accumulate experience (Smoliar&Trofymenko, 2019). Quite often, it is not even realized by the individual. Thus, at this stage of knowledge transformation there is the replenishment of its reserves, which can be included in the process of creating consumer value.

The process of socialization, i.e. the transition of knowledge from implicit to explicit form, occurs as a result of formalization of acquired knowledge (Fig. 2). Formalized knowledge is subject to record and preservation. Formalized and preserved knowledge can contribute to the formation of new knowledge, which reflects the links between the stages of acquisition and formalization and preservation in Fig. 1. The process of expressing implicit knowledge is not mandatory and appropriate for all types of knowledge, but ensuring the process of preserving knowledge of all forms (explicit and implicit) is one of the main tasks of knowledge management in an organization as a mandatory step in transforming intellectual resources into intellectual assets.

The stage of transfer consists in transforming individual knowledge of an employee into collective knowledge through the transfer of individual knowledge to a group of people with whom an employee works, and such a group, in turn, acquires this knowledge, expands and disseminates it throughout an organization (knowledge diffusion). This process can take place in such ways: 1) through conversations, talks, speeches, etc. in the process of personal communication and oral exchange of knowledge; 2) placing formalized knowledge in the information corporate network or on paper media, which are available to other employees of a unit or organization; 3) performing practical activity and observing practical work of others helps employees to adopt implicit knowledge.

The process of employing knowledge involves the use of a set of accumulated knowledge (different types and forms) during the implementation of a particular type of activity. It can take place with the help of both the individual's own knowledge and the organizational knowledge stored in the organizational memory (for example, the information about similar and successful projects completed in the past). All the above

processes occur at each stage of the value chain, i.e. in each business process, which is taken into account in the proposed scheme (Fig. 2).

Hence, according to the system approach, *the process of knowledge transformation involves the gradual transformation of input resources (intellectual and traditional ones) into the desired results (including materialized knowledge that creates consumer value), i.e. the transition from resource to product form of knowledge.* This process is impossible without a purposeful set of actions of the subject of a knowledge management system, since such a subject uses various methods and tools of management thus creating the conditions for ensuring that all the stages take place and for coordinating their relationships. Such actions can be defined as the functions of the subject of knowledge management. Based on the analysis of the general functions of management, we propose the following stages of exerting a managerial influence on the process of knowledge transformation: planning, organizing, motivating, controlling.

The first stage of the *planning* function should be the formation of a goal tree of knowledge management. The following conditions should be observed (Koba, 2009): 1) integrating knowledge objectives with the general goals of an organization; 2) setting realistic goals for further formulation of the tasks of individual employees on their basis; 3) bringing the set goals to employees. Based on the set general objectives of knowledge management, strategic planning of knowledge formation is carried out. This activity is based on preliminary diagnosis of the knowledge of an organization, the identification of essential knowledge in accordance with the benchmarks, knowledge mapping, a comparative analysis of current and desired conditions in each area of knowledge, the identification of gaps, the formation of needs and the development of measures to meet them. Strategic plans become the basis of devising tactical and operational plans, which provide measures to bridge the knowledge gap at the individual, group, organizational and inter-organizational levels.

Within knowledge management, the function of *organizing* is the process of making a number of management decisions on the organizational structure of the knowledge management system, the distribution of tasks, powers and responsibilities among employees as well as resources to achieve the set goals and implement the devised plans. First of all, it is necessary to form a knowledge management team (knowledge management centre). At the same time, knowledge management functions should not be added to the tasks of a personnel development manager, a quality assurance manager or an information technology manager. In our opinion, it is vital to create a new job description for the Chief Knowledge Management and to appoint a person with relevant experience and personal qualities to this position. The team should include such people: representatives of different levels of management and different departments; experts in information technology and business

engineering; people responsible for forming a culture of trust and knowledge exchange; analysts in certain areas of knowledge; knowledge engineer; knowledge administrator. In addition, the organizational structure of knowledge management should include the formation of networks of professional knowledge communities and knowledge communities of interest. Technological infrastructure plays a special role in resource provision (Dalkir, 2017).

The third function, *motivating*, is a process that presupposes a set of managerial actions aimed at encouraging an employee to achieve personal and corporate goals in the field of knowledge management. To achieve a positive result while forming the motivational system, it is essential to create conditions under which the employees of an organization will benefit from the acquisition, transfer and use of knowledge.

The fourth function, *controlling*, involves making management decisions based on setting the parameters of working with knowledge (protection of certain formalized organizational knowledge by restricting access to it), evaluating the results achieved, comparing them with the plans. There are two types of controlling transformational processes of knowledge in an organization: self-control of employees participating in this process, administrative control. Self-control is crucial in the process of acquiring knowledge. Administrative control is usually selective and periodic. In the knowledge management system, the openness and reliability of the control results, which are both complex and highly subjective, are extremely important. The control is carried out both at separate stages of the process, and at the end of it. In this context, it is advisable to distinguish between previous, current and final types of control. Based on the results of the control, the process is adjusted in accordance with the set goals and objectives, as well as in accordance with changes in the environment.

Also, in the process of performing the described functions, the subject of knowledge management uses certain methods, namely: socio-psychological; information and technology; organizational and economic. Employing these methods to fulfil the functions, the subject of knowledge management is guided by a set of principles. These include principles of consistency, integration, innovation, continuity, balance; complexity; self-development; structural flexibility and simplicity. Knowledge management as a socio-economic system is influenced by factors of exogenous origin. These factors are formed in the external environment in relation to an organization and have a direct or indirect impact on it. At the same time, the influence of endogenous factors that are formed within an organization should be taken into account. All this forms the conceptual foundations of knowledge management in organizations.

The proposed scheme of the concept of knowledge management in an organization also presupposes inverse links with the internal and external environments in which

materialized knowledge comes. This ensures the development of knowledge in an organization in spiral order, which corresponds to the general patterns of development of socio-economic systems.

In addition, today organizations must have the capacities to face the changes that Industry 4.0 entails, and for this, Dan Li (Li et al., 2019) defines four structural areas of business that must be treated with caution and allow for the measurement of the maturity of the company in this process (Bettioli et al., 2020): Resources, Information Systems, Organizational Structure and Cultures. This digitization paradigm consists of computerization and connectivity, based on IT systems to support information and knowledge sharing (Li et al., 2019).

A business model should be consistent with the structure of Industry 4.0 in accordance with the functioning of systems that will connect and exchange data in real time among all links that make up the chain of an organization (Bettioli et al., 2020). It involves the connection of people, objects and systems. The human factor is absolutely critical in Industry 4.0, as industrial automation also leads to a «rethink» of jobs, which is why the development of education is an urgent need for all employees of an organization. It is therefore important to implement and develop Computer-Supported Collaborative Work (CSCW) so that it includes the processes and resources involved in the work and offers the integration of tools and techniques that support working group collaboration, which can potentially increase the productivity and efficiency of those who work together.

2. A KNOWLEDGE MANAGEMENT STRATEGY IN AN ORGANIZATION AND ITS FUNCTIONAL SUPPORT

We agree with (Adwards, 2008) that there is a need for holistic, systemic, integrated approaches to deal with the ever-increasing complexity of organizations in knowledge management. Therefore, we believe that the optimal strategy for knowledge management in organizations can be devised only due to the organic, holistic combination of existing theoretical models and concepts with the appropriate tools of financial, production and practical measures to develop this strategy.

All mechanisms through which knowledge is realized should be directed at the service of knowledge management. First of all, it is necessary to create a modern functional environment that makes it possible to implement knowledge in all systems and departments of organizations. The formation of such an environment is based on corporate ownership institutions, contract enforcement systems and high-tech investment and innovation structure. The following provisions should be taken into account in the process of developing a knowledge management strategy: such a strategy should provide radical structural changes in the use of knowledge in business processes of an organization and

introduce a system of knowledge updating; this strategy does not exclude the combination of existing elements and the creation of new ones, which enable knowledge management to develop itself; the basis of effective knowledge management is the choice of the optimal relationship between a corporate strategy and knowledge management strategy.

Considering these provisions, we propose a diagram of strategic planning to devise a strategy for knowledge management in organizations (Fig.3).

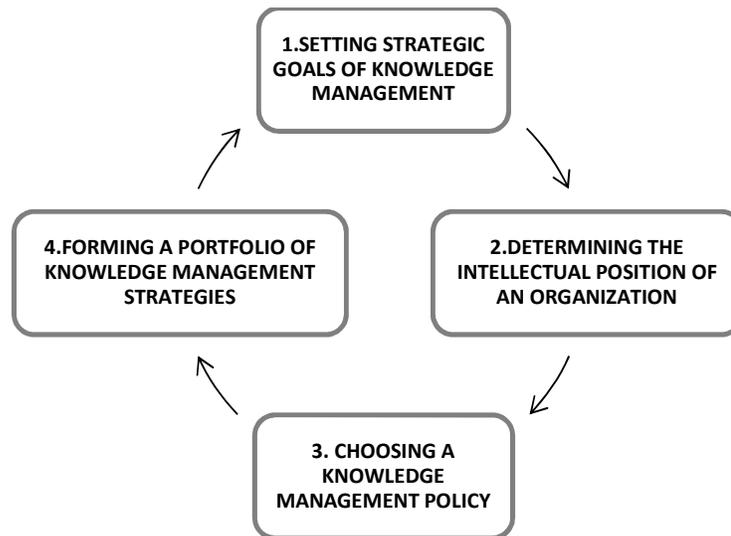


Fig. 3. A diagram of strategic planning of knowledge management

Source: prepared by the authors

The first block in the diagram (Fig. 3) shows setting strategic goals of knowledge management, parameters and indicators of their achievement. Since the effectiveness of a knowledge management strategy is determined by its consistency and compliance with the overall corporate strategy, one of the requirements for strategic goals when planning knowledge management in an organization is the fact that they are set based on the overall objectives of its development. To do this, we suggest constructing a tree of goals of an organization on the basis of the consumer value chain, because it reflects all the business processes of an organization in their interaction, which are aimed at creating certain value, i.e. achieving a common goal. In this case, the main process of creating value by an organization is divided into a number of other business processes, the decomposition of which explains the relationship between the results of an organization and the results of its individual processes. The success of each of them is characterized by the achievement of goals, which can be defined as sub-goals of the main goal of an organization. Thus, the consumer value chain is a convenient and appropriate tool for determining the goals of any organization.

After constructing the consumer value chain and a tree of objectives based on it, it is possible to identify the knowledge involved in the implementation of business processes as

well as the stages of its transformation, which are reflected by the chain of intellectual support of the customer value creation in an organization. Afterwards, we can draw a tree of goals of knowledge management in an organization.

Since the set of defined goals of knowledge management of an organization will be the desired state of the object of management (the process of knowledge transformation), it is necessary to measure the degree of achievement of these goals in order to build an effective knowledge management system. We suggest carrying out such an assessment based on the definition of a set of target parameters and indicators, which accordingly establish the boundaries of the knowledge management system and determine the indicators of its functioning.

One of the most important criteria for choosing a knowledge management strategy is assessing the significance of defined knowledge management objectives for a company. For this purpose, it is advisable to determine the coefficients of relative importance (KBB) of each objective and the overall coefficients of importance ($3KB$) to achieve the main goal. It is expedient when experts determine such coefficients by filling in the necessary tables, which assess the objectives of each level of the knowledge management tree. The coefficient of relative importance of an objective characterizes its significance in achieving the main goal. The overall coefficient of importance of an objective is calculated by the product of the coefficients of relative importance of sub-goals on the way from this sub-goal to the main goal of knowledge management:

$$3KB = KBB_1 \cdot KBB_2 \cdot \dots \cdot KBB_n,$$

where $3KB$ is the overall coefficient of importance of the goal; KBB is the coefficient of relative importance of the sub-goal; n is the number of sub-goals on the way to the main goal.

However, such estimates do not allow the goals belonging to different branches of the goal tree to be compared because they differ in number. Therefore, to obtain adequate overall coefficients of importance that can be compared, it is necessary to multiply them by adjustment factors:

$$K_k = \frac{1}{N \cdot KBB},$$

where K_k is the adjustment factor; N is the number of goals in the most structured branch of the goal tree; KBB is the coefficient of relative importance.

Thus, as a result of bringing the goals of knowledge management to a single qualitative assessment, it is possible to establish their priority by their importance, which significantly affects the choice of a knowledge management strategy.

The next step in devising a strategy of knowledge management in organizations is *to determine the intellectual position of an organization*. The result of this stage of strategic planning is understanding the current state of intellectual development of an organization based on the results of a diagnostic assessment of a company's knowledge and determining the state of knowledge management in it. To do this, we propose the use of traditional tools of strategic analysis such as determining the impact of factors of the functional environment, identifying opportunities and threats, weaknesses and strengths, and finally, compiling a SWOT table and drawing up a list of strategic problems of intellectual development. In our opinion, the formed list of problems will provide an opportunity to *determine a policy of the project organization on knowledge management as well as priorities* in this area, which is in the next block of strategic planning.

To select a knowledge management policy, which determines the strategic guidelines for further development of an organization, we suggest employing the following criteria: in relation to science – conducting independent research or acquiring developments from other businesses; in relation to learning – focusing on organizational or external learning; in relation to the ways of solving internal problems – using own knowledge or involving consultants; in relation to the intellectual resources of an organization – developing own resources or involving specialists from the outside from time to time.

All the outlined criteria are interrelated and together determine the position of an organization based on the type of its knowledge management policy (table 2).

Table 2. The typology of knowledge management policies

<i>Type of policy</i>	<i>Description</i>
Leadership	Independent organization of the main components of knowledge management and skilful involvement based on the integration of external knowledge
Imitation	Knowledge management is temporary, based on the involvement of more knowledge of external origin and it is focused on preventing lagging behind the industry leader in terms of intellectual development. Leading technology of knowledge management is benchmarking
Lagging behind	Maximum use of available knowledge with minimal spending on knowledge management

Source: prepared by the authors

In the process of developing a strategy, the priority tasks of knowledge management should be formulated. After compiling the list of priority tasks of knowledge management according to the diagram of strategic planning of knowledge management, it is necessary to *define a portfolio of strategies of knowledge management*. We have developed a generalized classification of knowledge management strategies according to the criteria presented in table 3. When developing a knowledge management strategy for an organization, one should be aware that strategies might differ in their focus on solving individual problems of a knowledge management system, which is confirmed in Table 3.

Table 3. The generalized classification of knowledge management strategies

<i>Selection criterion</i>	<i>Strategies</i>	<i>Characteristics</i>
1. By type of competitive advantage	1.1. Cost leadership	Aims to reduce the value of goods or services through more efficient use of existing knowledge assets
	1.2. Differentiation	Involves the development or activation of completely new knowledge, aimed at encouraging creativity, improvement and communication
	1.3. Focusing	Provides the search for and development of narrow, but unique niches and areas of knowledge, on the basis of which the competitiveness of an organization is formed
2. By sources of knowledge	2.1. Conservative	This strategy is implemented by organizations that make the most of internal knowledge with minimal spending on its renewal and development
	2.2. Aggressive	It is typical of organizations aimed at identifying external knowledge and its skilful integration with their own knowledge
	2.3. Balanced	Presupposes the orientation towards attracting external knowledge and at the same time towards avoiding lagging behind market leaders in terms of intellectual positions.
3. By focus on the processes of knowledge transformation and its form	3.1. Detection	Involves the formation of new knowledge based on information processing
	3.2. Codification	Aimed at the codification of knowledge through information technology and its storage in knowledge bases or special repositories of an organization
	3.3. Exchange	Focuses on interpersonal interaction of staff and on the accumulation of individual knowledge
	3.4. Staff development	Consists in unlocking the potential of staff by encouraging and promoting the development of skills and knowledge of individual employees
	3.5. Combined	Aimed at supporting all stages of the process of knowledge transformation and development of all its forms
4. By characteristics of an organization's resources in associations with counterparties.	4.1. Pooling of resources	Assumes that the resources contributed by both partners of an association are characterized by low levels of tacitness, specificity and complexity, while an organization seeks to achieve economies of scale.
	4.2. Provision of strategic resources	Characterizes an association in which an organization provides resources with high levels of complexity, specificity and tacitness, and its partner does not do that.
	4.3. Use of a partner's knowledge	Presupposes a situation in which a partner provides resources with high levels of complexity, tacitness and specificity, and an organization does not do that.
	4.4. Development of intellectual potential	Both partners exchange strategic resources with high levels of tacitness, specificity and complexity
5. By relation to technology and personnel	5.1. Strengthening positions	Provides support for the existing intellectual position of an organization
	5.2. Increasing productivity	Aimed at implementing initiatives to build a technological platform for knowledge management, leaving the level of staff development unchanged
	5.3. Intellectual leadership	Technological infrastructure remains unchanged and is used for internal and external communication to solve new problems
	5.4. Learning	Means a radical modification of existing areas of knowledge, attaches particular importance to innovation and the creation of new knowledge

Source: Andriani et al., 2019, Cerchione, & Esposito, 2017, Dermanov, 2006, Gavrilova et al., 2004; M. K., Imran et al., 2016, Laursen, 2000, Lesser, & Prusak, 2005, Rumizen, 2002, Smoliar, & Koba, 2008.

Therefore, it is reasonable to create a portfolio of strategies for effective knowledge management. When choosing a portfolio of knowledge management strategies in accordance with (Adwards, 2008), one ought to focus on the interaction of processes, technologies and people. Besides, the portfolio of strategies should be consistent with the overall development strategy; it must also identify specific types of activity in the field of knowledge management, which are integrated into the business model of an organization.

They must be adaptive, because the dynamic nature of knowledge causes us to view an organization as a living organism.

To select knowledge management strategies, which will be part of the portfolio of strategies, it is most appropriate to apply methods of technological forecasting (Ganieva et al., 2009). Whereas, a method of morphological analysis based on the construction of two-factor matrices will be employed for representatives of SMEs.

To choose knowledge management strategies by competitive advantage, a matrix of selection of Porter’s generic strategies is offered (Fig. 4).



Fig. 4. The matrix of selecting knowledge management strategies by competitive advantage
 Source: Porter, (1985)

Depending on the sources of knowledge and the type of a knowledge management policy, we have constructed such a matrix of choosing knowledge management strategies (Fig. 5).

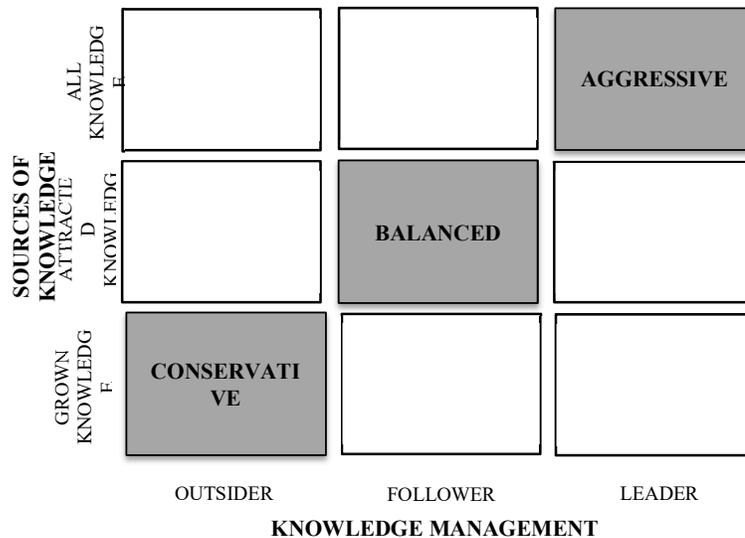


Fig. 5. The matrix of choosing knowledge management strategies by sources of knowledge

Source: prepared by the authors

In order to choose knowledge management strategies depending on the orientation of the processes of transformation of knowledge and its form, we have built such a matrix (Fig. 6).

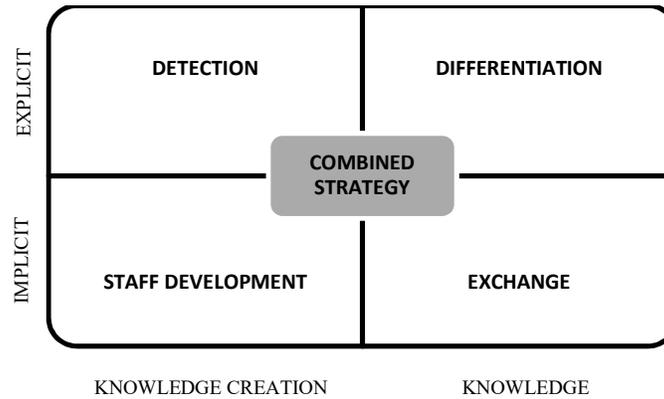


Fig. 6. The matrix of choosing knowledge management strategies

Source: prepared by the authors

It is worth noting that these strategies are accompanied by a fifth one, i.e. a combined strategy of knowledge management, which presupposes both the generation of new knowledge and the preservation of experience, as well as the detection of implicit knowledge, and codification and systematization of explicit knowledge.

The choice of a knowledge management strategy in relation to technology and personnel is proposed to be made using the matrix in fig. 7.

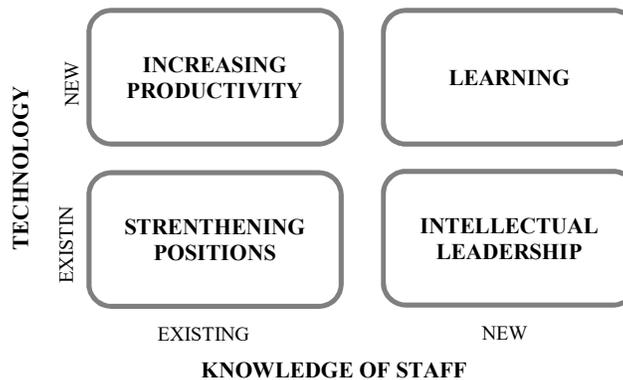


Fig. 7. The matrix of selecting knowledge management strategies in relation to technology and personnel

Source: prepared by the authors

The process of choosing knowledge management strategies in large organizations is complicated by the greater number of managers involved in developing a strategic plan of the development of an organization. Therefore, it is more appropriate to use another method of technological forecasting such as cross-impact analysis. In this case, the strength calculated on the basis of expert assessments for each of the strategies is the criterion for choosing a knowledge management strategy:

$$W_j = \sum_{i=1}^n P(i)\gamma(i),$$

where W_j is the strength of the j -th knowledge management strategy; $P(i)$ is the probability of achieving the i -th goal of knowledge management through the implementation of the j -th strategy of knowledge management; $\gamma(i)$ is the relative weight of the i -th goal of knowledge management (which was determined at the 1st stage of strategic planning of knowledge management). After calculating these indicators, a strategy of knowledge management, which has the greatest strength in each group of strategies, is chosen. Of course, the high level of integration typical of modern organizations in a dynamic market environment also necessitates defining knowledge management strategies of organizations, which belong to alliances of various kinds. We suggest applying a model of resource exchange between partners (fig. 8), which was developed by (Parise, & Henderson, 2001) as a tool for strategic analysis

The model has three dimensions, which are important in the process of exchanging resources between an organization and its partner, and which complicate their imitation: tacitness, specificity, and complexity.

Depending on the characteristics of resources provided by an organization, it is possible to determine its contribution and a strategy of cooperation in alliances based on the use of the index $PO_{IP,CIL,CK}$, the high value of which indicates the importance of its tacit, specific and complex resources.

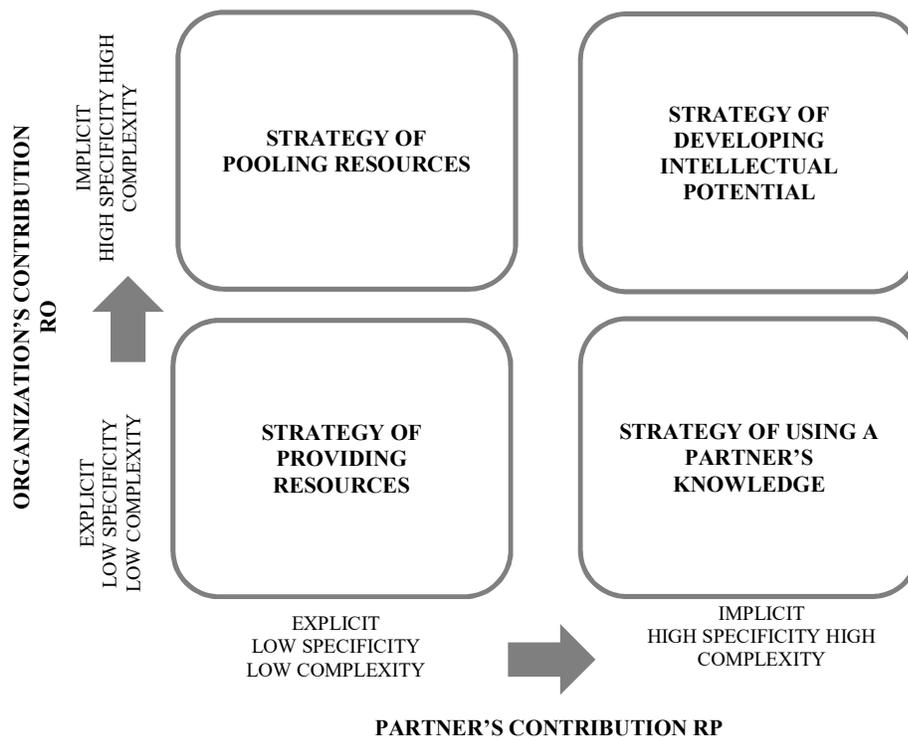


Fig. 8. The model of resource exchange between an organization and partners

Source: prepared by the authors on basis of Parise & Henderson, (2001)

This also takes into account the possibility of interaction and learning, which is determined by the product of the indices $PO_{IIP,CI,CK} \cdot PII_{IIP,CI,CK}$. The maximum opportunity for an organization to create value and achieve its competitive advantage arises in the fourth quadrant based on the exchange of the most valuable resources. In addition, in such an association, the employees of an organization can learn and share experience with partners, and this reflects the process of acquiring knowledge from the external environment in the knowledge management system.

After developing a knowledge management strategy based on the proposed diagram of strategic planning in organizations, it is important to study ways to implement the chosen option through their functional support. We consider it appropriate to use systemic and process approaches that combine processes and subprocesses of knowledge transformation both inside and outside an organization, and correspond to the idea of knowledge participation in the creation of consumer value in this organization.

The formation of a functional environment for the implementation of a knowledge management strategy involves not just the creation of an appropriate unit in the management structure. It is absolutely vital to gradually adapt the organizational structure, culture and information system of the entire organization to new initiatives, because the introduction of knowledge management is organizational innovation. Therefore, as a result of its implementation, each employee, regardless of their level, should regard collection, acquisition, formalization, storage, transfer, dissemination of knowledge and its maximum use as necessary activities in performing their work.

The scheme of functional support of implementing a knowledge management strategy in organizations developed by us is presented on fig. 9.

Fig. 9 shows that after setting goals and defining knowledge management strategies, it is necessary to carry out preparatory work. The adoption of a positive attitude and overcoming resistance to change presuppose solving psychological and educational problems in the field of knowledge management. In this case, the principle of transparency of knowledge management activities for all employees and support of the top management of an organization should be fundamental in order to gain employees' confidence in the new approach to managing an organization.

At the stage of setting up a pilot project, our goal is to create functional conditions for the implementation of a knowledge management strategy within one link of the consumer value chain. As a rule, these are one or two teams or departments. At the end of this stage, the results of the pilot project must be evaluated using a tree of target indicators of knowledge management, on the basis of which knowledge management strategies are adjusted or successful practices are disseminated throughout an organization.

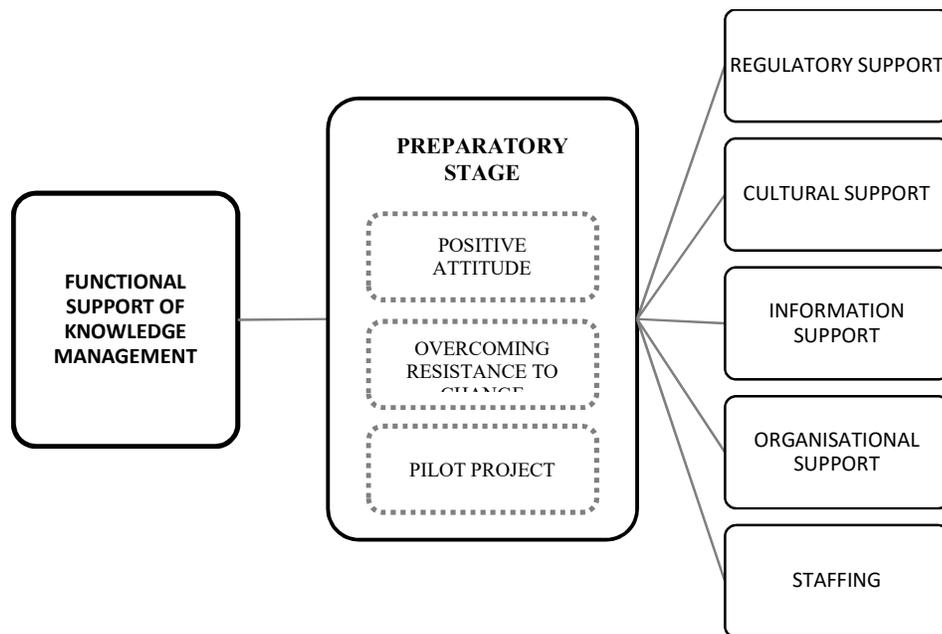


Fig. 9. Functional support for the implementation of a knowledge management strategy in organizations

Source: prepared by the authors

The next step in the proposed sequence is *knowledge management functional support* itself. The first step, however, should be regulatory support, which involves drawing up a knowledge management programme in accordance with the selected portfolio of strategies and budget. The knowledge management programme should include all measures concerning the implementation of initiatives in this area and determine their duration.

Organizational support of knowledge management consists of a set of organizational decisions at all stages of forming knowledge management. As a general rule of thumb, the creation of a knowledge management team is one of the most effective organizational decisions; the composition and functions of the participants of such a team are defined in table 4.

It is essential to note that the main task of a knowledge management team as a subject of knowledge management is managing the processes of knowledge transformation in an organization. The main work in this area is entrusted to the units involved in the process of creating consumer value.

A special place among the elements of knowledge management belongs to personnel development, which involves the implementation of two processes: the provision of intellectual resources and staff training. These tasks can be carried out by combining the approaches of a learning organization (Senge, 1990) and «double loop of learning» by (Argyris, & Schon, 2007).

Table 4. The composition and functions of the participants of a knowledge management team

<i>Participant</i>	<i>Functions</i>
Knowledge manager	Manages the development of an organizational system of knowledge management, assesses knowledge and an organization's needs for it, convinces workers of the usefulness of knowledge management, creates infrastructure of knowledge management, disseminates best practices, forms the culture of knowledge, evaluates the efficiency of a knowledge management system, develops a plan and budget of a knowledge management system, coordinates and controls the knowledge management team
Knowledge analyst	Collects and filters out information that enters a knowledge management system. Maintains constant contact with members of the knowledge management system, as well as with those who lead communities of practices, in order to help them turn implicit knowledge into explicit form. Encourages staff to use knowledge recorded in the documents more actively
Knowledge engineer	Collects and transforms explicit knowledge into specific techniques, instructions, programmes and other materials. Provides regulatory support for knowledge management (development of basic documents governing the business process of knowledge management in an organization)
Knowledge administrator	Supports all participants of the system who use knowledge. Teaches and consults employees about the means, methods and practices of using knowledge
Knowledge broker	Brings people together based on his/her own communication skills
Community coordinator	Assists communities in developing practices, provides the necessary tools and resources. Schedules events that contribute to the development and work of the community, tries to attract interest of the community members in these events
HR-manager	Creates a corporate culture, develops and implements motivational mechanisms. Identifies needs for knowledge, plans it, provides human resources and manages the training process. Assists in forming societies and identifying experts. Develops job descriptions for new participants
IT-administrator	Provides technological support at all stages of the process of knowledge transformation; advises staff on working with information technology, ensures employees' access to resources; assists in controlling user activity; ensures information security

Source: prepared by the authors

The formation of an appropriate organizational culture is one of the most important components of successful knowledge management. The main objective is to create a corporate culture that would encourage employees to be engaged in continuous development and knowledge sharing. In our opinion, the basis for building such a culture should be Mutual Trust & Respect Culture in accordance with (Adizes, 1992).

Today, the business world lives in a reality where information and communication technologies play a key role in business to ensure all processes, particularly, the processes of knowledge transformation. The most common ICT in knowledge management are e-Learning systems, cloud-based central knowledge repositories, data warehousing systems, tools for collaboration; document management systems; solutions for evaluation and accounting of intellectual capital of a company; products and solutions for managing external information flows. We agree with (Almeida, & Sequeira, 2019) that ICTs and other technologies are able to support the knowledge process with the transfer of mostly codified knowledge.

Thus, in this chapter we have presented a set of measures concerning the formation and functional support for implementing a knowledge management strategy in organizations, which will help, as noted by (Mardani, & Senin, 2018), to be more innovative, achieve better financial results, improve their processes and develop capabilities of human resources.

CONCLUSIONS

The main purpose of the study is to establish the relationship between the internal and external environment and different types of knowledge when forming the intellectual capital of an organization and to identify strategic directions of knowledge management in the process of creating consumer value. The monographic study is based on the evolution and historical vision of the formation, dissemination and development of the concept of knowledge management. Therefore, the opportunity to determine the functional characteristics of the knowledge management system has been used. In addition, the authors of the paper use the methodology for reviewing the stages of the process of knowledge transformation in an organization through a theoretical study of existing models of knowledge management and their critical evaluation. The second purpose is to understand how managers use strategic planning in the knowledge management system (as an opportunity for innovation or as a means of knowledge transfer), and this understanding can be useful for future research. The authors have wondered what one of the most important criteria for choosing a knowledge management strategy for a company would be.

With regard to the first research question, the results have shown that scientists should take the opportunity to go beyond the bounds of traditional theoretical directions in these issues and shift the focus of research to the process of knowledge transformation in strategic knowledge management and discover new models of its interrelationship, which can change knowledge to innovation and competitive advantages of an organization.

As to future research, the authors concluded that as a result of bringing the goals of knowledge management to a single qualitative assessment, it is possible to establish their priority in terms of importance, which significantly affects the choice of a knowledge management strategy in an organization. The applied conclusions drawn from this study would be very useful for compiling a list of strategic problems of intellectual development of an organization and determining the policy of the project organization towards strategic knowledge management in a company. As noted by Paoloni et al., (2020), in fact, such research intensifies the search for new opportunities for business and innovation development, in dynamic societies and organizations.

The results of the research offer different directions of scientific search to academic studies. The authors have developed a scientific and methodological approach to devising a knowledge management strategy in an organization.

Due to the approach, it has become possible to set the strategic goals of knowledge management, define parameters and indicators of their achievement and determine the intellectual position of an organization. The choice of a policy and the formulation of priority tasks of knowledge management, the formation of a portfolio of knowledge management strategies assist in predicting, planning and choosing the best way to transform knowledge. This ensures that the hierarchical and structural approach to implementing a knowledge management strategy in the project organizations of Ukraine should help to improve the efficiency of knowledge use and increase its level of competitiveness in the context of the development of Industry 4.0.

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FORMATION OF RELATIONSHIPS AS THE BASIS OF SUCCESSFUL PERSONALITY DEVELOPMENT

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ABSTRACT

The author analyzes the philosophical, sociological, pedagogical and psychological approaches to the study of relationships and reveals in detail the concepts of "relationships" and "the formation of relationships in older preschoolers with Down syndrome." Structural-criterion and diagnostic modules of mutual relations are developed. The structure of relationships is analyzed in accordance with the components and indicators that characterize them. The first component of a relationship is the intrasubjective. The second component is intersubjective. The study took into account not only the degree of mental retardation in older preschoolers with Down syndrome, but also the presence-absence of concomitant disorders in the form of hearing and vision disorders, as well as gender. The main conditions of formation of mutual relations (pedagogical, psychological and organizational) which help to structure the process of formation of mutual relations and to define key difficulties of their formation in the course of training and education are opened in work. As a result, the positive impact of the program of relationship formation was proved and the main difficulties and peculiarities of their occurrence were analyzed. Summarizing the results, the improvement of the formation of relationship levels (unsatisfactory, satisfactory, sufficient, high) was determined: the percentage of unsatisfactory and satisfactory levels decreased, the percentages of sufficient and high increased compared to the observational experiment.

Key words: *preschoolers with Down syndrome, relationships, intrasubjective component, intersubjective component, levels of relationship formation, relationship formation program.*

INTRODUCTION

The priority task of special preschool education is to prepare the individual for a full life in society. A person must learn to interact productively with the social environment. The ability to interact, build and maintain friendly relationships, cooperate and coexist with people are components of the full social functioning of the child and the key to his personal well-being.

An important factor influencing the development of the preschooler's personality is the social microenvironment (A. Estes, J. Munson, T. John, S. Dager, A. Rodda, K. Botteron, 2012; M. Guralnick, 2010). In small groups there is a real impact on the education of the individual and a microclimate is created. The microclimate determines the comfort or discomfort in the relationship, positive or negative character traits, values and norms of behavior, interpersonal relationships. The educational group is an educational

micro-environment for preschool educational institutions. It unites children with different individual characteristics, character, temperament, abilities. Each child perceives, comprehends and evaluates the relationship differently depending on the characteristics of their inner world and position in the external social environment.

In modern society there are problems of social interaction, socialization and adaptation of preschool children (N. Ambady, M. Shih, A. Kim & T. Pittinsky, 2001; M. Guralnick, R. Connor & L. Johnson, 2011).

In Ukraine, the number of children with Down syndrome who start attending preschool is increasing. Admission of a child to a preschool educational institution is connected with the need to adapt to a new social situation, requirements and norms, as well as with mastering new social roles and relationships with adults and peers.

COMPLEX STRUCTURE OF RESEARCH FORMATION OF RELATIONSHIP

Children with Down syndrome have problems entering the social environment, so it is necessary to take into account the peculiarities of their psychosocial development. They also have significant difficulties in communicating with adults and peers. Children with Down syndrome need special conditions in the implementation of the correctional and educational process.

Children with Down syndrome have problems adapting and socializing in the team and need a longer period to eliminate them. The development of children with Down syndrome is characterized by the formation of secondary disorders (M. Guralnick, 2011).

In the process of working with children with Down syndrome, it is necessary to develop an algorithm for forming relationships, a structural-criteria and diagnostic models of relationships; to analyze the components and indicators of the relationship; to substantiate, develop and experimentally test the program of forming the relationship of older preschoolers with Down syndrome, evaluate its effectiveness; to determine the levels of relationship formation in older preschool children with Down syndrome.

The process of relationship formation was studied by S. Brown & M. Guralnick (2012); M. Bruder (2012); L. Jahromi, A. Gulsrud, C. Kasari (2008); C. Jacklin, E. Maccoby (1974); A. Serrano, E. Soares (2013).

Sociologists consider the concepts of "relationships" as a manifestation of contact with others. The central figure is a person (individual). Person is the driving force of communicative activity.

Philosophers analyze the nature of relationships, their development, the deep meaning of the communication process and the emotional needs of communication.

Relationships are various, inherent in society connections established between groups, as well as within them. Relationships are the most important specific feature of

society, which makes society a system and unites individuals and their actions into a single whole, although it is internally dismembered.

Psychologists study the relationship as a process of psychological readiness of the individual to express their opinions and accept the opinions of others.

Educators define relationships as a process of interaction of individuals and the possibility of designing new methods of teaching and education based on relationships in the team. G. Kelly and J. Thibault (1978) studied interpersonal relationships as dyadic interaction, communicative processes, attribution, group processes, functions of the reference group, group structure, social communication. Relationships are manifested in any contacts, human-human interactions, material and ideal things and phenomena. Activity, relationships and communication are the three main components of human life.

After analyzing the essence of the concept of relationships, we derived an algorithm for the formation of interpersonal relationships. Turning to it, we can see that the formation of relationships is carried out through such stages as interaction, the formation of the relation itself and their subsequent transformation into a relationship. It should be noted that each stage is part of the next and in the absence of at least one of them interpersonal relationships will not arise.

This interdependence was designed by us in the following model (Fig. 1.):

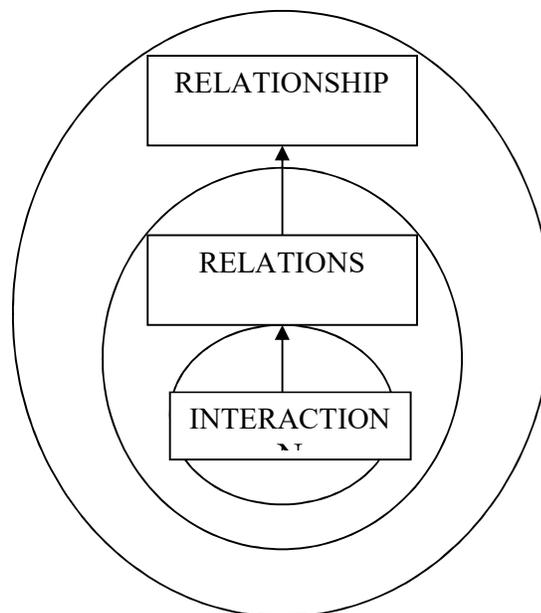


Fig. 1. An algorithm for forming relationships

Source: prepared by the authors

Thus, the relationship is part of social relations, but with a difference in the emotional basis that permeates and directs them. They are closely intertwined with the social behavior of the individual, because the set of interpersonal manifestations through which the behavior

is realized and form interpersonal relationships. With the help of interactions, which are the basis of interpersonal relationships, interpersonal relationships are realized – subject-subject relationships between individuals. Instead, relationships are manifested in various forms of interaction – direct manifestations and reactions between individuals, which can be quantified and qualitatively assessed in the process of communication and have a mechanism of action, which is realized in the form of mutual understanding.

As a result, a structural-criterion model of the relationship in older preschoolers with Down syndrome was developed.

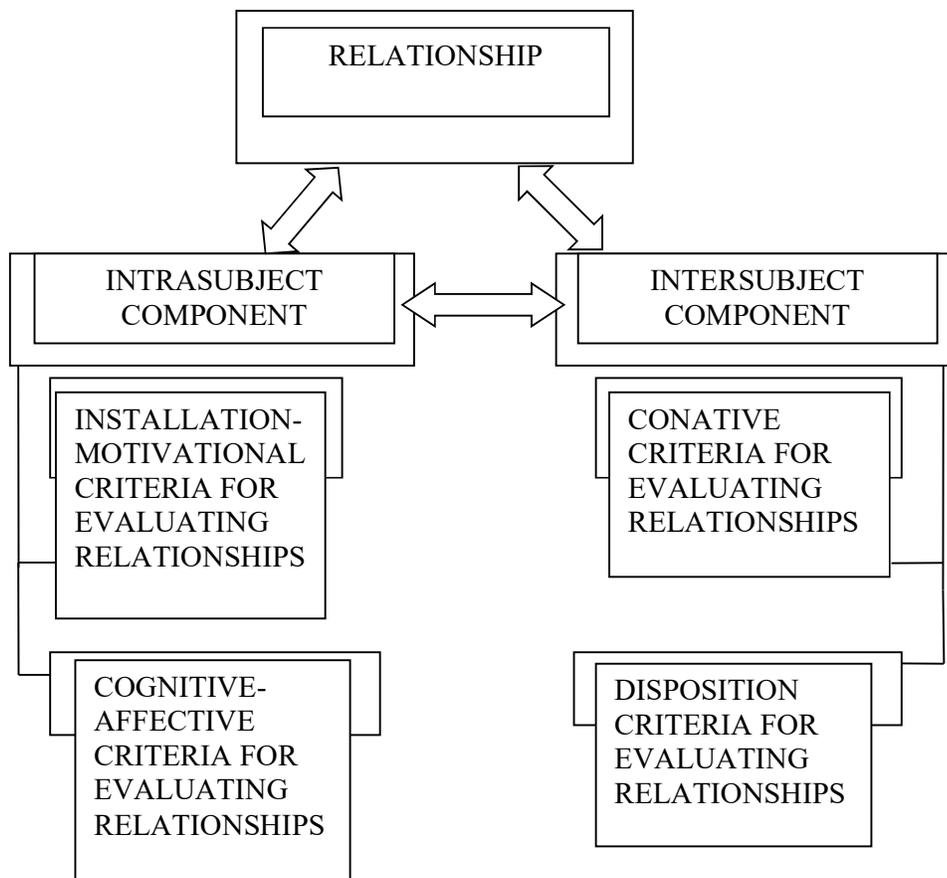


Fig. 2. The structural-criterion model of relationships

Source: prepared by the authors

The relationship model consists of intrasubjective and intersubjective components. The intrasubjective component is characterized by the study of relationships from the standpoint of the child's inner picture, preferences and inferences in the perception of others, in it the prerogatives are given to the preferences and aspirations of preschoolers. The intrasubjective component is characterized by installation-motivational and cognitive-affective criteria for evaluating relationships. Indicators were defined in each of them: such indicators as social attitudes and motivation correspond to the setting-motivational one, and mental and emotional development to the cognitive-affective one. Intersubjectivity is based

on relationships between individuals, which in turn are based on the child's interpretations in society from the perspective of the people he or she interacts with: parents, educators, and, in fact, peers. As a result, attention is focused on the child's perception of others and determines its real place in the social environment. We used conative and dispositional evaluation criteria to reveal the content of the intersubjective component. The conative evaluation criterion is met by indicators: aggression, apathy, adequacy, positivism, passivity, suggestibility and alienation, dispositive - social status.

Based on the structural-criterion model, a diagnostic model of the components of the relationship was developed. It defines the indicators of the study and the methodology by which the study was conducted (Table 1).

Table 1. Diagnostic model of the components of the relationship

<i>Components of the relationship</i>	<i>Criteria for evaluating the relationship</i>	<i>Indicators</i>	<i>Diagnostic techniques</i>
Intrasubject	Installation-motivational	Social attitudes Motivation	Correction of emotional reactions to failure in children with intellectual disabilities according to N. Bilopolska (play and volitional task)
	Cognitive-affective	Mental development Emotional development	Methods of observing different aspects of a child's behavior (L. Regush) Individual psychological and pedagogical examination (A. Maller) Correction of emotional reactions to failure in children with intellectual disabilities according to N. Bilopolska (intellectual task) Methods for assessing the level of social development of children with intellectual disabilities according to the parameters of social competence (A. Zakrepina)
Intersubjective	Conative	Apathy Suggestion Aggression Passivity Adequacy Positivism Alienation	Test-questionnaire of parental attitude according to A. Varga and V. Stolin,
	Dispositional	Social status	Methodology "Secret" by J. Kolominsky

Source: prepared by the authors

The research also focused on the development of speech in children with Down syndrome and their motor area. Children with Down syndrome in preschool age have disorders of lexical and grammatical design of speech and pronunciation, which complicates the clarity and correctness of speech in the process, so the tasks and exercises for work were selected according to their speech abilities. Impaired motor development of children with Down syndrome is noticeable from the first months of their lives. First of all, there is lethargy and decreased activity of the child, impaired development of fine motor skills, which is associated with decreased muscle tone and the characteristic shape of the hand. Some babies can start walking at the age of two, and some only at the age of 4. However, it should be noted that with the development of walking, children with Down syndrome become more active,

and their motor activity improves. As a result, the slow formation of all motor functions causes a delay in the development of mental processes. Therefore, in the implementation of the program of relationships, the tasks were selected using clear motor instructions with a subsequent example of the correct execution of actions that were implemented in logarithmic classes, as well as during movements, exercise breaks and exercise minutes.

The sample of the ascertaining and shaping experiment consisted of families raising children with Down syndrome in older preschool age. When working with them, the degree of mental retardation was taken into account: mild and moderate, the presence or absence of concomitant disorders in the form of hearing and vision impairment, as well as their gender.

LEVELS OF FORMATION OF RELATIONSHIPS

As a result of the research, the levels of relationship formation in older preschoolers with Down syndrome were derived:

1. The unsatisfactory level
2. The satisfactory level
3. The sufficient level
4. The high level

The unsatisfactory level of relationship is characterized by the inability to long-term contact with others. The preschooler always tries to play independently, without attracting the attention of others and does not show interest in joint activities. It is difficult for him to interact and show initiative, interaction is carried out in fragments and only when necessary. Often forced contact with others causes negative emotional reactions. This is based on a protective reaction, as hostility and violent emotions are negatively perceived by others and force them to stay away. Although the preschooler is often emotionally positive at an unsatisfactory level, this is not a sign of interest in contact with others. That is, the child shows inner comfort while outside the team of peers. Most often, these children are not active, do not want to perform tasks, try to be in a sitting and lying position all the time. They demand attention from an adult in the form of pity, which is expressed in hugs, stroking and kind words. When a child with an unsatisfactory level of relationship sees a weaker peer, he tries to show his strength in the form of pinching, pushing or taking away other people's things.

The satisfactory level of relationship is characterized by partial contact with others. Such children try to show interest in the activities of others, but such curiosity is short-lived and needs constant stimulation. They are positive about cooperation, but only if they like the activity. If the proposed task is not of interest, refuse to perform it. Preschoolers can take the initiative with less contact children and manage their activities, but only until there are no negative emotional or physical reactions from the latter. They are easy to get in touch with

and try to perform all the proposed tasks correctly, and get tired quickly, especially in intellectual activities. Children with a satisfactory level of relationship formation show positive results in physical activity, but negative in intellectual.

The sufficient level of relationship is characterized by long-term contact with others. The preschooler tries to be aware of the activities of others. Independently chooses what he wants to do and can involve others in activities. He dictates his rules to the proposed tasks, but does not always listen to others, which can push him away from joint activities. In his game there are elements of the plot, there is also a distribution of roles. Most often, when offering something to others, a child with Down syndrome already knows what role it will be, and even if someone does not agree, it does not take this into account. If in such a situation others refuse to contact her, it does not affect the emotional state of the preschooler and the game continues to be performed independently in the role that was chosen earlier. Sometimes, when children can't agree on roles, they just try to play with the strategy they have chosen, and then the play activity loses the plot, but the preschoolers don't notice. The sufficient level of formation of relationships of preschoolers is manifested in the desire to interact with others and the emergence of negative emotional reactions with prolonged refusal to contact them. As a result, the child becomes passive and silent, but when attention is renewed, the mood improves and a new game is quickly organized.

The high level of relationship formation is characterized by long-term contacts and the ability to adapt to the aspirations of others. That is, such children organize the activities of others according to their preferences, but do not neglect their own. They can show how to perform activities and what mistakes others make. If the plot of the game is lost by others, then a preschooler with a high level of relationship can adjust it and turn in the right direction. Such children understand humor in cartoons and stories. They are emotionally stable and know when to stop and to end the game. If others do not show interest in cooperation, it does not cause negative reactions in the preschooler, but only encourages others to interest others.

It was determined that the purposeful formation of relationships must be carried out in the system. Therefore, three gradual stages of realization of potential possibilities of the program of formation of mutual relations were allocated: preparatory, basic (actually-corrective) and final. The preparatory stage was implemented through systematic consultations of teachers working with preschoolers with Down syndrome and their parents. The main (actually correctional) consisted of 20 classes conducted with children with Down syndrome. The final stage was aimed at calculating the results obtained using previously used methods to determine the dynamics of the impact of the program of relationship formation on children with Down syndrome. The pedagogical program of forming the relationship of older preschoolers

with Down syndrome was aimed at the development of behavioral, emotional, social and cognitive spheres based on educational tools and teaching methods.

The following conditions were taken into account for the implementation of the program: pedagogical: high level of professional qualities of pedagogical workers, cooperation in the work of teachers, involvement of various pedagogical techniques and means in carrying out activities; psychological: the level of current and immediate development of children with Down syndrome, taking into account age and psychological characteristics of development, compensatory capabilities of emotional, behavioral and behavioral spheres, impaired general and fine motor skills, formed skills of interaction with others, taking into account the formation of intrasubjective and intersubjective components of relationship formation; organizational: involvement of various forms of work with children, selection of the right place of work for better mastering of the necessary material, creation of the correct interaction-help of teachers with children during carrying out of correctional employment.

Older preschool children with Down syndrome were involved in the formative experiment. Among them were female and male preschoolers with mild and moderate mental retardation, with and without concomitant hearing and vision impairments. The total number of children who participated in the experiment - 66 participants. In the process of work at the stage of the observational experiment, the levels of formation of their relationship were determined, at the stage of the formative experiment, work was done to improve the formation of relationships and establish positive relationships between all members.

The correctional and developmental program was based on previously developed models and algorithms for the formation of relationships, as well as on the structural model of relationships.

During the development of the program we analyzed materials on preschool and special psychology and pedagogy, age and psychological features of preschool development and the development of relationships in children with psychophysical disorders. The main type of activity of preschoolers was taken into account and works on play activities.

In the process of work the position of pedagogical science on the zone of actual and direct development was taken into account, which helped to correctly develop the stages of program implementation and its main content. The issues of realization of the educational process in preschool institutions were considered, the medical literature on the peculiarities of the development of children with Down syndrome was analyzed, attention was paid to their intellectual development, physical abilities, motor skills, behavior and emotions. Detailed explanations and clear instructions were used when interacting with children with Down syndrome. Recent results of work with children with mental and physical disabilities, in particular with children with Down syndrome (W. Brown & M. Guralnick, 2012;

L. Justice, J. Logan, T-J. Lin, J. & J. Kaderavek, 2014; A. Kaiser & M. Roberts, 2013) were taken into account. Their age and individual capabilities were taken into account, compensatory mechanisms and the ability to imitate were involved.

Table 2. The program of forming the relationship of older preschoolers with Down syndrome

<i>Stages</i>		<i>Preparatory</i>	<i>Correctional and developmental</i>	<i>Final</i>	
Intrasubjective	Installation-motivational	Goal	To stimulate the formation of positive social attitudes, learn to properly navigate the situations of the surrounding reality and make independent decisions in accordance with the situations		
		Objectives	To prepare preschoolers for activities in small groups and pairs, to help understand how to interact with others	Encourage joint activities, learn to accept the help of others during the activity	To intensify the desire to work in a team and in pairs, to help others without the help of an adult, to consolidate previously proposed material
		Receptions	Explanation Own example of performing actions Working with real objects Active motor exercises Relaxation		
		Topics	№1. I'm not alone	№2 Helping is good №12 If I fall, I will be able to rise myself	№6 I'm not lazy №15 Clapping, stomping and talking (we always do well)
		Goal	To stimulate the development of higher mental functions: memory, thinking, speech; learn to concentrate and switch attention, enrich emotional reactions, adjust the behavioral sphere depending on the situation		
	Cognitively-affective	Objectives	To adjust preschoolers to long-term interaction with the involvement of mental activity.	To learn to concentrate on certain subjects and act with them, verbally respond to adult requests, show a desire to positively complete the task.	To teach to interact correctly with others during performance of difficult intellectual tasks, to help others if necessary, to show adequate emotions according to a situation
		Receptions	Awareness of one's own significance with the help of verbal encouragement of the teacher Activation of aspirations for self-expression Emphasis on correctly performed tasks		
		Topics	№7 Hugs of a friend	№4 Let's play together №11 Music Orchestra	№13 Smile and work №14 We love to sing together (learn)
		Goal	To learn to properly interact with others and adjust their behavior depending on the situations of the surrounding reality, in time to show satisfaction, dissatisfaction, to be subject to generally accepted rules of conduct among others		
	Intersubjective	Conative	Objectives	To help to accept the rules of behavior in the team of peers, to promote contacts with others, to stimulate the desire for adequate interaction with others	To stimulate to correct the behavior of others, independently understand the situations of passive behavior of others, emotionally show the results of satisfaction with their activities
Receptions			Awareness of generally accepted rules of conduct Awareness of deviations in the behavior of other preschoolers Correction of negative behavioral reactions of others		
		Topics	№ 9 Listening to an adult	№16 I respect the educator №17 I love my parents	№18 We play different games and learn everything №20 Sport and I are a friendly

Table continuation

Dispositional	Goal	To learn to take a certain position during the activity to orient and the aspirations and desires of others, to appear individual personality traits: activity, cohesion of involvement in joint activities and perform appropriate roles during the tasks		
	Objectives	To learn to be aware of one's own kind during activity, be subject to common rules of activity, show others necessary actions in situations of misunderstanding of the task.	To teach to correct own actions according to possibilities of others, to show desire of the active help during tasks, to encourage others to performance of common rules in activity for positive correct termination of activity	To learn to properly navigate the task after its direct demonstration, take responsibility when working in pairs, show asset, help the most passive peers to correct situations of failure.
	Receptions	Adjusting the actions of others, Independent awareness of mistakes in activity Manifestation of leadership qualities The possibility of the preschooler's influence on others without the help of an adult		
	Topics	№5 We dress together	№3. 1,2,3 - we started a moving game №10 Word and movement are one	№8 We dance together №19 Plot role-playing games

Source: prepared by the authors

The formation of relationships is a complex process in which all mental functions are involved, the child's self-awareness is formed, the aspirations of the preschooler are realized and there is a tendency to positive socialization in society.

The program of forming relationships provided the establishment of positive interaction of preschoolers with Down syndrome with others, stimulated interest in the activities of peers, taught to interact and be a full member.

When organizing correctional and developmental work, we took into account such important aspects as: form of conduct (individual - 1 child, pair - 2 children, group - 4 children); time of pedagogical influence and its regularity (every day for 15-30 minutes); availability of additional tools (toys, household items, music, interactive computer technology). Each lesson had a stable structure: an introduction consisting of a greeting and an organizational moment; the main part, which included exercises to achieve a specific goal; and the final part, which provided for relaxation and farewell.

The program had 2 blocks that correspond to the components of the relationship and are characterized by such criteria for evaluating the relationship as: installation-motivational, cognitive-affective, conative and dispositional. In each block the purpose, tasks, methods of work and the themes corresponding to a preparatory, correctional and developmental and final stage were allocated. Experimental testing of the program for the formation of the relationship of older preschoolers with Down syndrome was based on both educational and training principles, because the educational process is closely interrelated.

In the process of work, preschoolers not only improved their mental development, but also developed their emotional, volitional and behavioral spheres. Also an important aspect of the work was the social interaction of preschoolers with Down syndrome with each other to achieve positive results of the proposed activities.

After analyzing the results, we determined the levels of relationships in children with Down syndrome in preschool age and compared them with the levels of formation of relationships of these children to the formative experiment.

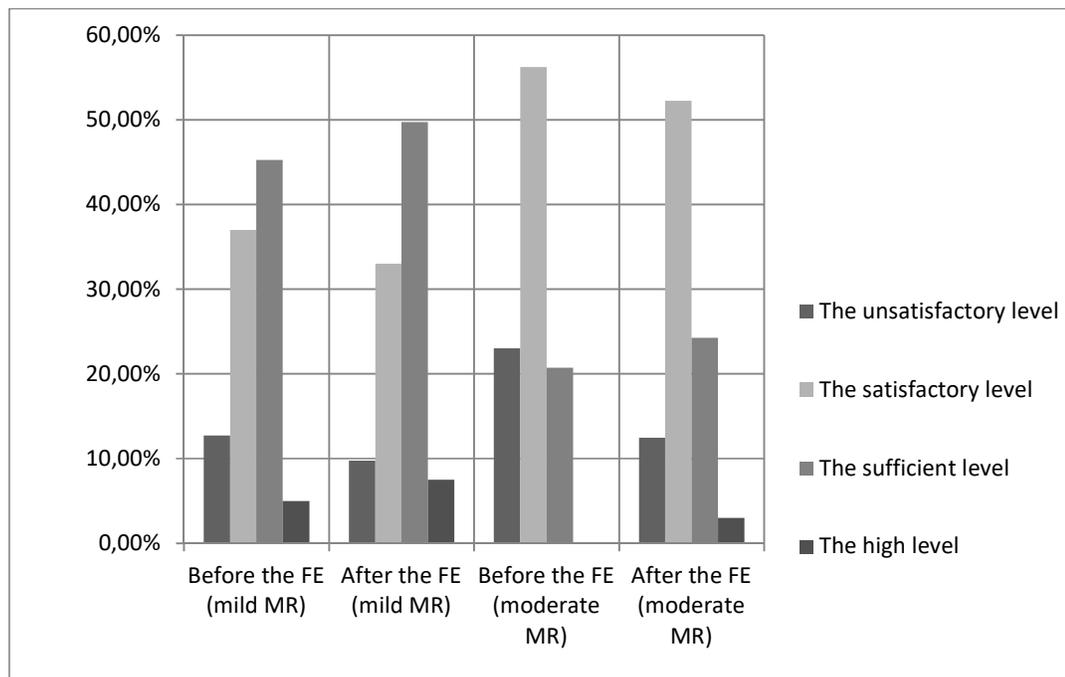


Fig. 3. Levels of formation of relationships of preschoolers with Down syndrome with mild (mild MR) and moderate mental retardation (moderate MR) before and after the formative experiment (FE)

Source: prepared by the authors

After the formative experiment, the percentage of unsatisfactory level of preschoolers with mind MR decreased by 4%, satisfactory increased by 3.75%, sufficient increased by 3.37%, and high was 9%, which is 4% more than the previous values. When analyzing the indicators of preschoolers with moderare MR, the results were as follows: unsatisfactory level decreased by 4%, satisfactory increased by 3.25%, sufficient increased by 4.25%, and high was 3%. The results indicate that properly organized care for children with Down syndrome improves their results and stimulates development. In preschoolers with Down syndrome with both mind MR and moderare MR, the percentage decreased, which indicates an unsatisfactory level of relationship formation, and other levels increased. This interdependence allows us to draw a conclusion about the positive trends in the development of opportunities for preschoolers with Down syndrome, which should be taken into account when implementing the correctional and developmental impact.

Thus, experimental testing of the program for the formation of relationships confirmed its effectiveness. During the molding experiment, the set goals were achieved and the main tasks were solved. According to them, the concomitant disorders and secondary layers present in children with Down syndrome and gender were taken into account. Compensatory mechanisms in the form of the ability to imitate and the preservation of the emotional and volitional sphere were involved. All this made it possible to improve the level of formation of the relationship between preschoolers and Down syndrome, which in the future will help them better socialize in the environment. Attention was also paid to the immediate environment of children with Down syndrome, their parents and teaching staff.

Thus, the quantitative and qualitative results of the formative experiment prove that older preschool children with Down syndrome need systematic targeted assistance in forming relationships for positive socialization in society.

CONCLUSIONS

The results of the theoretical and experimental research allow us to draw the following conclusions:

1. The system vision of the decision of the declared scientific problem by the theoretical review of the scientific and methodical literature in the aspect of research of basic concepts, in particular "interaction", "relations", " relationship" is substantiated. Insufficient research has been identified in the field of correctional education, which is devoted to this problem, which has led to the need for a multidisciplinary approach that determines the integration of the achievements of different scientific disciplines and areas. Using the knowledge of modern sciences (sociology, philosophy, psychology, pedagogy), the common tendencies of the concept of "relationship" were outlined. An algorithm for forming relationships has been developed and the expediency of taking into account all its components in practical work has been explained. An in-depth analysis of the psychosocial development of children with Down syndrome was identified, compensatory mechanisms and possible difficulties in carrying out correctional and developmental work were identified.

2. Given the importance of children with Down syndrome to achieve the maximum level of functional independence, based on the scientific provisions of systemic, personal, activity and polysubjective approaches, developed structural-criteria and diagnostic models of relationships, which determined the levels of their formation. It was found that in preschoolers with Down syndrome the formation of components of the relationship (intrasubjective and intrasubjective) is specific and uneven due to the peculiarities of the functioning of all mental processes in mixed dysontogenesis, where the lack of cognitive function and behavior.

3. The results of the formative experiment prove the effectiveness of the correctional and developmental program of relationship formation in older preschoolers with Down syndrome, as evidenced by the presence of qualitative changes in the context of each of the levels of relationship formation. As a result of the diagnosis, a positive trend was revealed, which consisted in the growth of sufficient and high levels in two parameters. Children learned to interact better with others, help, take into account their aspirations and desires, older preschoolers with Down syndrome became more flexible when playing together, began to refuse to participate in the game less when any difficulties arise, and others. The positive dynamics of the experimental pedagogical program is established on the basis of the analysis of statistical data, which are an indicator of the general tendency of gradual growth of sufficient and high levels of relationship formation and confirmed by the stability of percentages.

4. Innovative methodological support has been developed, which acts as an educational and methodological toolkit for the implementation of a pedagogical program for the formation of relationships in older preschoolers with Down syndrome. Its functional basis is to determine the stages of implementation of the program of relationship formation, as well as pedagogical, psychological and organizational conditions for the formation of relationships. Areas of implementation of the program of relationship formation were: preparation and stimulation of preschoolers for joint activities, intensification of the desire to work in a team and help others, setting up long-term interaction and increasing concentration in the process of activity (intrasubjective component); assistance in the adoption of rules of conduct in the team, encouragement to behave adequately, help in understanding their own mistakes and actions and the ability to take responsibility when working with others (intersubjective component). The introduction of these tools in practice made it possible to organize an adequate developmental and individualized environment for older preschoolers with Down syndrome, which is the basis for meeting his special needs and meets the demands of today.

At the same time, the conducted research does not exhaust the diversity of theoretical and practical aspects of the studied problem. The subject of further research may be research to identify features of the relationship of children with Down syndrome in school and adolescence, the creation of a system of pedagogical influence in the formation of relationships between children with Down syndrome in an inclusive educational environment and more.

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INNOVATIVE ASPECTS OF LAND USE DEVELOPMENT

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ABSTRACT

The purpose of the monograph is to create an innovative paradigm of agricultural land-utilization development and to develop practical recommendations for improving its efficiency on the ecological and economic basis. This publication discloses institutional peculiarities of land use. Priorities and measures of land policy are outlined. Determined ways of land use institutionalization, based on ecological, organizational and fiscal leverage. The scheme of land use institutionalization is proposed and instrumental basis of land use are disclosed. The publication justified the role of the decentralization of power in the transfer of powers to territorial bodies. The aim of decentralization of power, is to ensure that the conditions of conservation and efficient use of land in the long term and transformation of local communities to their full owner. Environmental aspects of land law are disclosed. Innovative principles of formation of ecologically safe land are grounded. There is an accent on the necessity of introduction of environmental sound farming systems and adapted to local conditions technology in the article. These measures require a comprehensive solution to financial problems of land use. The guidelines of greening land tenure in the process of decentralization of power are grounded.

Key words: *decentralization, land tenure, territorial authorities, ecologically safe development, innovation and investment approach.*

INTRODUCTION

The reorientation of the above-mentioned directions to the improving and development of rural areas will intensify the harmonization of national and local interests, equalization of differences between the city and the countryside, and will inforce the harsh development of productive forces.

This very approach provides to create the basis for effective rural development, the development of a favorable business environment that will increase the number of Small & Medium Enterprise in the countryside, and create an attractive image of rural areas.

Many scholars studied the issues of agricultural land-utilization development under the decentralization. But despite the significant theoretical work of leading scientists on the agricultural land-utilization development, nowadays the practical side of such issues needs to be resolved. The theoretical and methodological provisions of the agricultural land-utilization development at the regional and local levels in the context of the innovative paradigm of land-utilization development under the decentralization are under explored. There is an urgent need to continue the search for solutions to the issues of agricultural land-utilization development on the ecological and economic basis.

The relevance and significance of the issues mentioned above inspired the choice of the monograph theme and determined its purpose and objectives.

It will allow harmonizing national and local interests, achieving the equalization of differences between the city and the countryside, and will enforce the harsh development of productive forces of rural areas.

The authors do not avoid the controversial issues outlined in the monograph, hoping that the study will help to provide insight into the importance of developing an innovative paradigm of agricultural land-utilization under the decentralization, to increase the efficiency of management decisions in land-utilization, to improve the effectiveness of central and local government authorities in agricultural land-utilization.

1. FEATURES OF INSTITUTIONAL LAND USE

Institutional principles of land relations development are multifaceted problem, which covers a wide range of issues. An important contribution to the research of the efficiency of land usage and land management is done in the works of such scientists as: O. Pylypenko, O. Novotvorova, A. Tretyak, A. Sohnych, L. Shashyula, etc.

Through their research formed the main positions defining the scientific understanding of land resources, guidelines to the creation of a land market.

However, there are not enough attention spared to research of the institutional features of the formation of efficient land usage. There is an essential need for further research of land usage management instruments and implementation of effective measures to create a land policy, which together forms the institutional environment entities. So pay attention to the disclosure above mentioned problems.

The institutional environment consists of institutional structures in which business entities makes their choice. Thereby, the institutional structure is defined as a set of institutions that define constraints for business entities, that are formed as part of the system of coordination of economic activity. The institutional environment acquires specific features of the object of study. In accordance, the institutional structure of the economy is the result of past actions of the state and spontaneous evolutionary selection of the most effective institutions [1].

Institutions can be defined as a number of social rules, some restrictions, which direct human cooperation in a proper way [2].

Institutionalization is a way to establish standards or agreed positions of interoperability conflicts in human relations. Tenure institutions reflect the needs of society and are the model of government development. Modern land tenure institutions development based on past conditions influenced by social, economic and political evolution.

In the context of land use, land primarily is a real factor with the help of which human labor with the use of the means of production is carried out as the reproduction process of material goods and intangible values, which together forms aggregate social product. This process is a unity of relationship in the system of “human-nature” and human relations, particularly economic. In the process of assigning by individual the means of production, land and production results, there are various forms of ownership of real inputs are arising.

Of course, the realization of economic goals is best promoted by private property, because it is the best incentive for productive activities. And for some reason, social and environmental objectives of land use is not pronounced enough, because they are based are often collective rather than individual interests. And this situation can be corrected in two ways: along with the introduction of private collective and state and the imposition of certain restrictions on state-private ownership of land [3].

It is worth mentioning that in order to determine the institutional characteristics of land use should be considered that the land is unique and special resource. Community (macro-and microenvironment) monitors the uses of land resources. Thus there is always a need to provide priority of certain public interests.

But it requires such coordinated action to protect the rights of landowners and land users. However, land ownership should not provide to land owner an unlimited right to dispose of it. Level of intervention regulation should be based on the administrative, legal and economic basis.

The key issues of the land market institutionalization are:

- Institutionalization of private land ownership as an important resource for the agrarian economy, since the land ownership determines the economic interests of agricultural products producers, market resource provision and socio-economic parameters. It is necessary to harmonize the relationship between land buyers and land sellers, the mechanisms for land purchase, control over its use and reproduction;

- Formation of rational, efficient use of assets and state powerful regulatory leverages in the food market. In this case it is advisable to overcome land segmentation with a gradual increase in the land area according to regional production conditions;

- Price mechanism needs further institutionalization that promote the restoration of agricultural potential in the financial, human and social capital segments, which should be provided through the regulatory impact of state institutions on the prices and producers income optimization, and should be aimed at consumers solvency improve.

Effective land use institutional support should be based on economic and regulatory control mechanisms.

Current economic conditions require creation of a agricultural company ecological passport that reflects legal, economic and natural condition of the land. It reproduces the impact of business entity on the environment in the course of economic activity [4].

It is worth to agree with Novotorov O.S. [5], who considers that the improvement of land relations in a market depends on such institutional arrangements:

- Formation of a network of land mortgage banks with the active participation of the state;
- Implementation of cadastral and market valuation of land resources; establishment of legal protection of the land usage;
- Formation of the unified system of land cadastre and registration of rights to real estate;
- The creation of credit.

These measures will ensure the establishment of appropriate legal, economic and organizational conditions of institutional support that will facilitate the rationalization and efficiency of land use.

Moreover, the scientific methodology of forming land policy at the regional level requires reconsideration, which will ensure the economic development of a certain region. It should form a regional ecological networks by the inclusion in turnover the little use and low-lands with changing their functional appointment, which will increase the area of anthropogenic landscapes. From this primarily benefits the agricultural land use, according to activation of restoring the natural processes of soil fertility.

An important aspect of institutionalization is to develop an appropriate legal implementation, aimed at the creation of a civilized land market institution, which includes both the risks and the threats. The factors which are not limiting the influence on decisions regarding the withdrawal or extension of the moratorium on sale of agricultural land and the establishment of limits land market is that realization of potential benefits and risks reduction neutralizing the negative effects [6].

There is an essential need to build the economic mechanism of influence on land owners and land users, which will allow with the help of scientific and reasonable steps to generate revenue from eco-oriented activities in the long term prospective. These should be consolidated in the tax system, subsidies and lending.

These measures will improve the efficiency of a system of land relations in market conditions by enhancing the social and economic institutions, stimulating business growth and containment self-will of power.

Institutionalization is associated primarily with the implementation of public management instruments that requires enactment of these tasks:

- grounding of market priorities of land reform for the forecasted period, requiring development plan of expected state of land use categories and different forms of ownership;
- development of principles, methods and mechanisms of land use management, considering economy stratification, applying leverage to entities on to ensure the sustainable use and protection of land;
- formation of land use management instruments focused on making effective management decisions;
- grounding of functions and relations between components of organizational land management and land use subsystems that provides division of powers at the interdepartmental level in land use, eliminating interagency disagreements in land relations;
- development of national and regional programs for the use and protection of lands, drafting a land management schemes and projects, that will promote optimal structure of agricultural landscapes, land ownership and land use;
- monetary evaluation of land in Ukraine on a single unified methodology and creation on the basis of this the information and registration system of land cadastre, which will enable to provide economically attractive basis for operations with a turnover of land;
- consolidation of efforts for the development and implementation of sustainable development strategies of land use in accordance with the priorities of the formation of public land policy.

Following measures of land policy showed at the Figure 1.

The realization of defined priorities of land policy should be considered in the context of ensuring sustainable land use. It is important to make the transition to an innovative land use model that would include a logic scheme starting at setting the task of research and ending the establishment of scientific and technological developments with their further introduction into production.

The main structures that would have committed themselves to the implementation of scientific developments in the field of land use should be major and regional institutions of land management and administration of the State Land Committee of Ukraine. To make the solution of the issue of increasing land resources ecological safety at the state level should be set up appropriate mechanism. In general, it should prevent the degradation processes spreading which occurring in the soil. It must be relied on instruments such as organizational standardization and standardization in the field of land use and protection, environmental assessment of projects land use, soil quality monitoring and quality control and environmental safety products and more.

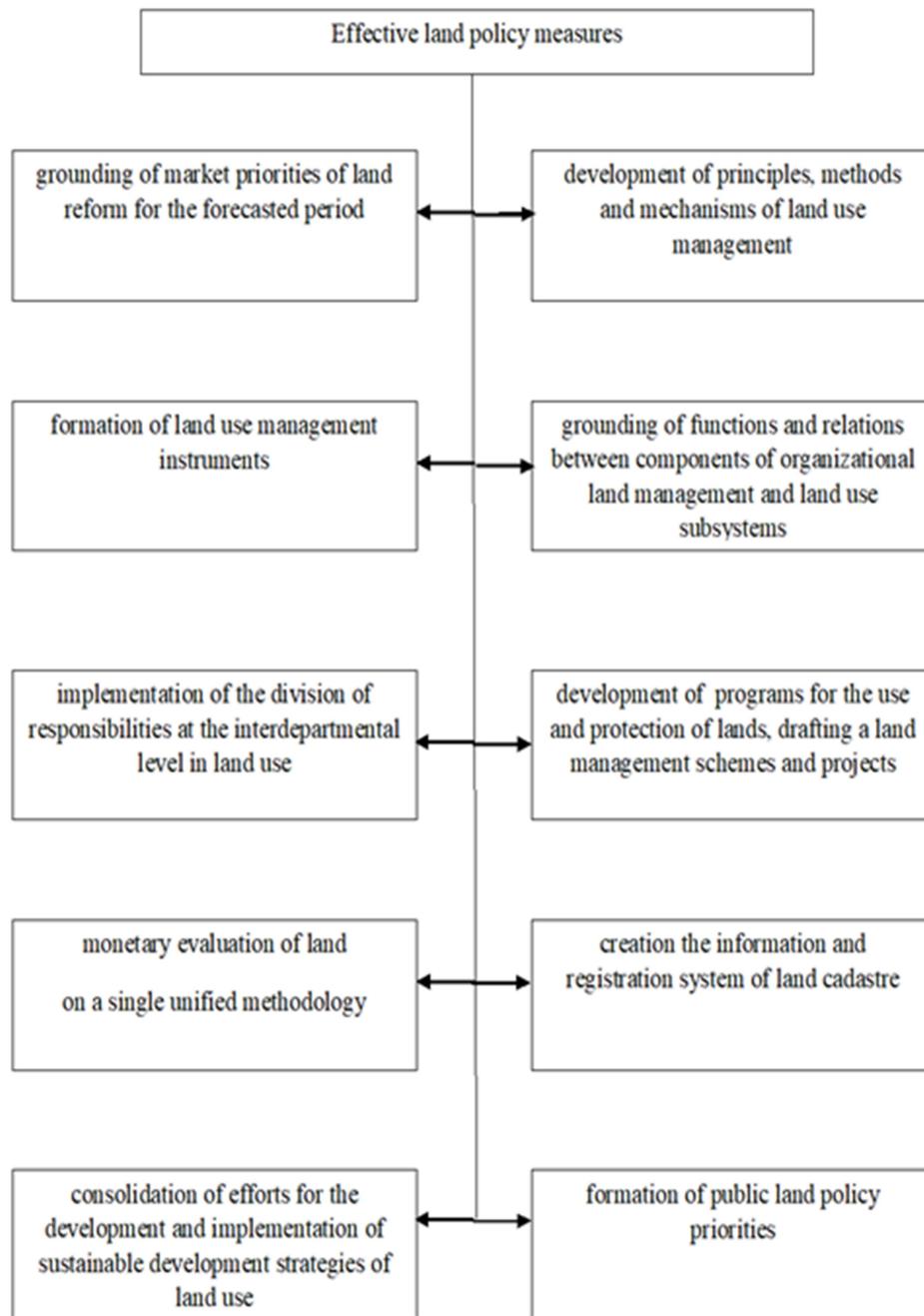


Fig. 1. Effective land policy measures

Source: Folded by author (2020)

In addition, the possible establishment of non-governmental specialized financial institutions that are being licensed to committed transactions associated with the pledge of lease rights of land subject to a long lease and taking the right to lease land on the balance sheet.

In parallel, at the national level it's necessary to start establishing a state land bank, which could carry out the mortgage operations of agricultural land. As part of the state land

bank at the regional level should be set up special departments to regulate payments between economically weak agricultural enterprises and producers and their creditors under the terms of forfeiting. The efforts of the executive and legislative authorities, NGOs should be directed to the institutionalization of land relations, which provide redistribution of land and therefore improve the institutional environment of land use. Generalization of world experience allows conditional to group functions of Institute of Public Administration in the following areas: restrictions on the acquisition of land and land transactions; expropriation of land; regulation of the use of agricultural land; rental regulation and environmental constraints [7].

In general, the concept of creating institutional and legal framework of land use should be established basing on the evaluation of the real economic situation. By solving environmental problems one can see in the increase in the structure of land use a part of anthropogenic and natural landscapes.

But it is necessary to ensure the ecological integrity of landscapes which activates the level of use of the productive natural forces and enable to identify environmental priorities of forming a regional land policy. Scheme of institutionalization of land use shown at the Figure 2.

The institutional environment of economic entities on the land

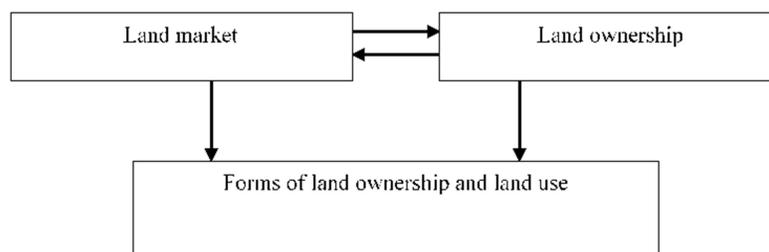


Fig. 2. Institutionalization of land use scheme

Source: Folded by author (2020)

The Figure 2 shows the institutionalization of land use and reflects the conceptual principles that ensure rational use and protection of land resources.

According to the scheme above, the land market is based on various forms of ownership and management on the ground. But the institutionalization of land is a collection of processes that shape the types of land ownership and the nature of the land market. These processes, in turn, ensure the effective functioning forms of land ownership and land use, which contributes to the effective functioning of the institutional environment of economic entities on earth.

In the context of this it should be noted that the institutional environment sets the parameters of the processes that shape the type of land and features of the land market.

Generally, institutional reforms in land use should be considered in the context of changes in all socio-economic processes, because these reforms cannot be performed independently. Recommendations for changes in the national institutional environment of land covered in the respective programs and concepts, for example, the concept of land relations in Ukraine.

Also, objective necessity creating an effective institutional structure of land relations provides an instrumental framework of the agricultural land.

In the land use management system an important place belongs instruments of economic direction. Fee for land is an important instrument of land use, according to the law of Ukraine «On Amendments and Additions to the Law of Ukraine» On Land is introduced in order to form sources of funds to finance measures for rational land use and land's protection, compensation for loss of agricultural production, soil fertility, the state land cadastre, land management and monitoring of land, infrastructure development of settlements. These funds shall be used solely for funding for land protection and measures related to the rational use of land resources.

Also noteworthy Such an instrument of management of land use as the release of landowners and land users from paying land tax on the amount of money spent on protection and improvement of land, which will provide economic relationship to land.

One of the most effective instruments is a long-term concessional lending. This condition is essential for the organization of economic activity on the ground, because the specificity of Agribusiness different long production cycle and therefore the loan can be returned to the lender only after the harvest, that in 1-2 years.

Instruments of economic regulation should provide for the introduction of economic incentives for the transformation of degraded and unproductive agricultural land under forestation and grasslands, which will help stabilize agricultural landscapes. Considering that economic activity on earth associated with many risks, an important role of this instrument of economic regulation as insurance. Indeed, one of the principal objectives of government policy in the formation of support landowners and land users is mandatory agricultural insurance to allow entities to protect lands from adverse weather conditions, fluctuations in yields and so on.

Thus, the agricultural land base instrumental is a set of such instruments as payment for the land lease, land owners and land users exemption from land tax for the amount of money spent on health and improvement of land, long-term preferential loans and the introduction of economic incentives transformation of degraded and unproductive lands.

These instruments form a system of organizational and economic influence over land use and determine the organizational and economic behavior of economic entities on earth should not be considered separately, as only complete applications will overcome the poor state of land use, encouraging positive changes to state of the Ukrainian economy and provide high efficiency management solutions in the field of land relations.

2. INNOVATIVE LAND USE IN THE CONTEXT OF DECENTRALIZATION

In Ukraine, June 18, 2014 the appointment On Approval of plan of measures on realization of the Concept of reforming the local self-government and territorial organization of power in Ukraine by Cabinet of Ministers of Ukraine was signed.

The mentioned document provides significant transfer of powers and budgets from state agencies to local governments. This is about decentralization that involves transfer of powers to territorial bodies.

Moreover, the document regulates the five essential steps to reform: defining territorial basis of local self-government and the executive; transfer of the most important powers to the people to the closest level of government ; the transmission of main powers of local administrations to local governments; availability of local budge, which will allow to combine efforts and finance; accountability of local governments.

State authorities land resources required input of local governments in matters of agricultural land disposal of state property. Territorial authorities of land resources should be sent to rural, town and city councils in the location of land requests, expressing positions on the possibility of granting permission to develop land management documentation for which these lands can be transferred to the ownership or use.

The procedure of land allocation (assignment, lease, use) must be entered in the statutes of local communities through the mechanism of mandatory public hearings as general social interests in land are protected not only land, but also Water and Forest codes. In Codes for devolution to local authorities should give their national electronic land registry, as a source of information on the purpose of land. Decentralization aims to create such a mechanism of government that can solve all the important issues in the field with the active participation of the territorial communities without interference the executive.

Therefore, the main purpose of decentralization of power must achieve and maintain efficient use of land in the long term and transformation of local communities to their full owner.

Today the need is to stop duplication of powers, functions and tasks of different levels of public authorities at local level. And the way to solve this problem is decentralization, which involves the transfer of the share of powers of public authorities to local governments.

Actually, the Great Dictionary of Modern Ukrainian term «decentralization» is treated as a system of governance in which part of the central government transferred to local government; the empowerment of grassroots authorities.

Decentralization at the local level involves administrative-territorial reform that will decentralize power to transfer powers and financial resources at the level of local communities, giving more responsibility to local governments.

Today, the state has not demonstrated the political will to develop a strategy for ecologically safe development of agricultural land. At the regional level non-systemacy government policy contributed to the containment of environmental and socio-economic development and imperfect relationship as «center-regions», due to the lack of decentralization of functions and powers between local communities, the executive authorities and local governments. In terms of decentralization of power a local government had to be combined with centralized control over the legality of local authority and representative bodies at the local level have to realize the will of the people of local communities and protect the rights, freedoms and legitimate interests of citizens. So, on the agenda is the transfer of powers to the local level, and government intervention is expected when problems are impossible to solve within the community.

Today the government representatives have not authorized the adoption of social, economic, environmental and other development programs territories. Therefore, to address these and other problems there is a need to create conditions for optimal economic independence of undertakings on the ground. Considering that the financial and economic basis at the local level are such natural resources as land, it has to ensure socio-economic development of the region. That region is characterized not as a subsystem of the country, but as an independent entity with an internal mechanism of reproduction, that includes an independent production and realization of elaborated product on the land.

Each individual entity on the land has to link the results of production activities of its financial achievements. In Ukraine, solving environmental and economic problems associated with the introduction of the modern achievements of science and technology that can ensure intensive development of social production and increase its competitiveness.

Generally, it can be ascertain that further development of ecologically safe land use should be considered in the light of adaptation of land legislation with international standards as modern system of land use in Ukraine, which is the result of structural deformation of the economy, does not provide safe conditions of the formation and management of land.

Considering that each region has individual characteristics in a territorial system, the nature of its economic development has to be formed taking into account the specific characteristics of the territory.

In Ukraine land use under decentralization requires not only identification of dangerous environment phenomena and factors that led to it, but also avoiding negative consequences by ensuring environmental safety of agriculture.

Environmental aspects of regulation of land relation contains several stages (Fig. 3).

Improvement of the demographic situation in rural areas plays an important role for ensuring of greening [8, p. 145].

An important environmental aspect of land use regulation is binding of adherence of land protection requirements. Directly in ch. 1, Art. 91 of Land Code it is emphasized that land owners are required to comply with the requirements of environmental law. However, these statements of the Land Code are not implemented in practice [9].

Within the scope of innovative principles of formation of ecologically safe land use it is important to resolve the Law of Ukraine “About circulation of agricultural land”, which should provide support for access of the economically active rural population to land; withdrawal of land from the shadow circulation; providing reliable protection of land rights; resolve of the State target program «Protection of soil fertility», which it is necessary to establish effective incentives to agricultural producers for improvement of soil fertility, combating erosion, conservation of degraded and underproductive lands in.

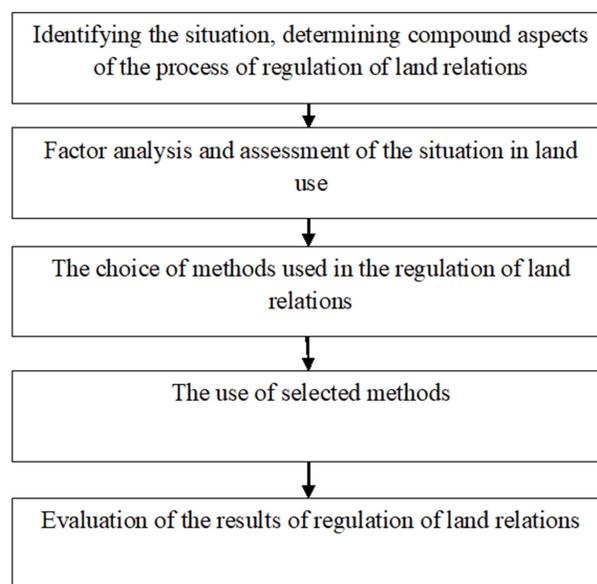


Fig. 3. Environmental aspects of the regulation of land relations

Source: Folded by author (2020)

One of the structural changes in the agricultural sector should be the application of environmentally substantiated farming system adapted to local conditions of technology. It is necessary to forecast measures of combat with water and wind erosion, industrial crops

soil reclamation, breeding and seed production, scientific support etc. Development and implementation of regulatory and legal acts concerning land protection and restoration of soil fertility are vital.

In recent years, according to the intensity of degradational processes of land use Ukraine and its regions occupies one of the first places in Europe, which gives grounds to speak about the mentioned shortcomings as a national disaster. It is obvious that focus on low-tech nature of land use does not comply with sustainable economic development, competitiveness of the agricultural sector of Ukraine. Considering this, the application of highly integrated innovative systems in land use that would ensure a high level of added value in production without disturbing the ecological balance of the environment should be based on the results of monitoring of land, which has an important place in the market of innovative land use. The development of a competitive land use requires the development of innovative approaches to environmental monitoring, which would provide a compromise between the cost of its implementation and the receipt of complete information about the environmental condition of the land.

It is necessary to ensure the growth of investments in agriculture from 2% to at least 20-22% [10]; outline the activities of public investment policy, the basic rules and requirements for land and investment projects, procedures for their review and approval, priority directions of investment etc.

First of all, investments should be aimed at the development of the land cadastre, land-utilization system, protection of soil fertility, land market infrastructure etc. The system of public and commercial insurance of investments is needing to be developed.

Considering that in the near future there will be no significant increase in direct funding of land protection measures from the state budget, it is necessary to look for salvation in selective support of innovation activity. Financing programs, schemes of land use and protection, land monitoring, research work in the area of land protection should be implemented on account of the state budget.

At the expense of landowners and land users it is necessary to develop projects of the territory, antierosion agrotechnical measures, alkalizing of degraded and underproductive lands, improvement of natural grasslands [11].

With regard to funding on the part of the state, it should result in:

- redistribution of means of funding fundamental research should be carried out in land protection areas;
- state acts as an intermediary in the interaction of basic and applied sciences;
- state should be the customer of conducting scientific and technological research of ecologically safe use and protection of land resources, which will be needed by the country's economy;

- state should develop a tool that would regulate relations of innovative mechanism of greening of land use: developer of innovation, organizer of its implementation and macroenclosing.

For obtaining national economic effect of relationship between fundamental research and testing results, which should be 1:100 according to national practice, i.e. each hryvnia invested in the development of innovative projects should be accompanied by 100 UAH in its mastering [12].

To solve financial problems of land use which requires investments comprehensively, it is necessary:

- in the state economic policy to define the role and place of land use in the economy of Ukraine;

- to form a theoretical and practical solving of the problem of investments in efficient land use;

- to develop methods for determining the effectiveness of investments in the improvement and protection of land.

In a modern democratic state ensuring the balance of interests on the local level decentralization of power is a process of division of authorities concerning implementation the functions and tasks of the state horizontally and vertically. Today, the importance of decentralization is updated with integration of Ukraine into the European community [13]. That's why the course of integration on the regional level requires adaptation of the territorial organization of land use management to sustainable European traditions, strengthening the role of self-governing bodies, solving problems of decentralization, relationship between local governments and local authorities, distribution and transmission of power in the field. In addition, the condition of effective administrative and territorial management is peculiarities of consideration the balance between the center and regions.

Taking this into account, we consider that further development of market-oriented land use must be accompanied by the formation of interbusiness enterprises. The mechanism of creation is that the land owner unites with other owners of land and property by means of further cooperation. Moreover, cooperation should be carried out both on the basis of production, from the production of agricultural products, and on the attendant, service, supply and marketing basis, which will create conditions for the timely support of the formed association of cooperatives with fertilizers, seeds, technical devices, ensuring normal conditions for agricultural entities' activity.

Considering this the land policy in Ukraine should be formed based on the creation of conditions for increasing effectiveness of agricultural production in terms of decentralization, which in turn will provide receipt of funds to the local budgets from land entities [14].

To improve the greening of land use it is important to implement such strategic directions:

- optimization of land use based on the ecological correlation of land;
- creation of models of sustainable use of agricultural lands;
- compliance with environmental requirements of land-utilization system of areas;
- development of new farming systems;
- development of new up-to-date agricultural technologies in the system of agriculture;
- increase of the environmental awareness of landowners and land users;
- sanitation of the environment directly.

Keeping these orientation points of greening lets eventually open the prospects for the development of competitive agricultural production.

In the course of research it is important to substantiate components of environmental regulation of agricultural land utilization [15].

In our opinion, these components are financial support of land protection measures, environmental taxes, fund allocation to citizens to restore the previous state of farmland affected through not their fault, innovative development, aimed at greening of land use, stimulation to attract foreign investments in area of land utilization, compliance with environmental standards and norms, tax and credit incentives for landowners and land users, encouraging businesses to rational land use and land protection. These components of environmental regulation of land use must act comprehensively.

It is implicit that the set of measures for environmental regulation of land use should be based on the following principles:

- adherence and conservation of requirements of maintaining in due state or restoring soil fertility;
- the creation of a single information base of agricultural land for the purpose of monitoring the work, which involves environmental regulation of land use;
- development and implementation of effective programs, providing improving soil fertility.

Contradictory and dynamism of development of land relations proves that such principles should be comprehensive and systematic.

Conceptual bases of innovative development of land utilization lies in improving the system of increasing the efficiency of state management of land resources and land utilization, including the development of projects of territory organization, providing the latest technology of designing system of crop rotation, composition of land, spatial and territorial infrastructure etc. An important role is played by the procedure of land taxation, a complex of organizational and economic measures to improve soil fertility, ecological

balance of land use, to conduct effective monitoring of land, improving the organizational structure of agricultural land utilization etc. Moreover, all the components of innovation in land use should act on the basis of emergent communications, providing a synergistic effect of management decisions aimed at the rational land use and land protection.

Accordingly, the implementation of innovative model of the development of land use, orientation on the efficient use of the achievements of national science in the field of land management are integral components of the strategy of development of Ukraine.

CONCLUSIONS

To ensure the efficient use of land, it is necessary to achieve the methodology of forming land policy at the regional level, ensuring the economic development of a given region. Also necessary establish appropriate regulatory support directed on the creation of a civilized land market.

Priorities and measures of land policy should be considered in the context of ensuring the rational use of land that needs to be converted to an innovative model of development, which includes a logic circuit by setting the task to conduct research to establish a scientific and technological development of their subsequent introduction into production.

It is determined that an important trend of land institutionalization is implementation mechanism, which will be based on environmental, organizational, financial and economic levers.

In research proposed scheme of land institutionalization, which is a set of processes that shape the types of land ownership and the nature of the land market, ensures the effective functioning forms of land ownership and land use.

In terms of decentralization of power it is important to take the following measures: to improve land fund distribution by types of economic use by zoning by type of land use within the territories of local councils; while forming agricultural land ownership and land utilization to consider local and regional interests, natural and socio-economic factors, the conditions of local communities; in terms of lease relations to be in charge of the deterioration of soil fertility; to organize local systems of land management and land usage within the local communities.

Decentralization on the regional level will encourage efficiency of landowners' and land users' activity to ensure the carrying self-governing functions on the level of district and region out by them, will encourage implementation of effective policy aimed at overcoming disparities in economic and other areas of the development of territories, elimination of disparities in the development of economic and legal bases in the realization of decentralization etc.

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INNOVATIVE APPROACHES TO FORMATION OF MEDIA COMPETENCE OF FUTURE SPECIALISTS IN THE PROCESS OF PROFESSIONAL TRAINING

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ABSTRACT

The article highlights the relevance of the distribution of media in educational institutions of different levels. It is emphasized that students show a strong interest in the media (communication, watching movies), but it is necessary to mark the other side of working with gadgets – educational, which requires knowledge and skills of working with electronic platforms, online services, search engines. It is in order for pupils to overcome educational barriers of working with the media that teachers must be media-competent professionals in teaching. The article emphasizes that such requirements affect the modernization of professional training of future professionals, and the introduction of innovative approaches in the educational process of higher education institutions will be favourable to the formation of media competence of students. A retrospective analysis of the term media competence of future teachers was performed. It is determined that a modern teacher must have a certain competence for the formation of media literacy of pupils. The research outlines teaching technologies that will assist to the formation of media competence of future teachers: brain writing, benchmarking, information technology (online classes, distance learning, introduction of electronic platforms in the educational process, coaching technology). Theoretical analysis of the indicated technologies is carried out.

Key words: *media, primary school teachers, professional training, media competence of future primary school teachers.*

INTRODUCTION

The educational process in the XXI century is impossible without the use of popular media: phones, Internet tablets, smart boards, laptops, and computers. Such a rapid development of media allows us to talk about the globalization and digitalization of education, which, in turn, requires from teachers and educators of educational institutions in-depth knowledge, skills on the didactic functions of media.

Younger learners, who have been fascinated by the virtual world since the age of six and are not always aware of the value of gadgets in the modern world, are showing a strong interest in digitalization. Of course, using phones, Internet tablets outside the school, students develop the need and skills to use phones for virtual communication, creating a group of interests on social networks, watching movies, online games. On the one hand, during the informal use (which takes place in different contexts and under different conditions, mostly suddenly, with interest and without a specific curriculum) of media, younger learners progress, become modern and are active participants in cyberspace, learn about the world of media in various roles, focus on the entertainment functions of the media without realizing how the media affect the moral, physical, mental well-being of the student; on the other hand, the use of media during formal learning (educational process

with a clear goal and objectives) requires students to make the appropriate skills to understand the other side of the media – educational. To overcome such problems primary school teachers must be media-competent in order to teach younger learners to implement formal education on the principle of digitalization; to use competently information on the Internet, determining the difference between fakes, misinformation and manipulation; to work on research using the benefits of online tutorials, various web sources; to register on online library sites; to present and visualize the product of educational activities through computer programs, online services. Undoubtedly, a media-competent teacher is able to model the educational paradigm of learning taking into account the interests of students, the requirements of society and the prospects of a professional platform in the XXI century, which is associated exclusively with digitalization of all industries.

Paying attention to the digitalization of general secondary education institutions, it should be emphasized that the training of future primary school teachers in higher education institutions should be transformed and modernized to take into account the development and dissemination of media, which will form the media competence of future primary school teachers. Therefore, *the purpose of our investigation is to analyze innovative approaches to the formation of media competence of future primary school teachers in the process of professional training.*

RETROSPECTIVE ANALYSIS OF THE CONCEPT OF MEDIA COMPETENCE OF FUTURE TEACHERS

For a more thorough study of the topic, it is necessary to refer to the terms „media”, „competence” and find out what is the focus of these concepts.

Modern explanatory dictionary of the Ukrainian language characterizes the definition of “competent” as knowledgeable, educated in a particular field or issue [1, p. 328]; authority, enlightenment, awareness [2, p. 234]; someone who is knowledgeable in a particular field, has sufficient knowledge, knowledgeable, intelligent [3, p. 224]. Thus, a competent person can successfully implement professional activities, applying knowledge, skills, abilities in practice; competently set priorities and demonstrate their own awareness, taking into account changes in society and the state.

The definition of „media” means to transmit information, communicate; messaging in the online environment [4]; means of communication; media, through which it is possible to transmit, create, record, store and disseminate information [5, p. 23]. In turn, media competence is interpreted by us as an individual personality trait; integration of knowledge, skills, creative intelligence, critical thinking; availability of a proactive approach to the implementation of professional, educational, training activities, the formation of skills in working with media for the presentation and visualization of data in a new, improved form.

The problem of formation of media competence of future primary school teachers is studied by foreign (I. Blokhin [11], O. Holub [15], S. Troianska [9], O. Fedorov [5, 12], L. Chikolaieva [14] and others) and Ukrainian (H. Onkovych [8], N. Prykhodkina [7], V. Sharko [6] and others) scientists. The analysis of the scientific literature allowed us to state that scientists interpret the concept differently and distinguish its structural components.

Thus, Ukrainian researcher V. Sharko emphasizes that the structure of media competence of a teacher includes the following components: general using (features of the functioning of various media; awareness of the role and value of media for the current generation of primary school children; the ability to model educational projects, training sessions through a number of computer programs; building of own educational trajectory on mastering media); general pedagogical (provides a set of knowledge, skills, abilities, which allows the creation of media products for their use in future professional activities; awareness of the laws of media in the process of teaching younger learners; determining the educational benefits of media tools for effective professional activity) and subject (experience of using computer programs, online services, mobile applications; features of search engine work) media competences [6]. Taking into account the above components, we emphasize that the formed media competence will allow the teacher to organize training in modern technologies with the introduction of media; to create a single basic set of primary school disciplines; to provide information support for scientific research of students; to model the media environment in general secondary education institutions.

N. Prykhodkina notes that the formed media competence allows an individual to adapt to changes in society, to be flexible in terms of the use of media in the professional sphere. The researcher also claims that higher education institutions are the main basis for the formation of this competence, because only during training future professionals focus on changes and challenges of cyberspace, master the laws of the media in a specially organized media space to successful solving of problems of scientific, professional and leisure activities. According to the scientist, the components of media competence are knowledge, experience in working with media, creative approach – mastery, skills in relation to mobile learning in educational institutions of different levels [7].

The Ukrainian researcher H. Onkovych refers to the concept of „teacher media competence”. She argues that such competence will allow teachers to implement qualitatively educational tasks and teach students of Generation Z to use media productively both in and out of school [8]. We agree with H. Onkovych, because working with modern students of Generation Z requires a teacher of thorough knowledge of the functionality of media in order to teach younger learners to adapt to the rapid spread of new gadgets, prevent the influence of fake information, analyze data from various web sources, use media

for educational, scientific needs, collaborate with friends, classmates, teachers through online services, transmit information using e-mail, cloud services, social networks.

Researcher S. Troianska notes that media competence allows you to use the benefits of media for personal, professional, educational purposes, as well as to understand the language of media, to find quickly the necessary information in the search engine [9, p. 144]. In her own scientific field S. Troianska offers effective recommendations aimed to forming the media competence of future professionals: to engage in self-education, to improve training in the use of media in professional activities; to analyze systematically media texts, to compare data from different information sources, to distinguish reliable facts from fakes, misinformation and manipulation; to develop critical thinking for practical solution of life, professional situations with the use of media; to post text on social networks, following the information style (on the principle of a pyramid); to organize interest groups in mobile applications; to create authorial media products for their future use in professional activities [9, p. 146]. We consider such recommendations to be useful in the training of future primary school teachers, first, students master the media at the theoretical and practical levels; secondly, they work with media texts that broaden the views of students, study current issues of the present, thus, becoming aware and competent in various spheres of life, distinguish reliable data from false; thirdly, students focus on social networks, which are an innovative tool not only for communication, reading news, watching videos, but also for their use in education (creating corporate communities for the target audience, finding training courses, projects, online marathons, competitions that will increase the level of knowledge, skills in a particular field, including media, the creation of interest groups, exchange of materials (documents, photos, videos, books, presentations, links to various online events, etc.) between users and active participants in social networks [10, p. 120].

I. Blokhin notes that the formation of media competence of a specialist is possible only if a special media space is created in higher education institutions, which will modernize the educational process in accordance with changes in the field of mass media communications. According to the scientist, higher education institutions should become a center for quality provision of educational services at the theoretical and practical levels of media mastery. I. Blokhin understands the media competence of a specialist as a complex integration structure of knowledge, skills and abilities, the context of which depends on the level of media education of students, as well as on the specifics of teaching professionally oriented disciplines of the specialty [11, p. 138].

The structural components of media competence are informational and communicative competences. Information competence means the ability to work with media texts, search for reliable data and sort facts and information from various information sources; critical

comprehension of media texts, their context and essence. Working with texts, the individual acts as a consumer [11, p. 142–143]. Communicative competencies, according to the researcher, are formed as a result of the behavior of communicators, through which network structures are formed. According to the scientist, communicative competencies are characterized by the ability to search, transmit information, and interact with other communicators. [11, p. 144]. Thus, mastering these competencies will contribute to the accumulation of knowledge about working in the information network, developing skills to work with media texts, as well as services for searching, processing and receiving information from communicators, identifying themselves as an aware, competent media consumer, forming critical thinking. We believe that such a set of competencies will be the key to the successful formation of media competence of the specialist.

O. Fedorov, a leading specialist in the field of media, notes that modern youth at a high level have practical skills in using media, however, an experimental study conducted by O. Fedorov together with a Canadian media educator showed a low level of analysis of media texts by media consumers. This gives grounds to claim that technical skills do not affect the technique of analysis, reading and selection of reliable media texts, which, in turn, indicates a low level of media competence (lack of skills to analyze media data, to evaluate critically them, to correlate reliable facts with fake information, inability to work with various web sources, characterized by ignorance of the language of the media, the manifestation of a low level of complex media texts). In his research, O. Fedorov emphasizes that the main core of media competence is the ability to work with media texts, understand the language and symbols of the media, analyze critically the texts of various web sources [12]. We agree with the opinion of media educator O. Fedorov, because when working with media, users primarily come across media texts (Internet, websites, social networks, communication through mobile applications, e-mail, etc.), which directly affect user consciousness, physiological, psychological, social system of the individual's body; through media texts a view of the present is formed, events that take place in different spheres of the state; information and communication flows on the Internet can affect the formation of clip thinking, which leads to nonlinear perception of media texts, fragmentary reading, without any awareness, analysis, misunderstanding of the conceptual apparatus; information, meaning and significance of media texts are read not through words, but through a vivid presentation of information [13]. Therefore, it is important to have media competence, which will make it possible to resist competently, professionally and correctly the influence of fakes and inaccurate information in social communities and websites.

In L. Chikolaieva's research, the media competence of a future specialist is defined as a set of knowledge, skills, abilities that allow to implement skillfully professional activity, thus forming a social action. The level of media competence, according to the scientist,

depends, first, on the specially modeled media environment in educational institutions; secondly, the training of teachers on the use of media in the training of students, awareness of the functional educational capabilities of media and the level of formation of media competence; third, the formed motivation of future professionals. The main component of media competence of future professionals is cognitive, which consists of the following components: “mediator” (media, computer programs and applications through which a person can transmit, receive information, create media products, visualize data); „Signs” (everything that is not text, information is structured through graphs, charts, tables, figures); „Content” of information (when visualizing and presenting research, scientific developments, reports should take into account the context of information that will be placed, for example, on a slide; information visualized on the screen during the defense should convey the context of what the speaker wants to convey to audience and convey the essence of the study (perhaps it will be just one sentence or graph or diagram, etc.) [14]. The opinion and scientific works by L. Chikolaieva are interesting for our research, because the cognitive component in the formation of media competence of future professionals plays an important role, as students must master not only the functional features of media, but also master the elements of structuring and visualizing information through a special set of programs and applications, finding ways to convey the content and essence of research or other types of scientific developments. We believe that such knowledge will allow future professionals to treat correctly and competently the analysis of information, work with media texts and present data not only through words but through graphic symbols.

O. Holub’s opinion is interesting for us, which emphasizes the importance of media competence for the modern personality. In the flow of information and man-made influence on consciousness, the individual must transform their own knowledge, efforts to analyze competently the data, to achieve confidently the goal, taking into account those media that are relevant today. Undoubtedly, today everyone uses smart watches, TVs, phones, tablets, laptops, programs and regulates their time through mobile applications and online applications, communicates through online services: mail, social networks, cloud technologies; solves professional, educational, scientific tasks through computer settings, Internet search engines, as well as through messengers, group chats, channels, public accounts, bots. This set of media functionalities changes, modernizes thinking, worldview, allows individuals to move confidently into the virtual world and develop in accordance with the requirements of society, the state and information resources. According to the scientist, media competence reveals the essence of the skills that modern specialists of the information age should possess; media competence allows you to adapt thoroughly to the requirements of cyberspace. Without this competence, the individual becomes less competitive, often exposed to fakes, misinformation and manipulation by the media, the

reaction to media viruses is somewhat primitive or absent [15]. The researcher emphasizes that it is impossible to form media competence on your own. Classes, courses, webinars, marathons should be specially organized so that the individual can understand the globality and scale of such competence in the context of mediatization. Therefore, the construction of a clear educational trajectory on the part of higher education institutions should be carried out in accordance with the requirements of education to the figure of the teacher and the identification of the role of media for society.

In our opinion, it is also important that media competence allows you to have the basics of information security, which requires knowledge of e-mail services (Mailchimp, UniSender); services to increase efficiency and teamwork („Pomodoro” method – full focus on what we are working on, reward at the end of this method is an important component, as well as an effective way to combat procrastination; Getting Things Done); services for online meetings (Skype, GoToMeeting), services for webinars (FacebookStream), etc.

The analysis of the scientific literature allowed to state that the problem of formation of media competence of future specialists is in the field of view of researchers. This is primarily due to the active distribution and development of media in today’s educational environment. According to scientists, media competence enables effective work with media, as well as with popular online services, mobile applications, programs, which increases information literacy and security, awareness of effective implementation of services in the professional, educational and scientific spheres. The category of media competence involves the formation of future professionals in a proactive position on the use of media in various spheres of life, including pedagogical, taking into account cognitive (awareness of the role of media in the XXI century, the ability to read information, understand media language, analyze data , have a stable marginalization) and general pedagogical (awareness of the educational benefits of media, their role and importance for primary school students) approaches. In our opinion, having media competence, future primary school teachers become leaders in the educational space, understand what competencies must be possessed in order to successfully implement professional activities, as well as ways and approaches to achieve cooperation with primary school students. Understanding the essence and versatility of the concept in the information age, it is necessary to modernize the training of future primary school teachers, make every effort to organize, model effective approaches, forms, innovative techniques for the formation of media competence. In turn, the formed media competence of the teacher will be a guarantee, first, of constructive realization of pedagogical activity; secondly, establishing contacts and cooperation with students of general secondary education; third, critical analysis of media texts, as media users are constantly working with information without realizing its impact on consciousness, thinking, perception; fourth, possession of emotional (ability to motivate themselves,

determine the values and priorities of professional activity taking into account the development of media, self-regulation of their emotions when working with media texts, understand the interests and needs of students of generation Z), analytical (ability to solve professional, educational tasks through media), creative (have practical thinking that helps to solve life's needs, taking into account the benefits and educational functions of media, creating new, non-standard tasks and situations, finding ways to solve them successfully) intelligence. Thus, the formation of media competence of future primary school teachers in the process of professional training requires a combination of disciplines with such innovative approaches to learning, namely modeling of pedagogical situations through the use of electronic platforms, online services (mail, search, cloud, social networks), messengers, computers, computer programs, etc. To solve this problem, we consider it appropriate to describe the innovative pedagogical approaches and their practical value, which will be discussed in the next section.

INNOVATIVE LEARNING TECHNOLOGIES AS A CONDITION FOR THE FORMATION OF MEDIA COMPETENCE OF FUTURE TEACHERS

In the modern educational environment methods of active training of students and technologies which have an interactive orientation become popular [16]. According to I. Melnychuk, interactive learning is characterized by motivating future teachers to innovations; creation and modeling during the educational process of a friendly, positive, kind atmosphere; accumulation of interesting ideas and their presentation through a number of modern topical media; creation of research projects and their integration with professionally oriented disciplines. Education in higher education institutions should be based on the modernization and dissemination of modern educational technologies that will be interesting to students, useful for future professional activities, as well as will be favourable to the successful mastery of techniques for working with media. After all, only the formed motivation will allow students to master professional knowledge, implement tools and technologies that are relevant to society and will become a constructive element in the educational space. The researcher identifies technologies for the effective implementation of educational activities by future professionals in the context of mediatization of education: productive (involvement of students in learning the material, studying the terminological basis of disciplines through non-standard methods); personality-oriented learning (taking into account the interests of students, the formation of their creativity, perseverance, independence and professionalism, the definition of their own pedagogical credo); partner technology (modeling in the educational institution of pedagogical conditions for self-improvement of their own judgments on innovation in education) [17].

In the scientific field of T. Martsinko it is noted that usually primary school students are objects of study, and the teacher plays a leading and fundamental role during the educational process, respectively, not allowing students to take an active part in discussing problematic issues, research of any concept or phenomena [18]. Taking into account the changes in education and the rapid spread of media, the educational process must change dramatically, students of digital age are too mobile and energetic, they are children – practitioners and researchers who are ready to acquire knowledge, be seekers, open new educational, scientific, innovative horizons, implement their own ideas for solving educational problems. To do this, students need educational freedom and the opportunity to use media in the educational process, which will make learning easier, attractive and interesting. Therefore, interactive technologies will avoid stereotypes in learning, passivity, memorization of already „ready” information.

When it comes to the formation of media competence of future primary school teachers and does not take into account current trends in teaching, the spread of media, the formation of such competence will be impossible or it will be primitive. We believe that brain writing technology will be interesting for future primary school teachers, the purpose of which is to generate new ideas on topics that need to be discussed, such as the use of media in future professional activities, non-standard educational approaches to teaching mediatization of education. This technology involves group discussion of current educational ideas and tasks, but opinions should be generated in writing on pre-prepared forms, complementing the statements of the creative team. Brain writing allows you to form the creativity of students, the ability to interact with the team, to analyze and correct the impressions of the participants and to visualize competently their own beliefs about the task. It should be noted that this technology will generate more new views, proposals, reformat this problem to a new, improved level, which will be the basis for the successful solution of professional problems. Working on brain writing technology, future teachers improve communication skills, the ability to form tactics of presenting their own judgments in written perspectives, prioritize further professional activities, analyze and supplement the views of other members of the creative group, make their own adjustments to improve partner ideas.

Benchmarking technology will become effective for the formation of the professional position of future primary school teachers, the purpose of which is to determine the reference media lessons; qualities of teachers, the presence of which will allow to implement successfully the educational process in primary school through the media. Scientists emphasize that benchmarking is a process of comparing effective methods, techniques, provisions for the successful operation of enterprises, including educational institutions [19]; clear, structured, systematic, consistent decision-making process in any

field, taking into account the reference samples of approaches, the available positive results of the functioning of other institutions [20]. Taking into consideration that future primary school teachers must have media competence, benchmarking will increase the level of professional position of students, to form a positive motivation for the use of media in teaching; will promote the development of interest in improving their own level of knowledge on the functional educational capabilities of media, modernization of practical skills, skills in creating authorial media products. To achieve this goal in the process of professional training should, first, organize offline meetings, video meetings with primary school teachers who practice different approaches in the classroom, tactics for the competent use of media to improve the knowledge of younger learners, to attend lessons of such teachers with further analysis of classes, focusing on the role and place of media in the educational process; secondly, to study the experience of leading practitioners on the formation of media literacy of primary school children, joining various forms of work: conferences, seminars, round tables, webinars; thirdly, to take online courses on electronic educational platforms, in particular, „Prometheus”, „Na Urok” (For the lesson) in order to improve professional self-esteem, to identify the level of knowledge, skills, abilities on the didactic features of media; fourth, to participate in pedagogical competitions, which allows to communicate with teachers, teachers from around the world, share best practices through e-mail services, social networks, mobile applications to improve, diversify the educational process in primary school through a range of relevant media funds. Only close cooperation with primary school teachers, who in the process of teaching primary school students prefer media and use skillfully all the didactic features of electronic services, computer programs, mobile applications, will clarify the features and benefits of media lessons, their structure and content; will contribute to the formation of the professional position of future primary school teachers and media competence as a necessary feature of the teacher of the information age.

The practical aspect of professional training in order to master the didactic functions of media is important for the formation of media competence of future primary school teachers. Information technologies of training directed on interaction system of the student with media means will become expedient. In the scientific field of researchers it is noted that information technology is a way of transmitting, receiving, searching for information through media; a set of electronic, software learning tools [21]; a model of the educational process in which the goal is achieved through relevant media [22]; interaction of teaching aids and information activities [23, p. 11]. It is emphasized that information technologies are aimed at improving the quality of education, as well as will prepare young people for the conditions in the information and media society. Among the information technologies include: online classes, distance learning, the introduction of electronic platforms in the

educational process [21]. Undoubtedly, any activity with the use of media will allow future teachers in both theoretical and practical subconscious to rethink pedagogical activities in the context of mediatization of education. Thus, thanks to online classes, students can become a participant in the educational process in real time, following the methods of face-to-face learning, master the functionality of various programs (Skype), services (Zoom, Google Meet), mobile applications (Viber, WhatsApp), conduct video meetings with classmates, teachers to attend classes, as well as receive additional advice on various educational tasks or issues. Working with video communication services, future teachers have the opportunity to organize conferences, seminars, involving teachers of higher education institutions, primary school teachers who test electronic educational technologies in classes with primary school students, as well as innovators, education managers, researchers' consultants.

By learning through distance learning technology, future teachers have the opportunity to master a wide range of technical capabilities of websites (blogosphere) and electronic platforms, such as G Suite for Education. Learning is asynchronous; the student decides when to perform a task. Working with websites and electronic platforms, future teachers improve the skills of receiving, transmitting, editing information (via mail, comments); communicate with classmates, teachers through video services; track the evaluation for the completed task in the electronic journal, which is completely confidential; work is underway with a variety of information: videos, audio clips, text, online literature, manuals; check their own level of knowledge through a series of various simulators, online tests; record the list of cases in the calendar of events. This wide range of activities will allow future primary school teachers to create their own blog for future professional activities or join the G Suite for Education cloud services, which will allow them to master Google programs and additional Google services: Gmail, Google Drive, Google Class, Google Meet (service for video), Google Calendar, Google Docs, Google Spreadsheets, Google Presentations, Google Sites, Google Chat, Digital Jamboard. Thus, it can be emphasized that online classes and distance learning will contribute to the theoretical and practical training of students to work with electronic platforms, online services, mobile applications, computer programs. This, in turn, will interest future teachers in a different perspective to implement professional activities; form a call sign for working with the media; increase the level of self-education and pedagogical qualification in order to teach junior schoolchildren in accordance with the requirements of mediatization of education.

In order to form the media competence of future primary school teachers, coaching technology will be useful during professional training, the purpose of which is to improve the results of professional training, find ways to solve current problems, prepare students for teaching in the mediatization of education.

One of the priority tasks of coaching is cooperation with classmates, teamwork, and analysis of opinions and suggestions of group partners to build a strategy for future professional activities. Studying the technology of coaching, students form a positive motivation for the use of media in the learning process of younger learners; the attention of students is focused on the requirements that face the teacher of the information age; future professionals adapt to the choice of profession and mediatization in education, as well as master the qualities that are important for teachers of the XXI century. Teachers, senior students, primary school teachers, teachers-methodologists can act as coaches during the professional technology during professional training. Coaches, in turn, must adhere to the following principles: regular coaching; synergetic (coaching tasks should be implemented through the use of media, or topics should be specific to the mediatization of the educational process of primary school); participatory (a style of learning through which students will be interested in how to organize the educational activities of younger learners using media).

When conducting coaching sessions, in particular, „Activation and focus of students of generation Z through the media”, „Personal professional blog of the teacher: design, content, promotion”, „Implement the content line „Exploring the media” in primary school of NUS: practical tips for teachers”, „Development of skills of the 21st century through a set of media tools” future teachers have the opportunity to model a design roadmap for teacher self-education in the context of mediatization of primary school, increase knowledge about the functionality of media, create information materials on the use of media in future professional activities that will be useful for educators seeking self-improvement, practice modeling media lessons using online services, electronic platforms, mobile applications, etc. Students within such activities are aware of the following aspects: the importance of using media in future professional activities; the influence of media on the quality of knowledge of younger learners; the need for practical mastery of media tools to create authorial media products.

The organization of coaching sessions will promote self-development, goal setting of students for successful professional activity with the use of media, awareness of values inherent for the teacher of the information age, formation of communication skills, intellectual and creative abilities to work with media.

Analysis of the scientific literature gives us the opportunity to determine the optimal innovative technologies for training future professionals in the process of training (Fig. 1).

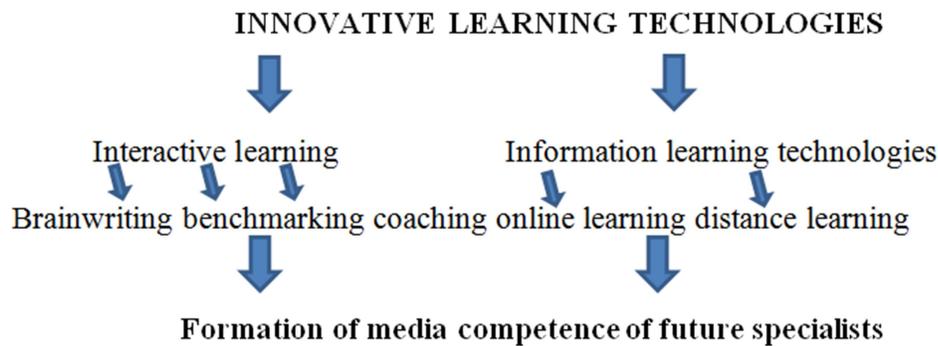


Fig.1. Innovative learning technologies

Source: prepared by the author

CONCLUSIONS

Thus, seeing the transformation and digitalization of the educational process of primary school students there is a question of changing the context of methods, techniques, technologies, approaches to teaching future primary school teachers who should regulate, define and adjust the rules of teaching disciplines, taking into account the interests of students of Generation Z and learn to use the educational potential of media in future professional activities [24, 25].

Therefore, the modernization of the content of professional training in higher education institutions is becoming relevant and should be aimed at forming future competences of future primary school professionals, the availability of which will meet the reform and innovative development of education, taking into account social and individual interests. We believe that the proposed technologies for teaching future teachers update knowledge about mediatization in education; will generate new ideas for solving professional problems through a set of media tools and relevant online services, applications, programs, educational platforms; identify priorities for future professional activity; studying the design approach of teachers-innovators on the formation of media literacy of primary school students; will be useful for the creation of authorial media products and staffing of motivational and informational materials for self-improvement, self-development on educational opportunities of media. In addition, professional training with using the latest learning technologies allows to form a critical thinking of future teachers and, most importantly, media competence as an important feature of the new generation professional.

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EUROREGIONAL COOPERATION IN THE CONDITIONS OF MODERN TRANSFORMATION CHANGES

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ABSTRACT

The work reveals endogenous and exogenous factors of influence within the framework of cross-border cooperation that may acquire both positive and destructive character. The study examined the preparedness and greatest involvement of local governments, state institutions and non-governmental organizations in the development of Euroregions. Constraints has been identified for the development of innovative forms of Euroregional cooperation in Ukraine, which include: lack of investment and innovation mechanisms (targeted financing, direct financial assistance, subventions, etc.); imperfection of legal and institutional support for the formation and functioning of new forms of cooperation; lack of partnership skills and orientation of domestic enterprises in international commodity and financial markets; low level of awareness of participants; imperfection of business climate. Transformational opportunities are proposed in the Euroregion: strengthening the institutional capacity of local executive authorities and local self-government in the preparation and implementation of joint cross-border initiatives; development of a mechanism for co-financing cross-border cooperation projects at the Euroregion level, which will give preference to the implementation of "solid" projects that have a tangible socio-economic impact on the development of territories; organization of cross-border forums, exhibitions, fairs and centers of cross-border trade in order to promote locally produced goods and intensify business activities. The cluster approach, as one of the directions of Euroregional cooperation, has been studied. In order to create new innovative models of Euroregional cooperation, the creation of a scientific and technical cluster has been set up, which will make it possible to renew the material and technical base of scientific institutions and higher educational establishments, increase the share of innovatively active enterprises, increase the scientific intensity of GDP, create new jobs and improve the capacity of states on both sides of the border.

Key words: transformation, modernization, cross-border and Euroregional cooperation

INTRODUCTION

One of the key criteria for successful Euroregional cooperation between Ukraine and the EU is the transformation of economic development on different sides of the border. In this sense, an important indicator of the quality of Euroregional cooperation is the convergence of regions. This reflects the existing socio-economic impact of cross-border projects, but also plays an important role in the context of leveling the existing threats and challenges of cross-border economic, social and information security. After all, the alignment of quality and standards of economic development on different sides of the border negates a number of risks associated with the spread of destructive forms of cross-border cooperation, such as the illegalization of cross-border markets, illegal labor migration, corruption at border crossing, etc..

Most of the research related to the problems of Euroregional cooperation is to some extent related to the analysis of various aspects of economic convergence of Ukraine's neighboring border regions and EU member states, especially in the context of the current challenges of European integration. First of all, this refers to the research aimed at identifying mechanisms of formation and evolution of border regions in order to ensure socio-economic convergence of the border areas that are part of them. After all, most of the Euroregions, especially those that cover the border territories of the EU member states and their neighboring states, which are not members of this association, including Ukraine, do not meet all the necessary criteria, thus being only at certain (initial or later) stages of its actual formation as fully fledged entities of the international economy.

At the same time, one of the main problems limiting the Euroregional transformation at the current stage of Ukraine's European integration is the insufficient level of institutionalization of the cross-border space between Ukraine and the EU. This updates research related to identifying the main problems of institutional support for cross-border cooperation of Ukraine and the development of proposals aimed at equalizing the economic development of the border regions of Ukraine and neighboring EU member states.

Thus, a characteristic feature of modern Europe is the rapid development of international cooperation between regions which is one of the most effective drivers of European integration and unification of people.

Taken into account the intensification of Ukraine's European integration efforts, this issue is becoming increasingly relevant and important today.

MECHANISMS OF OPPORTUNITIES FOR CROSS-BORDER COOPERATION IN THE CONDITIONS OF EUROPEAN INTEGRATION

Signing the Agreement "On Association of Ukraine with the EU" gave Ukraine the conditions to expand globalization processes, where the role of transboundary cooperation of regions is increasing, opens up new opportunities to activate economic activities in the peripheral territories and increase their competitiveness. At the end of the last century, the European Union's regional policy shifted to a new paradigm - from applying mechanisms for eliminating imbalances in regional development through interregional redistribution of resources to mobilizing the natural resource potential of territories and applying the subsidiarity principle. This approach was used by the adjacent border regions of Europe, which established mutual contacts between state regional authorities, local governments, public organizations, economic entities of territories, joining efforts to solve common problems, and from cooperation on individual cross-border transactions moved to cooperation within the Euroregions.

In accordance with Article 1 of the Law of Ukraine "On Cross-border Cooperation", Euroregion is an organizational form of cross-border cooperation, is carried out in accordance with bilateral or multilateral agreements on cross-border cooperation, and their association is a form of cross-border cooperation with the status of a legal entity according to the national legislation of the state on whose territory it is located, the purpose of which is to promote, support and develop in the interests of the population cross-border cooperation between subjects and participants of such relations in the spheres of joint competence and in accordance with the powers established due to the national legislation of the corresponding state [1]. The fact that two thirds of Ukraine's oblasts are border regions provides great potential for the development of Euroregional cooperation. These territories need, first of all, to solve the issues of economic growth, improvement of the activity of authorities, development of communications, cultural and educational sphere, tourism, environmental protection and the like. Common borders with EU member states and Russia, Belarus, Moldova, Turkey and complementary transport systems in international trade and economic areas create opportunities for large-scale Euroregional development in both western and eastern regions.

The decisive role in the transformation of Euroregions belongs to the state, which, in cooperation with regional authorities on both sides of the border, formulates a strategy for investment and innovation development and pursues a policy of encouraging business entities. It is the state should establish a special regime of economic activity, providing preferential lending and taxation, establishing preferential tariffs for members of technology park structures, introducing a special regime of foreign economic activity.

The modern stage of transformation in Ukraine is characterized by the need to ensure sustainable development of Euroregions as an important prerequisite for balanced regional development, preservation of spatial integrity, formation of the country's export potential and the like. Their characteristic features are their remoteness from the central regions of the country, which today are the areas of concentration of investment and economic activity. At the same time, they have additional competitive advantages associated with the opportunities offered by cross-border cooperation, which is designed to become an important tool for the implementation of state regional policy in the border areas.

However, their economic convergence occurs under the influence of a significant number of endogenous and exogenous factors, which may acquire both positive and destructive character. These factors are most fully manifested in the development of cross-border cooperation, while determining the specifics of the formation and evolution of socio-economic space in individual euroregions. The problems of convergent processes in the cross-border dimension are particularly acute at the current stage of European integration, which is determined by a number of complex social and economic transformations: geopolitical, socio-psychological, financial and economic, innovative and technological, and others.

This difference makes it possible to understand the reasons why cross-border cooperation is difficult to develop in the economic sphere. Economic exchanges usually fall into the category of cross-border practice, with some problems related to national policy coordination and the application of community rules. Companies involved in cross-border cooperation are scattered. As a rule, they are not organized into stable and structured stakeholder systems at the local space level, they form border areas. In the economic field, configurations of union or competition systems are often unstable: they are created and not made at the speed of unstable opportunities. On the other hand, participants in cross-border cooperation try to build a sustainable partnership system due to non-material geographical proximity.

This is also due to the fact that local governments are the most involved in the development of the euroregions, and are also better prepared for its development, as the initiators of cooperation were local governments, which from the very beginning managed the euroregions themselves for the following cross-border projects. State institutions are well prepared for cross-border cooperation, but it is not permanent. Non-governmental organizations are somewhat better prepared for cross-border cooperation than companies, although they focus mainly on periodic and ad hoc cooperation. In some cases, cooperation lasts more than 5 years, while in others it is just beginning. A similar approach is presented by companies, of which only a small proportion develop continuous cross-border cooperation over a longer period. The results of the study, interpreted in terms of analysis, show that:

1. The purpose of cross-border cooperation is mainly related to state (local authorities) tasks, therefore, the involvement of non-governmental organizations and companies in the development of this cooperation is much less;
2. The formula of transboundary cooperation (projects co-financed by EU funds are implemented only by state beneficiaries) does not facilitate direct involvement of other stakeholders, as formally it is not possible in this type of projects; thus, companies cannot fully participate in the development of the region and do not develop sufficient competence for transboundary cooperation;
3. Basing cross-border cooperation solely on the long-term implementation of a single planning document, is implemented by self-governing bodies and public institutions, did not encourage non-governmental organisations and companies to cooperate more actively, because the benefits that could be derived from it were not clearly outlined;
4. The local self-governments responsible for the Euroregion have developed it exclusively based on projects financed from EU funds, without additional measures, with the participation of other stakeholders in cross-border network cooperation between the two regions. [6]

All of this leads to the fact that the development of sustainable transboundary relations requires direct or even formal participation of various stakeholder groups (not only local authorities and public institutions). At the same time, each stakeholder group, especially government organizations and enterprises, should be well prepared to develop cooperation at different levels and acquire at least one permanent partner, as well as understand the opportunities and benefits that cooperation can bring them.

The construction of typologies and transformations of Euroregions requires the selection of a certain set of criteria by which it will be implemented. Among the most common new effective forms of transboundary cooperation on the borders of Ukraine are "transboundary clusters" and "transboundary industrial zones". Their further development and increased efficiency of functioning, in particular in the southwestern regions of Ukraine, will contribute to the revival of economic activity and stimulate economic growth, which will have a positive impact on the alignment of socio-economic development indicators and competitiveness of Ukrainian border regions. It is clear that in the conditions of transformation it is necessary to rely on the modern legal and regulatory framework of relations, public policy in this area and potential threats that should be tried not only to identify but also to prevent.

This process of transformation of the essential characteristics of the Euroregions becomes especially relevant for Ukraine after the Eastern enlargement of the EU. In fact, the key role in forming an effective system of cross-border cooperation is given to the euroregions. Institutional forms of cross-border cooperation are Euroregion-bilateral and international associations and associations of boundary administrative and territorial units of national states. In this context, it would be important to form a system of European level euroregions of Ukraine as part of an effective system of interregional cooperation between Ukraine and the European Union. It should be noted that through the mechanisms of euroregional cooperation the integration of neighboring territorial self-governing communities and regional economic structures of border states is carried out quite effectively.

The problem of euroregions of Ukraine, in our opinion, is not so much in their quantitative parameters, not to mention their huge scale, but, above all, in their qualitative, systemic characteristics. A systematic approach to the development of euroregions of Ukraine requires the implementation of a set of economic, organizational and institutional levers of their development. In this context, it is extremely important to develop special comprehensive programs for the development of Ukraine's euroregions after the Eastern enlargement of the European Union, using systemic approaches and European regional standards.

Constraints to the development of innovative forms of Euroregional cooperation in Ukraine include:

- ✓ absence of investment and innovation mechanisms (targeted financing, direct financial assistance, subventions, etc.);
- ✓ imperfection of normative-legal and institutional provision of formation and functioning of new forms of cooperation;
- ✓ absence of partnership skills and orientation of domestic enterprises in international commodity and financial markets;
- ✓ low level of participants' awareness; imperfect business climate.

We can say that at the current stage of European integration, the institutional filling of cross-border cooperation between Ukraine and the EU, one way or another, is accompanied not only by spontaneous, but also purposeful spread of transformation processes. There are three main reasons for this.

1. Cross-border cooperation contributes to the formation of a homogeneous social and economic space at the external borders of the EU, thus reducing the risks of any kind of conflicts and confrontations (from information or social to military).

2. By aligning economic development on different sides of the border, the quality of social capital in the Euroregions bordering the EU is improving, thus reducing the migration and economic burden on EU markets and increasing the motivation for joint economic activity.

3. Social and economic convergence in the cross-border space between EU and non-EU member countries contributes to the improvement of economic standards and living standards. [4]

This makes cross-border markets particularly attractive for business and labor migrants from third countries (the standard of living and ease of doing business in them is about the same as in the EU, and institutional restrictions are much lower). This ensures that negative economic stereotypes associated with the presence of borders are overcome.

It should also be noted that for transformation opportunities in the Euroregion, the following can be done:

1. To strengthen the institutional capacity of local executive authorities and local self-government bodies to prepare and implement joint cross-border initiatives;

2. To develop a mechanism for co-financing cross-border cooperation projects at the Euroregional level, which will give preference to the implementation of "solid" projects that have a tangible socio-economic impact on the development of the territories;

3. To organize cross-border forums, exhibitions, fairs and centers of cross-border trade in order to promote locally produced goods and intensify business activities.

The use of the Euroregional mechanism as an organizational and economic platform for the development of cross-border regions not only allows the intensification of cross-border cooperation, but also improves the quality of regional policy in general. After all, the coverage of a significant part of the Ukrainian border by Euroregions creates a unified environment for the implementation of EU regional policy and the policies of national states in the field of cross-border cooperation. At the same time, one of the main factors that limit the possibility of applying the Euroregional mechanism of forming organizational and economic support for the development of Ukraine's border regions is the lack of vision, particularly in regional and local authorities, of the place of effective operation of Euroregional structures in the new institutional environment. Modern instruments of EU regional policy, used in cross-border neighborhood programs with our state, make it necessary to review the attitude towards the Euroregions in the domestic policy and search for new ways of solving existing problems in cross-border regions [7].

Another area of stimulation of transformation opportunities in the Euroregions between Ukraine and the EU, is to create conditions for the development and effective functioning of cross-border markets. For this purpose, it is necessary to ensure the formation of common principles of business entities on different sides of the border, as well as to create an economic basis for establishing mutually beneficial business ties between them.

The spread of legal forms of cross-border business largely depends on the effectiveness of the marketing mechanism for the formation of organizational and economic support for the development of Euroregions. This mechanism should be understood as a set of interrelated links aimed at promotion of market products manufactured in a certain transboundary region to regional, international and world markets.

The mechanism of transformation of cross-border cooperation into new partnerships created by other stakeholders, the continuation and development of partnerships between the parties of the Euroregion that have formed this cross-border cooperation must be taken into account under the influence of various factors. This transformation is determined by the right mix of resources and capacity of partners to identify common challenges, needs and goals with a view to sustainable development. To ensure sustainable cross-border partnerships that lead to sustainable development of the border territories, these measures must be implemented in a sustainable manner on both sides of the border. The key objective of developing cross-border partnerships is not only integration of neighboring communities in border areas, but also harmonious and sustainable development of these territories and strengthening their competitiveness in relation to the more developed territories of the European Union. Thus, sustainable development of cross-border partnerships is a desirable mechanism that reflects the expectations of local communities regarding opportunities for inter-organizational cooperation in border areas. The partnership should pursue individual goals of cooperating organizations with consequences for their environment.

According to this, the marketing mechanism for the formation of organizational and economic support for the development of the Euroregion includes a number of tools and levers that cover the field of marketing research within the border areas that are part of it, are responsible for the modern system of marketing communications, development of investment proposals and software products. At the same time, it should be noted that each of the above mechanisms, including the preferential ones, does not operate independently. All of them are integrated into a single system of formation of organizational and economic support for the development of border regions, mutually reinforcing or weakening the influence of each other. In addition, some of these mechanisms overlap in the process of influencing the formation of organizational and economic support for the development of Euroregions, and some of them may even act as constituent parts or elements of others. On this basis, as well as taking into account the priority areas of formation of organizational and economic support for the development of border regions of Ukraine at the current stage of European integration, we offer a generalized description of the main mechanisms of organizational and economic support for the development of Euroregions (Table 1).

Table 1 Transformation mechanisms in the Euroregion development system

Mechanisms	Economic essence	Basic links and tools	Forms of influence
Institutional and legal	Formation, implementation, monitoring and control of the implementation of legal acts and regulatory documents ensuring the development of the Euroregion	Legislative, administrative and regulatory acts of public authorities and local governments, cross-border strategies and agreements	Reduction of transactional costs of CBC participants through rationing and settlement of their economic relations in the Euroregion
Financial	Stimulating financial revenues into the Euroregion's economy in order to improve its functioning and enhance cross-border cooperation	Budgetary resources, investments, financial and credit support, grants under international technical assistance programs	Attraction of necessary financial resources in CBC and their effective distribution among different spheres, types of economic activity and users.
Informative	Development of information networks and information exchange systems within the Euroregion; improvement of information quality	Internet, telecommunication networks, educational and consulting services, marketing information	Promotion of information exchange between CBC participants, information asymmetries leveling
Marketing	Creation of market institutions focused on border trade facilitation and cross-border business development	Cross-border markets, technology parks, cross-border clusters, wholesale markets, exhibition and fair centers	Integration of all CBC subjects within the framework of a joint cross-border market and determination of their area of specialization
Administrative and managerial	Improvement of administrative and management activities of government institutions and non-governmental organizations in the context of border infrastructure development, simplification of visa regimes and procedures, improvement of the quality of human and social capital of Euroregions	Regional state and local authorities of the border territories, management bodies of Euroregions, cross-border partnerships, diplomatic missions and consular offices	Adaptation of management decisions of state authorities, local self-government bodies and management units of non-governmental organizations operating in the transboundary space to the requirements and needs of the CBC

All this leads to the need to make determined decisions that would allow Ukraine to improve its position in terms of innovation activity and take a worthy place in the ranking among the EU countries. This will be possible when the transformation mechanisms will reflect the innovative development of cross-border cooperation, the main task of which will be to develop and implement innovative approaches to the possibility of attracting investment in the development of projects and their financing, the development of small and medium-sized businesses, increasing the level of knowledge of research personnel, improving education, economic growth of the Euroregions and Ukraine as a whole.

CLUSTER APPROACH AS ONE OF THE DIRECTIONS OF EUROREGIONAL COOPERATION

One of the priority directions of implementation of joint programs is the development of economic cooperation, in particular, to create a competitive cross-border region. A necessary strategy in cross-border cooperation is the implementation of cluster development policy, which will contribute to the competitiveness of euroregions. The implementation of the cluster approach in the framework of cross-border cooperation will make it possible to solve a number of tasks, namely, to improve the investment climate, to accelerate the overcoming of negative trends in foreign trade, to strengthen the processes of territorial division of labor, to increase the innovation activity of enterprises and the like. To implement such a production model, it is necessary for the Euroregion to assume the role of a "center" through which information is exchanged and cooperation activities are coordinated among the participants of the cross-border cluster.

According to the achievements of the cluster approach for regional development in Western Europe, an attempt was made to apply its basic principles for the formation of a cross-border cluster in the Ukrainian border region and to define the role of the Euroregions.

Thus, cross-border clusters are groups of independent companies and associated institutions that: are geographically concentrated in a cross-border region; cooperate and compete; specialize in different industries; share common technologies and skills and complement each other, ultimately enabling synergies and network effects, diffusion of knowledge and skills. However, it is emphasized that participants of cross-border clusters are located in different tax, customs and legislative environments of neighboring countries, although they may have joint ventures and organizations, use common infrastructure. The coordination of cross-border cooperation in most border regions is the responsibility of the Euroregion. This justifies the possibility and expediency of participation in cross-border clusters of euroregions with certain new functions, namely, as a coordinating body for cross-border clusters [2].

Cross-border clusters, in most cases, should be the result of regional strategies to develop cross-border cooperation. While in the EU countries, they operate in a uniform legislative environment, at the borders of Ukraine they operate in a very different legislative field so far.

Nevertheless, the cooperation developing in the border regions gives grounds to develop and implement a cross-border cluster concept, which should be considered because of the balance of gravitational forces between the two involved border areas. A prerequisite for this is a certain homogeneity between the borderlands in order to create a cross-border cluster as well as trade flows. Taken as a model of existence of a cross-border cluster means that it has access to the domestic market of each border country without any restrictions, unlike the border countries themselves, must first overcome the border between them. The corresponding effect is the difference between transport and transaction costs, as well as the reduction of employee mobility due to changes in administrative systems. These considerations raise the question of whether a cross-border cluster can be seen as an opportunity for border areas, such as economic prosperity and/or internationalization efforts. Another form of opportunity is to bridge the border across the cluster, which improves trade flows between the two border areas, which do not cooperate effectively, which is very likely for semi-dependent border areas. The converse means that a cross-border cluster becomes a threat because it has access to the most skilled workers from both markets and can obtain resources and place products from and into both domestic markets with less transaction costs and effort.

The interaction between the cross-border cluster and the Euroregion is a simplification of the border required for attraction: two centers, each with centripetal forces in relation to the resources around them in the border area, but limited by the border, which actually greatly increases the distance to the neighboring border area despite the fact that it is only a small territorial marker. Depending on the strength of the border's impact on the borderlands and the associated National Transboundary Cooperation, in some cases the border will look as if there is another border area between the two actual borderlands. A trans-border cluster located at such a border then profits from this virtual distance. As for a cluster, it does not exist at the border and across the border, which allows more direct access to resources on both sides of the border. Until now, the cluster can be considered as a centripetal center that attracts resources around it.

The effective operation of many territorial and production clusters in the Euroregions has demonstrated their significant competitive advantages over the activities of business entities that are not part of certain structural associations and their significant opportunities in the formation and development of Euroregions of Ukraine. Growing interest in the opportunities of territorial and production clusters in the development of cross-border

cooperation characterize the modern stage of formation of economic and organizational forms of production. In the last two decades the issue of the principles of activity, efficiency of creation and functioning of such associations has become more and more topical both in theory and in practice of Euroregional cooperation. Most of the cluster initiatives of the Euroregions of Ukraine are aimed at the development of tourism and spa business, but more and more actively declare themselves significant production and innovation programs.

It should be noted that in today's conditions clusters act as the most effective structural units, which have a significant range of issues in their further study: the expediency of creating a territorial and production cluster in the Euroregion, its adaptation to the conditions and requirements of cross-border cooperation, the definition of prospects for the development of cluster entities and their effectiveness in the conditions of European integration and integration into the global economic space [8-10].

The existence of a cross-border cluster in the Euroregion is a special case that extends the basic model of the new economic geography and requires additional conditions that need to be resolved. The reasons for this are to assess whether such a cluster is an opportunity or a threat to the nearby border areas on both sides of the border and what forms of cooperation are developing. A cross-border cluster in this context has an advantage over borderlands: it has access to local common resources, low transport costs, low barriers to exchange or pooling machines, human resources and other expensive internal resources.

Euroregional transformation can be perceived as a tool for strengthening cooperation between business organizations and numerous institutions involved in the innovation process: universities and other higher education institutions, private and public research institutions, providers of consulting and technical services, non-governmental organizations and the like.

All this can lead to the creation of new innovative models of Euroregional cooperation, such as techno-park type, which will be considered as a form of territorial integration of science, education and production in the form of associations of scientific organizations, design bureaus, educational institutions, manufacturing enterprises or their divisions in order to accelerate the development and implementation of scientific and technical and technical and technological advances.

As mentioned above, the effective implementation of the innovative economic model of Euroregional cooperation is facilitated by the cluster approach. The basis for clustering within the Euroregions is the creation of scientific, technical and logistics clusters. A scientific and technological cluster is an organizational structure that includes research institutes, higher education institutions, and enterprises where scientific and technological developments will be introduced.

The implementation of the scientific and technical cluster will make it possible to resolve the issue of renewing the material and technical base of scientific institutions and higher educational establishments, increase the share of innovation-active enterprises, increase the scientific intensity of GDP, create new jobs and improve the export potential of states on both sides of the border. Scientific and technical clusters can be developed based on existing technology parks.

Focusing on the institutional and legal prerequisites for the development of cross-border cooperation and cross-border convergence in the context of deepening European integration, it is necessary to pay priority attention to the formation of legal and regulatory framework, to promote the establishment within the Euroregions, cross-border clusters, cross-border technology and science parks, cross-border business incubators and the like. Each of the above-mentioned forms of transboundary cooperation development is aimed at overcoming a number of negative stereotypes that emerged due to aggravation of geopolitical and geo-economic confrontation between the main centers of political influence on the continent.

At the same time, within the limits of the specified forms of transboundary cooperation the role of an innovative component increases, including in a context of formation of bases of "economy of knowledge" that entails increase of quality of the human and social capital of frontier regions of Ukraine. In turn, this will help to overcome mental and socio-psychological barriers between residents of different parts of cross-border regions, which include the border areas of Ukraine and neighboring EU member states, as well as to level out threats of terrorism and the spread of elements of hybrid wars.

Transformations in the Euroregion play a key role in supporting innovation and development, and should therefore be seen as structures aimed at supporting innovation organizations. They do so not only by spreading best practices, but also by overcoming the isolation of organizations and the traditional structure of the hierarchical system. This will not only facilitate innovation, but can also represent innovation itself by offering opportunities for new ways of doing things and can provide resources to promote innovation and change, as well as contribute to major reforms. They offer the potential for mid-level processing by facilitating various forms of collaboration, networking and multifunctional partnerships, often referred to as "cross-structures". In this sense, transformation allows participants to implement associations and interact with their activities on common priorities. The main focus is not on achieving control, but on using interactive potentials.

Another aspect of the evolution of the institutional environment for cross-border transformation at the current stage of European integration is the modernization of border, information and communication, transport and logistics and marketing infrastructure facilities. In this context, special attention should be paid to the creation of an institutional

framework for innovation in cross-border information exchange networks, transport and logistics, cross-border movement of people, goods and services, and the like. In particular, this is important given the need to ensure relatively fast and secure border crossing with the EU, to minimize information asymmetries in the process of cross-border markets functioning and to form a homogeneous cross-border social and psychological environment.

The trends of global world processes require a new assessment of the place of border regions in the development of international economic relations. The aspiration of regions of many states to find their place among participants of international cooperation requires conducting researches of social and economic problems of border territories, which should result in appearance of project solutions and substantiations for their practical realization both on national and international levels.

CONCLUSIONS

Thus, the effect of transformation of euroregions will help to solve existing problems and give an additional impetus to the development of regions on the way of European integration of Ukraine. In this case, in order to eliminate obstacles in this direction, is a qualitative improvement in the legislative support for the development of cross-border cooperation and transformation of cross-border cooperation within the euroregions.

It should also be noted that the Euroregions created with the participation of Ukraine have not become poles of accelerating economic development and at the present stage remain declarative entities. In our opinion, for further transformation of Euroregions it is necessary to do the following: implementation of measures for gradual removal of administrative and legal obstacles hindering cross-border cooperation; development of comprehensive public programs of Euroregional cooperation and their proper financing; definition of criteria for assessing the competitiveness of Euroregions; implementation of cluster development policy. Solving these tasks in the complex will improve the investment and innovation attractiveness of the territory, accelerate overcoming negative trends in foreign trade, strengthen the processes of territorial division of labor, reduce the cost of manufactured products and improve social standards of quality of life of population.

Thanks to this Euroregion will become an important instrument of the mechanism of regional economic policy implementation, will have a positive impact on the development of border areas and the state in general.

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DIGITAL TECHNOLOGIES FOR PROFESSIONAL GROWTH AND INNOVATIVE DEVELOPMENT OF EDUCATIONAL INSTITUTIONS

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ABSTRACT

Academic teaching and learning strategies have been changed recently as a result of expanded access and widespread usage of digital technologies. Innovative digital technologies open various opportunities for all participants in the learning process, avoid stereotypes and enlarge cognitive interest. Awareness of high-tech innovations, their availability and mastery of appropriate methods are the current requirements for teachers of higher education. Our specific focus is on the usage of digital technologies: how they have been applied and how they could be used to improve pedagogical practice at the educational institution and identify their best challenges. Special attention was focused on digital technology usage for academic subjects. The survey was delivered to fourth-year students across Radio Technical Department of Vinnytsia Technical College during 2019-2020 academic year. BYOD technology, Augmented Reality, Net Test have been implemented in the educational process. The results indicate that digital technologies can effectively support teaching and learning processes and provide a better understanding of the academic material for students. As a conclusion, we suggest the majority of students use of digital technologies in their everyday life and as part of their academic study. The learning process is becoming more flexible and provide significant results in the educational process.

Key words: digital, educational, students, technology, innovative, college, usage, professional growth.

INTRODUCTION

Academic teaching and learning strategies have been changed recently as a result of expanded access and widespread usage of innovative digital technologies. Increasing of the informatization and knowledge role with wide-spreading of information technology requires a constant search for new ways to improve the educational process and academic disciplines content. Information and communication technologies open various opportunities for all participants in the learning process, avoid stereotypes and enlarge cognitive interest. Awareness of high-tech innovations, their availability and mastery of appropriate methods are the current requirements for teachers of higher education.

The aim of this study was to investigate new innovative digital technologies for improving professional growth and educational activity at the educational institution and identify their best challenges. Special attention was focused on digital technology usage for academic subjects. The survey was delivered to fourth-year students across Radio Technical Department of Vinnytsia Technical College during 2019-2020 academic year.

BYOD technology, Augmented Reality, Net Test have been implemented in the educational process of Vinnytsia Technical College and was used to update basic knowledge; to consolidate the studied material; for laboratory and practical training.

Pedagogical collaboration and professional experience sharing of innovative digital technologies usage are based on the studies presented here.

1. BYOD TECHNOLOGY USAGE IN THE EDUCATIONAL PROCESS

Modern Generation Z students openly use mobile phones in their class and no restrictions apply to them. If you can't ban it, you need to use mobile gadgets for learning process benefits. This situation corresponds to *BYOD technology* (Bring-Your-Own-Device), which is implemented in many leading global companies [9, 13]. This means that teachers and students can bring and use their own devices, which allows BYOD technology to be gradually integrated into the learning process. The learning process is becoming more flexible, students are happy to use their smartphones and tablets during classes.

BYOD technology allows speeding up the learning process and redirect students' interest. To keep the attention, the teacher has to think in advance what applications and learning technologies to use. For example, the services such as *Google Classroom, Edmodo, Learn Boost, Coursera, Schoology, Top Hat and Civitas Learning, Socrative* [8, 15] allow organizing and controlling the learning process, integrating visual materials to facilitate the topic perception.

Scientists emphasize that the usage of mobile tools in the learning process helps to overcome the communication barrier, form research skills, increase motivation for mastering soft skills, develop critical thinking and use them in real life [17]. In the article we have investigated some modern technologies that allow creating tests and implementing operational control of knowledge using network software for smartphones, tablets and laptops. The Internet Service *Plickers* [6], allows organizing testing with a single smartphone or tablet for a large number of students. QR-codes are used to organize testing in *Plickers* (Fig. 1). Decryption of QR-code information is carried out in the program by the smartphone or tablet camera.

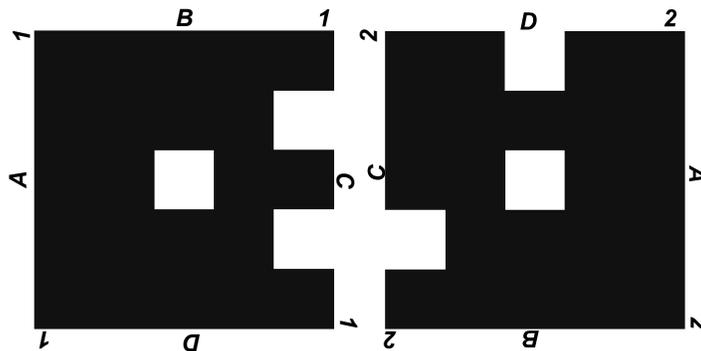


Fig 1. QR-codes in Plickers Service

Source: prepared by the authors

Each student has his own universal card with QR-code (Fig. 2) for all questions. Each card has the number and letters A, B, C, D. The question appears on the screen or in an oral form, students turn the card so that the correct answer is on the top and raise hands so that the teacher can point to the card from his phone with a QR- code the camera and scan the results. The results of students' answers immediately appear on the screen of the teacher's smartphone (Fig. 3) and they are displayed on the big screen and saved for further processing (Fig. 4).

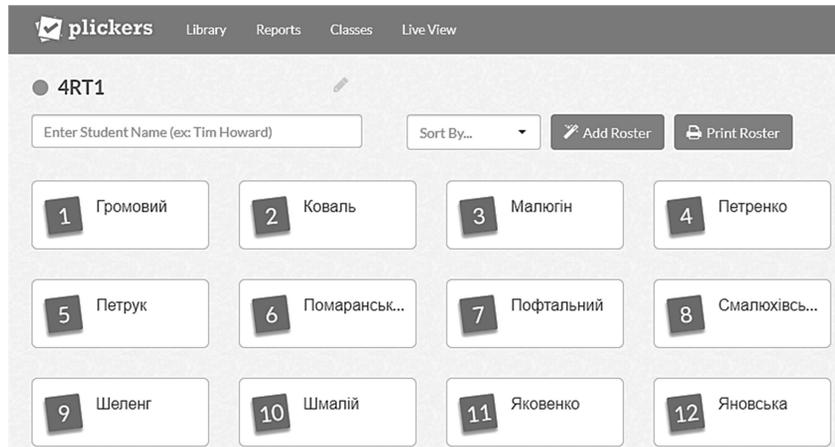


Fig. 2. Students' universal card with QR-code

Source: prepared by the authors



Fig. 3 The results of students' answers

Source: prepared by the authors

The teacher needs to create an account for organizing *Plickers* Internet Service control and install the application on a smartphone or tablet.

Card #	Student Name	Total %	Столиця П.	Столиця А.	Де знаход...	У якому м...	Найвищою...	99% терит...	Жителі як...	У якій кр...	Яка наймо...
		28%	50%	20%	30%	70%	20%	10%	30%	40%	0%
1	Грозовий	33%	C	B	D	D	A	A	C	C	D
2	Коваль	25%	B	B	C	A	D	B	D	C	C
3	Малюгін	33%	B	A	C	A	D	B	A	C	C
4	Петренко	42%	C	A	C	A	A	D	D	C	B
5	Петрук	25%	B	B	C	B	A	B	C	B	B
6	Помаранський	17%	B	C	C	C	B	B	D	B	C
7	Поптальний	25%	A	B	D	A	A	B	D	B	D
8	Смалюховський	~%	-	-	-	-	-	-	-	-	-
9	Шеленг	~%	-	-	-	-	-	-	-	-	-
10	Шмалій	42%	B	B	D	A	B	B	D	D	C
11	Яковенко	17%	D	D	A	A	C	B	A	D	D

Fig. 4 Students' achievements

Source: prepared by the authors

Free *Kahoot Platform* [5] is designed for learning in a gaming form that is suitable for any discipline. The teacher registers in *Kahoot! Service*, creates either a test (Quiz), or a discussion (Discussion), or a questionnaire (Survey). By selecting the Quiz Mode, the general information about the test is filled in (Fig. 5) and the test questions themselves are compiled (Fig. 6) which can contain pictures, audio, video data.

K! Quiz [Close] [Ok, go]

Title (required): Тест на знання української мови

Description (required): Тренувальний тест для ознайомлення з роботою сервісу

Cover image: [Remove] [Replace]

Visible to: Everyone [v]

Language: Українська мова [v]

Audience (required): University [v]

Fig. 5 Quiz mode in Kahoot Service

Source: prepared by the authors

K! Question 5 [Close] [Next]

Question (required): Славень - це:

Time limit: 20 sec [v]

Award points (required): YES [v]

Media: [Remove] [Replace]

Answer 1 (required): Гімн [v]

Answer 2 (required): Підлабузник [v]

Answer 3: Хвалько [v]

Answer 4: [v]

Fig. 6 Quiz Mode (test questions)

Source: prepared by the authors

The testing mode is called *the Play Mode* (Fig. 7). The image from the teacher's computer or laptop is displayed through the projector. A PIN-code (Fig. 1.8) appears in the image to enter the virtual room. Students use a browser or application for smartphones and type a special PIN code. Testing can be organized in the classic way, where everyone is on their own, or you can play as a team (there is an opportunity to discuss a common answer). Questions and answers are displayed on the screen. Each answer is shown in a different color with geometric shapes, which the student has to select quickly on a smartphone or tablet. Students' responses are evaluated by two parameters: correct answers and speed compared to other participants.



Fig. 7 The Play Mode

Source: prepared by the authors



Fig. 8 a PIN-code

Source: prepared by the authors



Fig. 9 QR code

Source: prepared by the authors

The service provides an opportunity to find out how each student responds and results chart of the group is created.

Goggle Forms is one of the common ways to conduct operational knowledge control by the teacher during the lesson [8]. To do this, a test is created on Google Disk, which is sent to students by e-mail or posted on the web resource. The QR code is also can be used (Fig. 1.9). It is printed out and distributed to students or removed from the projector before testing.

Before starting the test, each student fills in a form (Fig. 1.10.1), where he indicates the name, group, e-mail address to which personal results will come. When creating tests in Goggle Forms, it is necessary to configure the mode of mixing answers and questions (Fig. 1.10.2), so that the same questions do not come across students who are nearby.

Fig. 10.1 Starting the test in Google Forms

Source: prepared by the authors

Fig. 10.2 The mode of mixing questions

Source: prepared by the authors

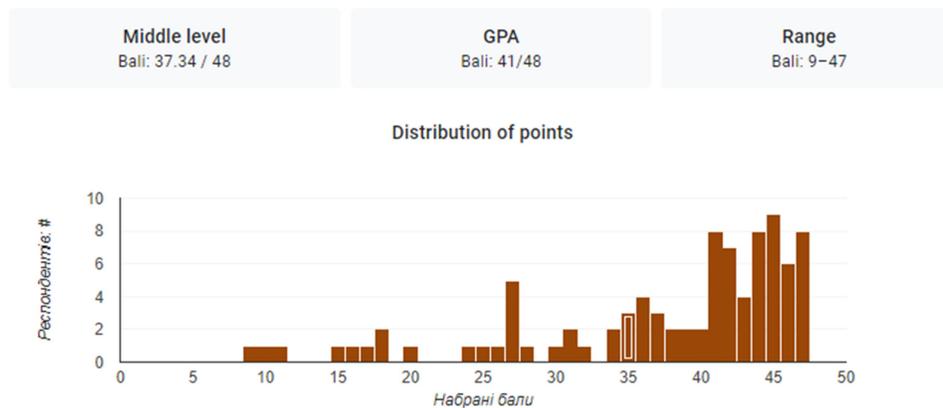


Fig. 11 Test results in Goggle Forms

Source: prepared by the authors

You can view and analyze the test results in Goggle Forms (Fig. 11) or in Google Sheets which are automatically created on Google Disk.

Zeeting is a simple and functional online tool designed to make it easy to manage presentations [18]. Zeeting service provides control over presentations at distance. The Zeeting service is used as an application for a mobile phone or smartphone. During the demonstration, the teacher switches from one slide to another in the personal account from a mobile phone and students who have gained access to the channel watch the presentation demonstration on their phones or tablets in real time. For working with the service, Zeeting account is created, the presentation is downloaded from the computer (Fig. 12).

The Zeeting application on the mobile phone starts the presentation (Fig. 13) and manages it. The computer to which the projector is connected is given the URL of the broadcast channel and the presentation starts automatically. Students also run the URL of the broadcast channel on their phones (Fig. 13).

Slides switching is done on the big screen directly from the web interface on the teacher's phone.

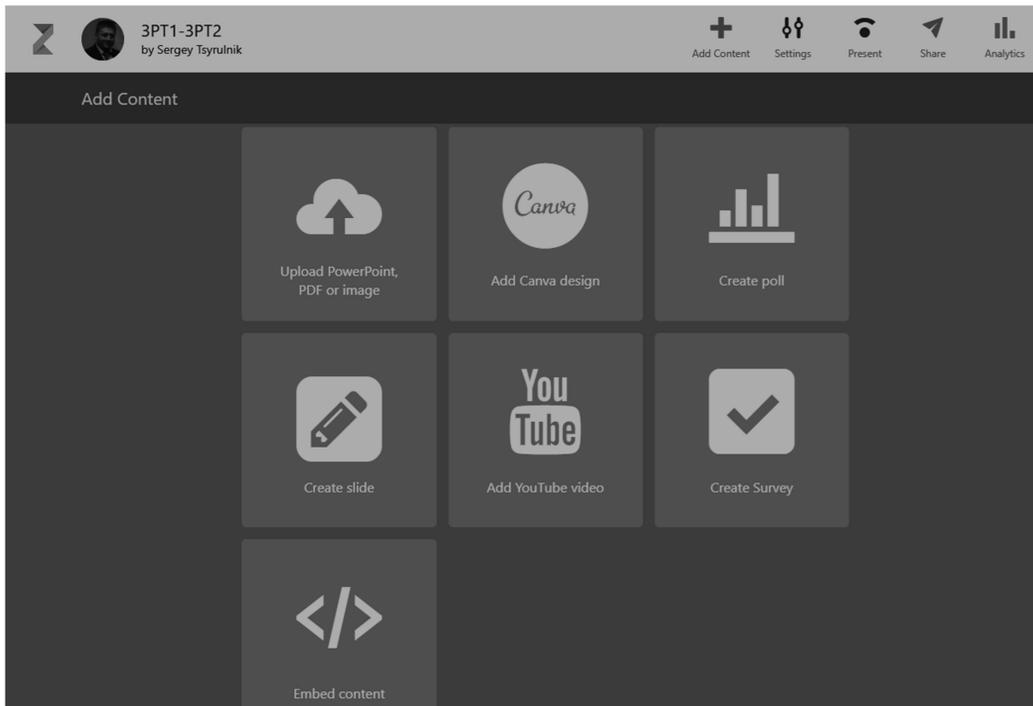


Fig. 12 Zeeting account is created

Source: prepared by the authors

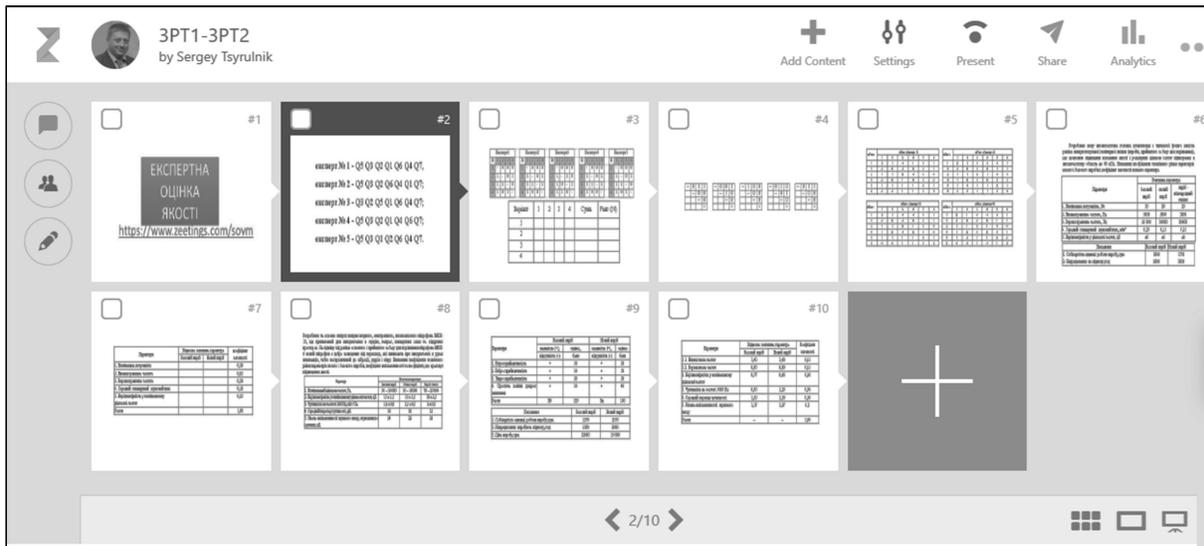


Fig. 1.13 Presentations in Zeeting

Source: prepared by the authors

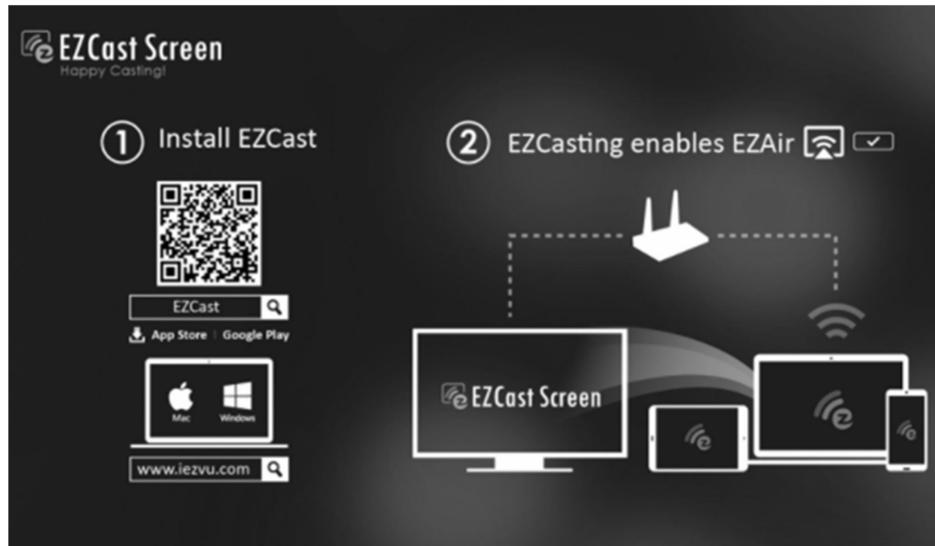


Fig. 14 EZ Cast Technology

Source: prepared by the authors

The usage of *EZ Cast Technology* allows broadcasting images, documents, spreadsheets, presentations, photos, videos from mobile devices on large screens in the Internet absence in the room [4]. EZ Cast technology provides teacher mobility and movement freedom of the educational audience during multimedia content demonstration, solves the problem of convenient presentation management, prevents control loss over student activities (Fig. 14). A modern student must have creative thinking, work in a team, use actively innovative information and communication technologies. The effectiveness of innovative tools, methods, pedagogical technologies depends on students' activity in the process of forming their knowledge, skills and abilities. Therefore, the introduction of BYOD allows speeding up the learning process and making it inquisitive.

2. AUGMENTED REALITY TECHNOLOGIES IN THE PROCESS OF TRAINING SPECIALISTS IN RADIO ELECTRONICS

In the following section we suggest Augmented Reality technologies in the process of training specialists in Radio Electronics. At this stage of our investigation, it is important not only knowledge amount that the applicant receives, but how to use this knowledge in practice, how to implement computer technology in the educational process with communication in classrooms. One of the newest promising technologies that can be used in the educational process is *Augmented Reality Technology* (AR) [2]. For implementing AR it is necessary to master programs or platforms that allow creating your own mobile applications that will be used in the educational process.

This is a fairly new technology that expands the range of available techniques, approaches. Modern technologies are developing, so the education modernization is only a matter of time [11].

Augmented Reality is the complementation of the physical world with real-time digital data. AR uses the environment around us and imposes a certain amount of virtual information on it, such as graphics, sounds and touch response [5].

Mobile applications with AR can significantly increase the interest of modern students in learning disciplines through the usage of advanced multimedia technologies, which allows us to visualize the most complex topics using almost any modern computer, tablet or smartphone.

Among the main advantages of AR in the educational process we suggest the following ones: *visualization* – facilitates memorization process and develops the abstract imagination; *clarity* – a three-dimensional approach allows exploring a device or phenomenon in detail; *curiosity* – real pictures on the pages of the textbook; *modernity* – mastering innovative technologies in the educational process; *portable and available training materials* – with AR you do not need to invest in physical materials and equipment.

AR technology is only taking its first steps in education. One such step is the international project "Augmented Reality in School Environments" (ARiSE), the main purpose of which was to develop an educational platform based on augmented reality technology and test the possibility of its effective application in general education in primary schools [11]. The educational resource on the latest technologies "The Future" [2] provides an opportunity to use educational materials using AR technology in computer science classes.

Based on the practice of using AR-application development (not-gaming/advertising/medical) tools, but in industrial projects and given the capabilities of AR-platforms to work with 3D-models CAD/CAM/CAE, we can identify the following platforms for developing AR-applications: *D-Fusion* from Total Immersion, *Metaio SDK* from Apple Inc., *Vuforia* from PTC (4).

The analysis of Internet resources showed that there are applications "AR Circuits 4D/Physics" [3, 5] and "Electricity AR" [7] for free usage in electronics and telecommunications.

Wiring diagrams in "AR Circuits 4D/Physics" consist of cards with components of the scheme on which it is necessary to direct the mobile device camera (fig. 15). The program supports the interaction between several cards (markers), thus providing learning in virtual reality.

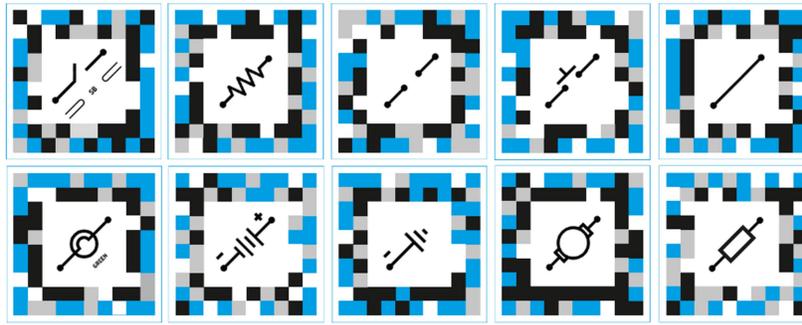


Fig. 15 Wiring diagrams in "AR Circuits 4D/Physics"

Source: prepared by the authors

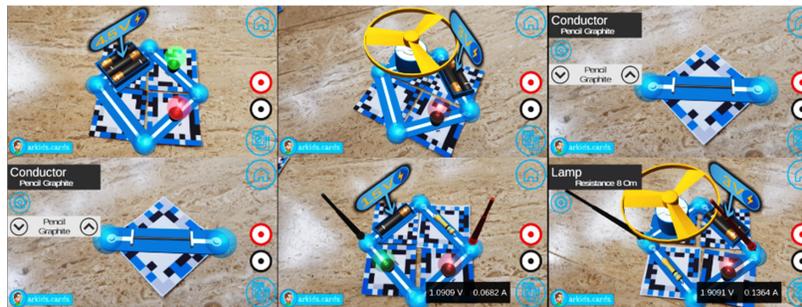


Fig. 16 Sequential, parallel and combined circuits

Source: prepared by the authors

The main components of electrical circuits are a battery, a switch, an incandescent lamp, resistors, an electric motor, a conductor, a ground. These components allow constructing sequential, parallel and combined circuits (Fig. 16). "Electricity AR" will teach to determine analog meters' parameters and make measurements using AR technology [7, 12]. The appendix contains measuring instruments of different design (voltmeters and ammeters) with 9 scales for main parameter determining (Fig. 17); eight 3D models of electric circuits elements with the corresponding symbols.

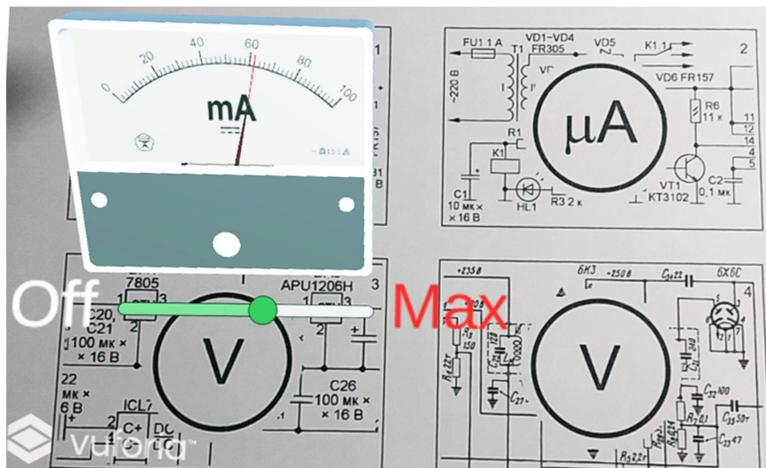


Fig. 17 Main parameter determining

Source: prepared by the authors

The AR Circuits 4D and Electricity AR applications are actually familiar, so the challenge is to learn how to develop your own AR applications that can be used for any academic discipline of higher education in Electronics and Telecommunications branch. This approach will develop students' motivation, as well as increasing of information assimilation level due to the diversity and interactivity of its visual presentation.

According to the latest results AR *Total Immersion*, *Metaio* and *Vuforia* occupy more than 80% of the market. *Vuforia* is considered to be the most popular platform.

Vuforia is a platform for creating Augmented Reality applications for phones and tablets on iOS and Android operating systems. The core of the platform is the QCAR library. In addition to the library, the platform includes: Vuforia SDK for developers, Target Manager (system for creating and managing targets), Web services (Vuforia Web Services) for storing targets [2, 10].

A *Target* is any real object, knowing that its application can place virtual objects in the right places. *Image Targets* is a basic type of target, which is a normal picture, such as a diagram, photo or brochure. The image acts as a kind of two-dimensional barcode, only without black and white stripes. It determines which image got into the camera lens, as well as its location in space and scale. Good targets are those that have a lot of contrasting details. The support matrix is built with these parts help for further target recognition.

Simple 3D targets (Cube and Cuboid) are targets in the form of rectangular parallelepipeds (including a cube). For example, such a target may be a package from under the designer, a board game. Like any box, such a target consists of six planes and to create it, you need six pictures for each of them.

Cylinder Targets is a truncated cone with the ability to set the diameters of the bases. In order to create such a target, we need not only to specify the diameters of the bases and height, but also to add three pictures - one for each of the two bases and another for the side surface.

Frame markers are the targets in the form of a specially prepared frame, which is more like a barcode. You can put any picture in this frame. This type of target is used if the image was not sufficiently detailed and it was not possible to create a reasonable image target from it.

Text (word targets). The Vuforia library also has built-in text recognition, so any word or combination of them can be a target. Currently only Latin is supported. This can be used to study foreign technical terms. The targets types of the Vuforia program are shown in Fig. 18.



Fig. 18 Vuforia targets types

Source: prepared by the authors

Depending on the targets number required for the application, you can either store them in the so-called Device Database and always have access and recognize them directly on the device, or transfer to Cloud Databases (service from Vuforia Web Services) to store targets and determine them based on data sent from the device. Both approaches have their pros and cons, but deciding on the purpose of the application will not be so difficult to choose. Moreover, targets can be created directly from the application, using the resulting image from the camera.

It is also worth noting that QCAR does not require the entire target to hit the frame. Only a part will be enough to recognize and use it.

With Vuforia, the developer can easily add static and dynamic 3D models (any 3D object or complex animation), virtual buttons, allow interacting with real objects, for example, it can be a button on the target, pressing which launches a simulation of electronic or measuring device, which can be viewed only through the smartphone screen), video and pictures (allow replacing the target or make it more alive), change the background of the picture from the camera (you can not only supplement the picture but also operate with it). To work with models in AR systems "3D-Engine", Unity3D are widely used (computer game development environment Windows, iOS, Android) [3].

The aim of creating augmented reality applications is to create a project and project objects in Vuforia, and the development of 3D scenes for the objects of this project is carried out in Unity 3D. In this case, Vuforia is responsible for identifying the project through the License key and binding to the future scene of the virtual 3D-object (3D-model) will be carried out through the label (Target), which is defined in the Vuforia platform. All operations with Vuforia (with the project, objects) are carried out through the web-interface, that is, Vuforia is a cloud application. And processing with Unity-3D is carried out directly on the developer's computer locally. The connection between the Vuforia cloud project and the local scene processing in the AR application being created should be done by importing the prepared project objects from the Vuforia cloud into the Unity-3D editor environment and complementing the scene with 2D images or 3D models.

We suggest a typical procedure for creating a simple AR application. It is proposed to develop an AR application for Android devices when hovering the device camera on a

real label (image on paper) the user will see a pre-prepared 3D model or 2D-image (operating instructions, explanations, another picture, video, etc.) on the device screen in the playback area.

The application is created by the Unity system, which can be downloaded for free. If you have a 64-bit operating system installed on your computer, it is recommended that you download the latest versions (2018, 2019, ...) that already have the Vuforia augmented reality system integrated. If you have a 32-bit (x86) operating system installed on your computer, you have to install Unity version 5.6 and install the Vuforia package for that system.

We observe main steps:

1. Create or find a 3-D model. The resulting model should be in .fbx format. If the model is created in another format, it must be converted to .fbx one.

Model requirements:

- the number of polygons (triangles): the minimum is possible (for fast processing of the model by a mobile device). If the number of landfills is significantly more than 10 thousand, you should check small curves ("rounded" elements). As a rule, they give the largest number of polygons that do not affect the resulting appearance of the model. If these are found, they should be replaced with elements of the same size, but more "angular".
- the size of textures for small elements (which occupy no more than a quarter of the area on the screen) should be chosen no more than 512 x 512 (for very small you can take 128 x 128 or even 64 x 64). The exception is the same texture is superimposed on several elements of different sizes. Then the best sizes of this texture will be 512 x 512 or 1024 x 1024.

2. Select the image that will be the key (when pointing at the device camera a 3-D model will be displayed).

Image requirements:

- the size of the smaller side must be at least 320 points;
- the image must contain contrasting elements distributed over the entire area. In most cases, we should slightly increase the contrast in the photo editor and possibly make the image sharper (sharper);
- the image has less identical repeating elements;
- the image can be both color and black and white. In any case, the recognition algorithm processes only the black and white image (brightness channel).

3. Register on the Vuforia platform. We create a free developer license for a new product (distribution of applications with such a license is legal only for non-commercial use).

We add key images. After loading each image, the system evaluates it in terms of recognition stability (see image requirements in the previous paragraph) and provides a rating. If the rating is 4-5 stars, the image will be recognized stably. If there are fewer stars, you should consider changing or editing the image. Next, download these images as a Unity package.

4. Launch Unity and create a new project [16]. The standard camera that is present in any new project is removed, instead we add to the project an AR camera from Vuforia (Vuforia – Prefabs – AR Camera). You can place it anywhere. In the camera settings ("Inspector" window) specify the license created on the site (just copy to the appropriate field). We connect to the project a package with key images (Assets – Import package – Custom package). We create a new key image (Vuforia – Prefabs – Image target) and attach one of the prepared images to it. If the key image is not displayed (Image target just looks like a white rectangle), in the Project window in the Editor – Vuforia – Image Target Textures – "Name the key image database created on the Vuforia site section" – only then all key images are seen. For each of the images, select Texture shape – "2D" in the "Inspector" window. We load the prepared 3-D model (Assets – Import new asset), add it to the scene and make it a "descendant" of the corresponding Image Target. It is convenient to check the correct operation of the program in the presence of a Web-camera (just click "Play" and point the Web-camera at the printed key image).

5. The mobile application is created directly in the Unity system. To do this, turn on the Build mode in the Unity 3D editor: File - Build Settings. In this window, select our scene in the Scenes to build section and go to the hardware settings in this operating system – the Player Settings key.

Settings specific to the selected platform (iOS or Android) are made in the section Edit – Project Settings – Player.

After completing all of these settings, you can perform the Build operation by clicking the Build button at the bottom right of the Build Settings window. As a result, we get a request to place *.apk file* of the AR program that is being created on the local machine.

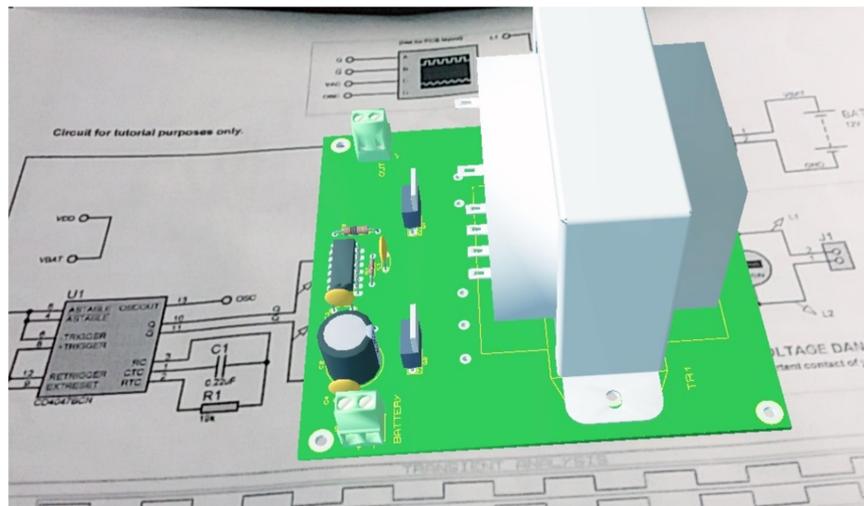


Fig. 19 A mobile application for working with AR objects

Source: prepared by the authors

To compile *.apk file*, firstly you have to install Java DK and Android DK on the local machine (Windows). These are free apps available on developer sites (Oracle and Android). If it has not been done in advance, you will have to perform this procedure during the compilation process, responding to the appropriate system requests.

The *.apk file* developed by the AR application is stored in the local file system. Now it remains to download it to the Android device in any known way.

The DC-AC converter circuit is used as an example of development. For this purpose, the package of automated design of electronic circuits Proteus Design was used [14]. The package was used to prepare a diagram, a printed circuit board and a 3-D model in *.3ds format*, which was converted to *.fbx format* using Autodesk FBX Converter. Vuforia creates targets (DC-AC converter circuit), Unity3-D creates a 3-D model for targets and creates a mobile application for working with AR objects (Fig. 2.5).

Currently students of Vinnytsia Technical College are working on creating textbooks using augmented reality technology learning "Fundamentals of repairing and regulation of Radio Technical Equipment", "Fundamentals of design and manufacturing technology of Radio Technical Equipment".

Visualization of materials for academic disciplines "Electronics and Telecommunications" will contribute to greater activity and interest of higher education students. Augmented reality opportunities such as dynamic presentation of information, documentary video, interactive stimulators (3D modeling), hyperlinks to clarify information are more attractive to the current generation and should improve the acquisition of professional competencies.

3. CONTROL AND DIAGNOSTIC SYSTEM NET TEST AND FEATURES OF ITS IMPLEMENTATION

Monitoring and assessment of students' knowledge, skills and abilities is an important element of the educational process. Properly organized, it promotes the development of memory, thinking and language of students, systematizes their knowledge, timely exposes the miscalculations of the educational process and serves to prevent them. Basic methods of control of knowledge, skills and abilities as oral examination, written examination, graphic examination, practical examination, test examination are widely used in higher education institutions for the training of technical specialists. So the question is what form of control is most objective for assessing knowledge?

The most effective form of knowledge control today is testing tasks. Test control has a number of advantages. First, it helps to achieve optimal performance of all elements of the learning system by providing feedback aimed at the educational activities of teacher and student. Second, feedback determines the dual nature of control. This is reflected in its implementation in the current (integrated) and final (relatively independent) forms [1].

The problem of monitoring learning outcomes has recently been actively studied by teachers, psychologists, sociologists. However, despite the significant amount of work on learning control, it should be noted that the issue of computerized test control of student achievement is insufficiently studied.

To implement computer testing in educational institutions that do not use the learning management system, use specialized software development. There are a large number of software packages for this purpose, such as Sun Rav, Test Office Pro, Web Quiz, Course Lab, Adobe Captivate, Hot Potatoes, Assistant, Test-W2, My Test, Net Test [4, 19].

The interest in testing is explained by the fact that it significantly increases the efficiency of the educational process, optimally promotes the full independence of each student, is one of the means of individualization in the educational process. The test technique controls the reader's attention and focuses on relevant information, takes little time, minimizes productive difficulties. In addition, the application of tests stimulates the intellectual activity of the student: analysis and synthesis, generalization and specification, comparison and distinction. In addition, test control has many advantages over other types of control.

The main distinguishing feature of the test is objectivity, which is guaranteed by measurement, the function of which is to provide quantitative information about the quality of learning. At the same time, it allows the teacher to check a significant amount of material studied in small portions and diagnose the mastery of this material by most students.

But one of the disadvantages of test control today is that the developed methods are aimed at testing the actual knowledge of students and do not take into account the potential opportunities for personal development, they are only evaluative, not predictive.

Due to test control, you can successfully manage the educational process, improve it, implement a differentiated approach to students.

Test control simplifies the testing of test works, especially when testing is performed on a computer using control and diagnostic systems. In this case, the teacher does not require additional material costs, such as paper, printer ink.

The Net Test [1, 19] software package is designed for mass computer testing of knowledge in a local network running Windows and Linux operating systems. It fully automates: the procedure for selecting questions from the database; time-limited testing on workstations; processing of test results and their design; analysis of results (which issues caused difficulties).

The complex consists of two programs – server and client. The server program allows creating and editing tests, it also provides complete control of computer testing, processing and output. The client program is run from workstations and is designed for student work.

Both programs have a well-thought-out and user-friendly interface, they are built on the principle of "minimum sufficiency" – implement the necessary functions in an optimal way. The student's workplace does not require the installation of any programs, just make a shortcut to the client program hosted on the server.

Each text is a set of questions; the student's task may be as follows:

- choose one correct option;
- note all correct statements;
- enter the answer - an integer;
- enter the answer – a character string (there may be several options for correct answers);
- establish correspondences between pairs of values Fig. 20).

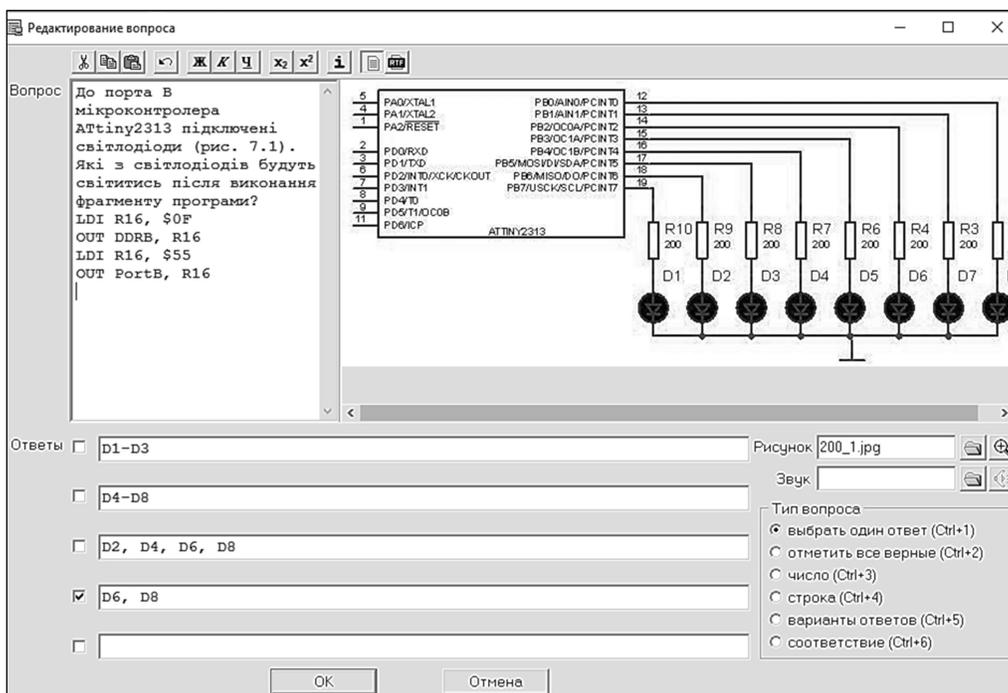


Fig. 20 Correspondences between pairs of values

Source: prepared by the authors

Each question can be associated with an illustration of any size (supported image formats BMP, GIF, JPG, as well as formatted text in RTF format) and / or a sound file in WAV format.

When creating a test, a time limit is set for the entire test. When starting the test, the teacher can change this option. After the specified time, the client program automatically terminates.

The number of questions in each test is not limited. When running the test, the teacher determines how many questions are used in the current test. Questions are selected from the database at random, with all workstations receiving the same set of questions, but in a different order. The program allows controlling the process of passing the test by students through the teacher's computer, set the number of test tasks, time for their passage, the rating scale. The test can contain any combination of any number of one or different modules (multitest (Fig. 21). The sequence of display of questions from the test, the location of the answer options on neighboring computers is different. Thus, each student receives his own, different from the neighbors, a set of questions and answer options.

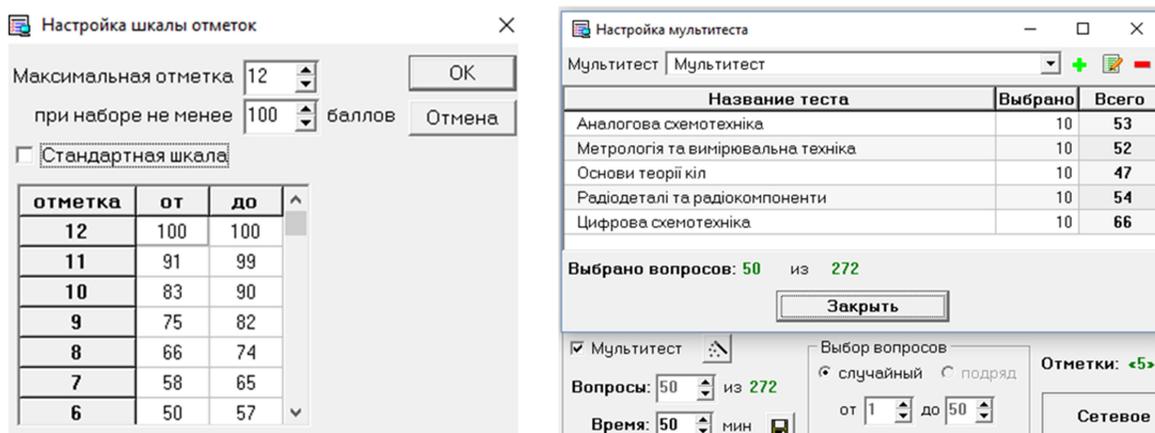


Fig. 21 Different modules of multitest

Source: prepared by the authors

The test file is encrypted and compressed. Finally, with the correct selection of control material, the content of the test can be used not only for control but also for training. To do this, test tasks can be exported to a web page (Fig. 22)

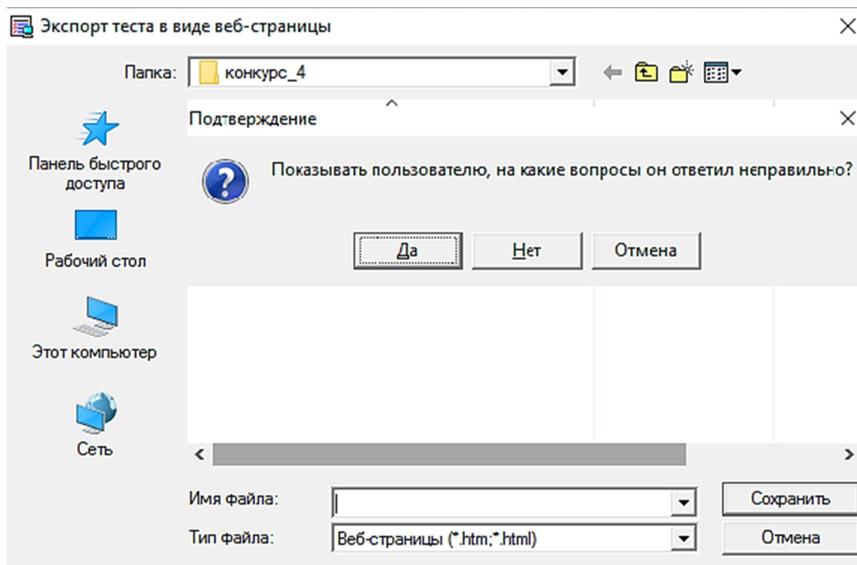


Fig. 22 Test tasks export

Source: prepared by the authors

The usage of test tasks in automated control and training programs allows students to independently find gaps in the structure of their knowledge and take measures to eliminate them. In such cases, we can talk about the significant learning potential of test tasks, the usage of which will be one of the effective areas of practical implementation in the educational process. The disadvantage of Net Test is that it does not allow inserting different characters used in formulas, so all formulas are presented in the form of figures.

The Net Test software package has been implemented into the educational process of Vinnytsia Technical College for Radio Technical Department. The main distinguishing feature of the test is objectivity, which is guaranteed by measurement, the function of which is to provide quantitative information about the quality of learning. The Net Test software package helps to increase the efficiency of studying professional disciplines and allows the teacher to check a significant amount of studied material in small portions and diagnose the mastery of this material by most students.

CONCLUSION

The survey was delivered to fourth-year students across Radio Technical Department of Vinnytsia Technical College during 2019-2020 academic year. BYOD technology, Augmented Reality, Net Test have been implemented in the educational process of Vinnytsia Technical College and was used to update basic knowledge; to consolidate the studied material; for laboratory and practical training.

The results indicate that digital technologies can effectively support teaching and learning processes and provide a better understanding of the academic material for students. Innovative methods and technologies provide professional growth, competitive advantage and innovative development of the educational institution. The effectiveness of the latest tools, methods, pedagogical technologies facilitate and accelerate students' knowledge, intensify the process of learning, increase its effectiveness.

As a conclusion, we suggest the majority of students use of digital technologies in their everyday life and as part of their academic study. The learning process is becoming more flexible and provide significant results in the educational process.

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ONLINE LEARNING IN FINE ARTS FOR INCLUSIVE EDUCATION

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ABSTRACT

As of late, a network of educational institutions is arising in Ukraine and universally, introducing inclusive education programs for children with atypical development, who need help in obtaining education, correction and finding prospects for integration into society. Today, the number of such children is increasing, so it becomes an imperative to form conditions for them to receive a qualitative education. Online learning can become an integral part of shaping the educational and correctional space for children with special needs. This will allow such children to learn the basics of fine arts and effect their creative potential. The peculiarities of psychological and pedagogical influence of graphic activity on the development and professional growth of students with special needs have been proved by scientists, which greatly contributed to the promotion of methods of online teaching of fine arts in schools and universities. Such training is recognized as one of the important means of correction. It was also noted that art is an important factor in mental development and cognition of the world. In the modern conditions of technological innovations, it is important to introduce modern graphic computer programs and skills of using them into the educational process of fine arts. The introduction of modern innovative technologies is aimed at improving creative skills of students, developing their skills of independent creative work. Application of computer graphics programs becomes especially useful for the implementation of creative projects. Modern graphics computer editors for various graphics systems enable to create and improve images.

Keywords: *online education, children, students, inclusive education, fine arts, innovative technologies.*

INTRODUCTION

Studies in the field of development of mental processes of children with intellectual disabilities have shown that drawing, as a form of activity, includes many components, and in this regard it should be considered an important factor in the formation of personality.

It is no coincidence that drawing was regarded by researchers in various aspects as a means of both pedagogical influence, and psychological and pedagogical development of the child. According to the research by L. S. Vygotsky [15], S. L. Rubinstein [20], A. N. Leontiev [13] and other prominent domestic psychologists, the child's psyche is most actively developing and rebuilding in the creative process. Drawing as a form of activity includes many components of mental processes and in in this regard it should be considered as an important factor of formation of the person. K. D. Ushinsky [24], a famous teacher in the former Russia, urged that education should be based on the direct perception of children, rather than on abstract ideas and abstract words: «To develop students' thinking, it is necessary, above all, to form their ability to observe. This requirement of didactics is very important, because a child thinks in shapes, colors, sounds, feelings in general ...».

Academician V. M. Bekhterev wrote that «a child's drawing is an objective witness to the manifestations and development of the child's psyche. «...» [4].

«However, in the early stages of the formation of special pedagogy, drawing was not considered a means of multifaceted development of mental activity of the child. It was considered mainly as a means of charitable influence on the general condition of children with developmental abnormalities and, in particular, on their emotional and motion-and-motoric sphere. Psychological and pedagogical study of the peculiarities of the graphic activity of mentally retarded children by scientists has greatly contributed to the scientific substantiation of methods of teaching drawing in a special school. Teaching children to draw has been recognized as one of the important means of correction. It was also noted that art is an important factor in the child's knowledge of the surrounding world» [4]. The exceptional importance of drawing classes was emphasized by other specialists.

It is important to study the features of modern online teaching of fine arts as a form of activity that includes many components of personality formation and is a means of psychological and pedagogical education of a child.

1. ONLINE LEARNING IN FINE ARTS

The development of the information space in society causes changes in almost all spheres of life: from politics and government to education and culture. The availability of information and communication technologies (ICT) dramatically changes the way we work and simplifies the processes of acquiring knowledge, sharing experiences and interacting between people. Interstate and intercultural borders become more transparent in the virtual world of computer networks. The transition to the information society radically changes the usual principles: receiving more and more information from various sources, we must constantly review our ideas that are formed in the mind to meet the needs of reality [6]. The need to form in the younger generation the skills of independent, critical thinking, social adaptation and orientation in the information space puts forward new demands to the content of education, updating and modernization.

In addition to the educational component of the inclusive education, there are also areas of professional employment, integration into society, and so on. Such education should be based on the principles of universal access to scientific knowledge, common striving for development and self-improvement. An important principle of the transition to more informal forms of learning is the desire to learn and do so naturally, with greater freedom of access to scientific sources.

The development and implementation of the principles of humanism and openness in education contributes to social progress and comprehensive intellectual and spiritual personality development. Responding to the needs of the individual and society as a whole

brings us closer to the establishment of an educational paradigm, which is the need to ensure equal access to quality education for everyone, regardless of personal limitations.

«Failure to get an education deprives people with disabilities of the opportunity to get a profession, a decent salary and public recognition. The World Bank estimates that 20% of the world's poorest people have different forms of disability. The level of literacy among people with special features of psychophysical development (in the global dimension) is only 3%, and unemployment – 80%» [23]. A partial solution to these social and educational problems is possible by increasing accessibility of ICT for certain categories of the population, introduction of open access repositories with educational and scientific content, which will provide alternative ways of acquiring knowledge despite time or space limitations [20].

The national system of special education can no longer fully meet the demands of society and needs a comprehensive overhaul. ICT can be a significant factor in positive changes, as their use allows to attract more participants in education at lower costs, opens wide prospects for improving the quality of education, its accessibility for people with mental and physical disabilities, promoting equal access to information and educational services. It becomes possible to meet the demands of social justice for all groups of the population, full social integration.

In the historical context, the development of society and social attitude to the problems of disability in Ukraine underwent stages related to the prevalence of one of three paradigms:

- guardianship (providing basic elementary care aimed at supporting basic life functions);
- social exclusion – segregation of persons with disabilities (their isolation within special institutions);
- social inclusion – integration of persons with disabilities into society as its equal members [22, p. 116].

From the 60s to the 90s of the twentieth century, the concept of integration (or normalization) is becoming widespread in Ukraine, as in many countries around the world, defining the policy towards the people with special needs for physical development (SNPD). During this period, the process of integration of children with developmental disabilities into the environment of peers becomes the norm. Integration in this context is seen as a process of assimilation that requires a person to accept the norms characteristic of the dominant culture. This concept is based on the idea that:

- a) the life and way of life of persons with special needs for physical development should be as close as possible to the conditions and lifestyle of the society in which they live;

- b) the society must change its attitude to the people with SNPD and ensure the protection of their rights and interests;
- c) the society should determine the ability of persons with SNPD to master various activities;
- d) the persons with SNPD must accept the conditions and lifestyle of the society in which they stay and adapt to them.

The concept of normalization also means that: 1) a child with SNPD has common needs for all children, the main of which is the need for love and the environment that stimulates his/her development; 2) the child should lead a life as close to «Normal» as possible; 3) every child may study, regardless of how difficult are the developmental disabilities, so everyone should have equal access to education services» [20].

The normalization consisted of new ideas that opened wide prospects for people with SNPD, based on education and training in accordance with the established cultural norms of the society in which they live [19].

At the same time, the normalization of life did not mean that a person with SNPD becomes «like everyone else», i.e. a person without violations. It meant that a person's life becomes normal, as that of other members of society. The normalization of life, as a principle of correctional and educational work, does not aim to change the individual, but corrects the influence of the external environment on his/her behavior and life. One of the most important tasks of normalization is to teach a person to use the means of interaction and communication that correspond to his/her individual characteristics.

Modern researchers emphasize the need to introduce humanistic, personality-oriented, humanitarian approaches in education. The humanization of education means respect for the individual, trust in him/her, acceptance of his/her personal goals, requests and interests; creating favorable conditions for the disclosure and development of her abilities and talents, a full life at each of the age stages for his/her self-determination. The essence of the pedagogical process of humanized education is the development of personality.

Today it is necessary to pay attention to the professional skills of a teacher of fine arts as to the implementation of the pedagogical process in the context of online teaching of pupils and students with special features of psychophysical development, substantiation of the methodological principles and pedagogical conditions for the effectiveness of the process of such training.

The peculiarity of the individual trajectory of development will depend on the teacher, on his willingness to cooperate with students with specific psychophysical development. That is why it is important for the teacher to realize the need to master the

knowledge of organizing the inclusive education, cognitive, professional and humanistic values.

When teaching fine arts, in the process of conducting theoretical and practical distance learning, the teacher must focus efforts on the formation of professional skills, abilities and talents of learners in artistic activity, namely:

Therefore, the teacher must have the following arsenal of skills: ability to set goals: to determine the educational, upbringing and developmental purpose of such classes of fine arts, of individual classes, educational activities; motivate activities during the lesson through the introduction of various techniques; diagnostic ability: the ability to determine, in the process of conducting classes in fine arts, the age-related and individual characteristics of students; the zone of their actual and immediate development, the level of educational opportunities; the level of formation of personality qualities; ability to predict: the ability to model the learning system in online learning classes in fine arts; individual development trajectory; content and attractiveness of the task; constructive ability: the content of constructive skills in such training in fine arts is the ability to build the structure of classes of different types for different-age categories, select effective methods and techniques, visual aids and equipment; transform the content of education into an accessible, attractive form for learners; use modern pedagogical technologies; develop plans of classes of fine arts, programs of interaction with learners; develop programs of individual professional growth in visual literacy; information ability: the ability to select the desired content of education from textbooks, manuals, periodicals, electronic media for the implementation and promotion of educational, developmental and pedagogical knowledge of fine arts.

The essence of the information ability is the ability to organize one's own time. It is advisable to distribute the time of online learning in fine arts; effectively use pedagogical drawing with the help of computer programs; organize learners for performance of creative educational tasks, direct their independent cognitive activity, independent creative work at classes on fine arts; explain the content of tasks and instruct learners on how to perform those tasks in a fine arts lesson; effectively combine different types of learning tasks according to age and abilities; manage individual, pair, group, collective and frontal online work of learners during classes; communicative ability: the communicative ability is featured by the ability to establish contact with learners, colleagues, parents; build relationships on the principles of humanism, tolerance and respect; inspire confidence of students, their parents, colleagues; build effective interaction; highlight the main points in the training material; master the pedagogical techniques in the classes of fine arts; control and evaluation ability: knowledge and ability to provide control over the work of learners in fine arts, monitor and account for their individual professional growth and advancement on

their own trajectory of development; ability to keep electronic journals of training; stimulating-corrective ability: the stimulating-corrective ability is featured by the ability to notice and approve the successes and achievements of learners in art classes, use verbal assessment, means of moral encouragement; analyze the successes and shortcomings of one's own activities, the activities of learners; make the necessary adjustments to one's own activities, the activities of learners in the process of studying fine arts.

The teacher must also comply with the following conditions:

- professionalization of the pedagogical process, the teacher's own example;
- building humane psychological and pedagogical relationships;
- maximum use of the content of psychological and pedagogical disciplines;
- combination of traditional and innovative teaching methods and technologies;
- providing professionally valuable motivation;
- systematic monitoring of training;
- creating a situation of success, reflection.

Therefore, it is important for teachers to clearly define and understand the components of readiness for the online teaching in art, to work with learners with peculiarities of psychophysical development in the conditions of inclusive education – motivational, meaningful and professional. Thus, by using different types of educational activities of students, it is possible to create conditions for quality teaching the basics of fine arts, as the basis of inclusive education is an ideology that denies any discrimination in education, provides an individual attitude to all learners with special needs.

The online learning of drawing has been recognized as one of the important means of correction. It was also noted that art is an important factor in the child's knowledge of the world around him. Depictive activities require the child to show versatile qualities and skills. In order to draw an object, it must be well considered to determine its shape, structure, characteristic details, color, position in space. The requirement to convey in the picture the similarity with the depicted object makes the student notice such properties and features in it, which, as a rule, do not become object of attention at passive supervision. During purposeful drawing classes, students begin to make better comparisons, easier establish similarities and differences between objects, the relationship between the whole and its parts.

Mastering the skills of drawing contributes to the implementation of sensory education. This is achieved by students carefully studying the size, color and structure of objects. At the same time visual, motor and muscular-tactile analyzers are included in work. As a result of learning, fuzzy, amorphous, poorly differentiated perceptions of children gradually become clear, specific, skillful. In the process of well-organized online

learning activities, students develop watchfulness, imagination, visual memory, fantasy. They form and refine many ideas that serve as a basis for the acquisition of knowledge obtained in the general learning process. This stock of creative imagination allows students to better understand and depict the world around them.

The development of children's perceptions, ideas and other mental processes is impossible without the active participation of thinking. The role of drawing in the development of perception of space and spatial representations should be especially emphasized. In the course of artistic activity the student is forced to perform a number of intellectual operations: to comprehend the structure of the visually perceived object, to outline the sequence of drawing, to compare the drawing with the object, to compare parts of the drawing with each other, etc.

Analysis, synthesis, comparison, planning and some other mental actions ensure the correct execution of the task. Purposeful drawing classes actively contribute to aesthetic education. The concrete and practical nature of classes creates favorable conditions for the mobilization of positive opportunities for mentally retarded children, which allows to have their emotions and intellectual activities more successfully managed.

A full perception of the world around us is necessary to prepare a person for life, for socially useful work. To form an aesthetic perception is possible only at a certain level of development of the ability to analyze. We are talking about the level at which a child is able to clearly imagine the object as a whole and mentally highlight its individual properties. Various exercises performed by students at online learning classes are aimed at the development of such an analytical perception. Particular attention is paid to instill the skills to determine the most characteristic features of a subject: structure, shape of parts, colors, position in space. To do this, visual perception in the initial period of training is augmented by other analyzers, including touch and motor sensitivity.

Classes in fine arts allow you to quickly determine the state of motor skills of the student, his leading hand, the degree of coordinated action in performing a creative task. With the help of graphic tasks it is easy to establish how independently the student differentiates geometric figures of different shapes, finds figures of the same shape but different size and color, correlates the object of the image with one or another form.

Well-chosen visual aids cause positive reactions in children. Their use provides an interested attitude to work and thus increases the efficiency of the educational process.

It should be emphasized that perception acquires an aesthetic character only in cases when students learn to rejoice in connection with the perception of artistically made product, feel admiration and pleasure. Such emotional experiences promote the development of intellectual regulation of senses, give them the right direction. As a result, the aesthetic perception of paintings, patterns, products of applied art is formed. The clarity and

specificity of the educational material, which represents a certain aesthetic value, in combination with the emotional nature of such learning, exacerbate the feelings of students, especially the sense of color, color combinations, rhythmic constructions. A well-developed sense of color is the basis for the development of the ability to consciously perceive the richness of colors in nature, in the surrounding reality. The better students can distinguish colors and shades of color, the more fully they can feel the joy of looking at beautiful color combinations in household items and works of art. Aesthetic feelings and experiences become more stable and meaningful. Of particular importance for the development of aesthetic perception and aesthetic feelings is a systematic online demonstration of paintings, sculptures, products of folk artists, toys, etc. At the initial stage of learning, students get acquainted with illustrations in children's books.

The aesthetic impact of colorful, elegant pictures is undoubtedly great. Aesthetic perception presupposes the presence of interest not only in the content of the work of art, but also in the means of image. Through images of art it is possible to show children the richness and variety of shapes and colors of the world around them. Composition is of great importance for understanding the artist's plan. The characters, arranged in a certain way, can emphasize the main idea, which facilitates the perception and understanding of the image.

The online classes in fine arts positively affect the development of emotional and aesthetic perception of senior schoolchildren and university students. Through regular classes, they are able, in particular, to determine the main idea of the work of art, understand the relationship between the characters, describe the depicted action. Under the guidance of a teacher, they can compare one picture with another, conduct a comparative analysis, identify the pictorial means used by the artist. Senior schoolchildren (students) start to have favorite paintings and preferred artists. Yes, acquaintance with art expands their horizons, teaches to see and experience the beautiful. Perception of works of art affects emotions, increases receptivity and activity, leaves a noticeable mark in minds of children.

2. INTRODUCTION OF MODERN GRAPHIC COMPUTER PROGRAMS

The computer naturally fits into the process of training contemporary artists, being another effective technical means to significantly modernize the process of artistic learning. The use of such forms and methods of work enables one to be actively involved in the creative process, helps to implement the latest solutions through using certain technical means. Such involvement of computers in the process of artistic activity allows the original idea to be enriched, and, as a result, become more expressive.

As you know, modern graphics computer editors for different graphics systems allow you to create and edit images. This involves selecting the right graphic tools, setting their size, choosing colors, creating and erasing the executed drawings.

Students' interest in mastering graphic and multimedia environments is natural and should be used to increase creative growth. Implementation of individual and collective projects in the environment of modern graphics and multimedia systems is one of the ways of practical realization of personality-oriented training, creation of favorable conditions for realization of creative ideas.

Creating a drawing in a modern graphics system is very different from the traditional drawing. Drawing «by hand» in a bitmap graphics editor resembles drawing on paper. Therefore, the process of creating an image in a modern multimedia environment can be considered graphic design and modeling. Combining different types of information (text, image, sound, animation), multimedia systems allow you to freely model phenomena and events.

Working with computer graphics is one of the most common areas of work for modern professional artists. No modern art or multimedia program is complete without computer graphics.

There are three types of computer graphics today. These include: bitmap graphics, vector graphics and 3D graphics. They differ in the principles of image formation when displayed on a monitor screen or when printed on paper.

The bitmap graphics are used in the development of electronic (multimedia) and printed publications. Illustrations made with the bitmap graphics are rarely created manually using computer programs. Scanned illustrations prepared by the artist on paper or photographs are more often used for this purpose. Nowadays, digital photos and video cameras are widely used to input bitmap images into a computer.

Most graphic editors designed to work with bitmap illustrations are more focused on processing rather than creating an image.

Software tools for working with vector graphics are designed primarily to create illustrations and less for their processing. Accordingly, the work with fonts and various geometric elements is easier to solve by means of vector graphics. At the same time, there are examples when highly artistic works are made by means of vector graphics. Though, this technique is extremely complex.

The use of the latest computer technology is a prerequisite for training a graphic artist. Effective work with Adobe programs expands the range of graphic effects, as well as provides additional opportunities for creative activities of students. The ability to use a computer professionally greatly simplifies the artist's work and improves the quality of the graphic material.

The use of computer design technology to perform graphic projects requires certain conditions for the computer class. To improve the learning process, you need to have a special software that can only be installed in powerful modern computers. Large, calibrated monitors are required, as well as additional equipment, such as color printers, scanners, digital cameras, and Internet access.

Skills of correct preparation of creative projects allow to demonstrate creative discoveries, original decisions, professional skill, and to gradually disclose the degree of readiness of the student to become an expert. During the practical classes the student must acquire skills related to the design of a compositionally integral work of art.

Further research and project practice will expand the idea of figurative and morphological transformation as a means of solving design problems due to the increased topicality herein of such a project category as an image that will enrich the concept of modern creative activity.

Working in graphic and multimedia environments helps students to master the technological, rational methods of building compositions, without which quality training is impossible. The skills acquired in the process of studying such technologies will, of course, be useful in the further professional activity of a young specialist in fine arts.

CONCLUSIONS

Thus, we can say that, for aesthetic education and creative activity of pupils and students with the needs of inclusive education, the online learning in fine arts is of great importance. Active application of such methods promotes direct mastering of graphic exercises, formation of abilities and practical skills, namely: to transfer color, rhythm, symmetry, composition. This enhances the process of perception of beauty and contributes to the accumulation of aesthetic impressions.

Learning fine arts affects emotions, teaches to see and experience the beautiful, leaves a noticeable mark in the mind.

In process of the general development and in connection with practicing drawing, many forms and properties of what is represented become a sample of beautiful and attractive for the learners. Engagement of the student and awareness that he can draw an interesting object, perform rhythmic constructions, convey beautiful color combinations, carefully fill a sheet of paper with decorative elements – all this has more advantages than simply contemplating objects or samples. The use of the system of educational and correctional activities during the online learning, in turn, helps students to some extent to overcome the shortcomings of emotional and aesthetic development and realize their creative potential to integrate into society.

Summing up the importance of using graphic computer programs in education, it can be stated that it promotes the development of spatial thinking, figurative vision (imagination), develops a sense of harmony, enriches the student with knowledge, improves skills. At the same time, the latest computer technology is a prerequisite for online training in the preparation of learners with inclusive education needs, which also contributes to the fullest use of their creative potential and professional development.

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KNOWLEDGE MANAGEMENT IN THE CONDITIONS OF TRANSLINGUIISM

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ABSTRACT

The paper presents a consideration of the modern socio-philosophical concept of "translingualism", which relates to multiculturalism, bilingualism and cross-cultural personality. It is proved that the phenomenon of translanguism is connected with globalization processes, which in today's conditions acquire the characteristics of multifacety and multi-vectority. At the beginning of the XXI century, humanity is experiencing radical changes, during which the world becomes a single global system that significantly changes the communicative, political, economic, cultural ties. The world has entered an era of communicative shift - the simultaneous use of two or more languages in a communicative act. Objective conditions are being created for transmunity and translanguism. Translanguism is defined as a smooth synergetic transition from one linguistic culture to another, resulting in their partial merging; there is no complete assimilation and the linguistic and cultural identity of language users is preserved. There is a mixed discourse - a new quality of enriched linguistic culture, which is characterized by the interpenetration of languages and their interaction. It is especially important to take into account the principles of translanguism in the knowledge management system in ensuring competitiveness, professional growth and development of modern professionals. This allows to form effective communication between professionals taking into account their cultural space

Key words: translanguism, multiculturalism, linguistic, global, linguistic and cultural identity.

INTRODUCTION

The modern world is characterized by active globalization and integration processes and the strengthening of communicative and discursive exchange. At the same time, globalization and the associated convergence of many phenomena of public life are opposed by tendencies to localization and diversification. The solution of this contradiction is possible either by the predominance of some linguistic norms over others. Modern concepts of translingualism and transculturalism are one way to implement this kind of compromise.

Cultural transformation and paradigm shift of values encourage Ukrainian society to integrate not only into the European Union, but also into the global dimension as a whole. The need for close communication between Ukraine and other countries, between individual public and private structures raises the issue of mastering foreign languages, their effective use in various spheres of life. Therefore, the phenomenon of translanguism determines a significant scientific interest in the formation of linguistic identity of the individual in the new globalized socio-cultural conditions.

Linguistic identification of a person is a process no less complex than ethnic, national, and religious. And if we are dealing with communication with verbal and nonverbal components of language, we must take into account all their richness, identifying a particular subject. Since it is communication and the media that largely determine the identity of the modern subject, special emphasis is placed on the relationship between identity, language and culture.

The variability of language in historical terms is a consequence of language evolution, contacts of languages and dialects, the interaction of numerous and diverse intra-system factors. The preconditions for variability are laid down both in the very internal system of language and in specific socio-historical forms of its existence.

General and individual problems of language variability have been studied for a long time, which has allowed to accumulate and generalize a huge amount of practical material of many languages. However, today, when the world has entered the era of globalization, many processes associated with the development of language, culture and other attributes of human society are taking new forms. It becomes necessary to look in a new way at the traditional issues of linguistic identity.

Globalization is a complex multidimensional process that manifests itself in economic, political, informational and cultural universals, when territoriality disappears as an organizing principle of social and cultural life. The processes of globalization cover all aspects of human life - economics, finance, education, science, art, including linguistics. According to various leading sociological studies, at the beginning of the XXI century there was a new socio-cultural trend - an increase in the number of people who use two or more languages for everyday and professional communication. The world has entered an era of communicative shift, the essence of which lies in the objective necessity of translanguaging. In this context, we consider translanguaging as an objective condition for the entry of the individual into a globalized society, a new social reality, a multicultural space. Translanguaging is not only the ability of an individual to speak several languages, but also a special type of thinking that absorbs the cultural values of several civilizations, demonstrates open thinking to dialogue.

Naturally, interest in language processes is actualized in academic circles, issues related to linguistic and cultural identity are raised, and discussions take place between representatives of various scientific fields about the distinction between translanguaging, multiculturalism, linguistic, global, and linguistic and cultural identity. In the current conditions, the substantiation of their interaction acquires practical significance and requires new scientific tools for the analysis of complex socio-cultural problems of today.

1. THEORETICAL AND METHODOLOGICAL FUNDAMENTALS OF THE STUDY OF THE PHENOMENON OF TRANSLINGUIISM

The speed and scale of social reflection on the problem of linguistic identity of the individual today are of particular importance. An important place in this process is occupied by the new philosophy of language, which is formed in close connection with the revision of the concepts of "nation" and "identity".

The specificity of the present moment is that the concept of language, which corresponds to the realities of the new conditions of its existence, is intensively discussed not only in scientific discourse. Language as a socio-cultural phenomenon is increasingly the subject of discussion and debate in the everyday minds of citizens of most countries. There is a new socio-philosophical vision of language, its understanding in the context of globalization. The starting points of this approach are:

- critical rethinking of the concept of "nation" on the basis of social philosophy of the "postnational world";
- widespread reflection on the language, spontaneous (folk) measures to protect the leading languages of Europe; there is a so-called "folk philosophy of language" [13];
- There are tendencies to reconsider the "organic" connection between the language and its "original" speakers, "global identity" (due to the study of English by citizens of different countries).

These provisions are partially presented in the new concept of language by J. Blommaert - sociolinguistics of resources [9]. The author points out the need to take into account the trend of population migration, the consequence of which is the expansion of language use and the emergence of multilingualism. The spatial organization of migrants allows them to remain in the local (due to the formation of communities, support groups, various associations, etc.) and translocal, real and virtual cultural environment. This affects the structure and development of the language repertoire and model of language use. In the daily life of people there are more and more situations when there is a need to speak different languages, even without fully mastering them. The language is used only by "fragments" related to one very narrow field of application. The repertoire of such a "fragment" J. Blommaert suggests calling truncated use of language.

By analogy with M. Foucault's "order of discourse", the author proposes the term "order / hierarchy of markers (orderofindexicality), noting that any space is filled with special markers: 1) normative complexes that organize the differences between" good ", "normal " , "Acceptable" use of language, and 2) "deviant", "abnormal" [9, p. 6]. The hierarchy of markers identifies the main directions for expressing a sense of belonging, identity and social roles.

In this context, globalization is studied in terms of its implications for the use of language - the focus is on language as a social action and its change under the influence of globalization. At the micro level, this is realized through the analysis of linguistic repertoires, and at the macro level - through the analysis of language ideologies. Accordingly, the specifics of language use in today's globalized world are: fragmentation, reduction (submergence; truncated language), mobility.

The increase in migration flows has led to the emergence of a "global identity", in which the notions of people, homeland, land disappear, but there is only a territory where (temporarily) employees are and there is no criterion for distinguishing between local culture and migrant from other culture. One of the stages of this process is metroethnicity - the practice of multicultural lifestyle, cultural and ethnic tolerance, in particular in the areas of friendship, music, art, food and clothing [20, p. 83-102]. Proponents of metro-ethnicity use a mixed language - metro-language (J. Meyer), which also contributes to the hybridization of language and culture.

"Global identity" changes the understanding of the role of the national language - the language seems to be detached from the culture within which it originated. The problem of possession / non-mastery of the national language loses its significance, actualizing the mixed use of language through the conscious choice of the individual: as a special slang for constructing their group identity, which includes ethnoidentity. Migration as a transnational phenomenon has created the conditions for the emergence of new (hybrid) forms of language. A clear example of this is the book by German-Turkish author Feridun Zaimoglu, especially his text "KanakSprak" - monologues in the "invented" mixed language, which contains dialects, Turkism, Yiddish and English, far from the norm German. It is this literature that demonstrates the impact of migration on the German language, while raising questions about the nature of European languages as such in the era of globalization. The "invention" of a new language is the moment of creating a new reality in a period of intensive migration and destabilization of identity. Transnational identity does not fear the loss of language and nothing restrains it in experiments with language: "Languages today are in the process of mutation and reconstruction. German-Turkish literature is a convincing proof of the emergence of a new awareness of globalization as a mental and emotional model and life experience "[18, p. 18]. In such an interpretation, globalization is not only a trend of political and social reality of today, but also a mental model of personality [7, p. 307-318].

The problem of "global identity" is also considered through the prism of the concept of multilingualism, presented in the Dynamic Model of Multilingualism. The authors of the concept of F. Herdin and W. Jessner consider the multilingual system of the individual as a single holistic entity [16].

The Dynamic Model of Multilingualism (here and after DMM) was based on two principles: theoretical-systemic and holistic. According to the theoretical-systemic principle, multilingualism is a complex dynamic system characterized by the ability to self-organize. The process of development of a complex dynamic system is characterized by continuous oscillations, through which it balances between states of stability and instability, striving in its motion to a state of entropy (equilibrium in absolute disorder) [10]. Since any complex dynamic system is characterized by a close relationship and interdependence of its elements, any change in at least one element of the system inevitably leads to reorganization / restructuring of the system as a whole. Thus, the study of the multilingual ability of the individual, considered from the standpoint of the theory of complex systems, involves dynamic modeling of this ability and analysis of the processes of its (self) organization;

The holistic principle allows us to consider the multilingual system of the individual as a certain holistic formation. D. Briggs and F. Pete argue that complex systems (both chaotic and organized) are not decomposed into elements, they are absolutely not amenable to analysis [10]. According to the authors, a holistic concept should be used for research on multilingualism, because the DMM developed in this vein does not depend on whether language systems are considered at the stage of initial formation or are already fully formed.

The Austrian philosopher and sociologist A. Schutz devoted the essay "Stranger" to this problem [5]. The scientist believes that only after a stranger accumulates the appropriate knowledge of a new cultural model, then he can accept it as his own self-expression. The author demonstrates the consistency in the development of new cultural patterns on the example of learning a foreign language, when first there is a passive understanding, and then the active use of new language constructions.

Indeed, all lexical units can be translated from one language to another, to understand grammatical constructions, if correlated with the native language. But there is another meaningful side in the language that is not translated. It includes the following features: 1) a set of connotative meanings, significant in terms of the circumstances of their use; 2) the presence of idioms, jargon, dialects, understandable to those who participated in common past experiences; 3) the presence of artifacts associated with the language, which reflects the history of the socio-cultural group [5, p. 21].

All the above features can not be mastered, studied, so their knowledge, understanding, interpretation become a decisive factor in determining identification.

Since language is a means of penetrating the realm of the mental, inner world of man, it is one of the most important means of identifying the individual. Language equally acts as a means of structuring reality, and as a channel for the transmission of social experience. Linguistic expression of identity helps to unite people into groups and maintain the necessary identity within the community.

In this context, for a more thorough understanding of identity in the linguistic aspect, it is worth considering those scientific approaches that study linguistic identity in relation to ethnic, national and social identities: Primordialism focuses on the variability of linguistic identity and its relationship with ethnic identity (K. Girtz, E. Smith, J. Fishman); instrumentalism is based on the fact that linguistic identity is determined situationally (J. Nigél, R. Bart); Constructivism explains national and linguistic identity as a constructed rather than an objective reality (B. Anderson, E. Hobsbawm).

Within the primordialist approach, identity traits (ethnic, national, or linguistic) are immutable and traditional, so each generation inherits them. Proponents of primordialism also pay attention to the connection between linguistic identity and ethnic identity. As noted by J. Fishman, as long as there are ethnic groups, languages will be a symbol of these groups, and a tool for creating images of the group, and cooperation with other communities [14, p. 48]. Proponents of the instrumentalist approach emphasize that the presence of several languages in the formation of identity is quite common. In particular, R. Bart believes that people can change their linguistic identity depending on the situation [1]. In addition, instrumentalists appeal to the fact that linguistic identity is only one of the many identities inherent in man, because language is more like an image of thought enriches the instrumental interpretation of linguistic identity [1].

Constructivism is based on other assumptions. In particular, the fact that social, political, economic processes and conditions are considered a determining factor in the "construction" of linguistic identity, so it is considered as a social construct, the language groups are determined by social practices. E. Hobsbawm believes that any language that passes from exclusively oral speech in the field of reading and writing. That is, any language that becomes a means of school education or official use, changes its character, and the desire to "speak correctly" is a direct construction of their nation [17, p. 21]. Arguing that national languages and identities are in a complex dialectical interaction, E. Hobsbawm clearly distinguishes between linguistic and political realities: for the scientist, the historical focus of nationalism is not language, but politics and economics. The meaning of constructivism is that the social actor is autonomous and always open to new interpretations and transformations.

The concept of ethnolinguistic life of H. Giles and D. Taylor outlines the role of language in interethnic relations and socio-cultural determinants that can encourage communicators to use their native language as a means of communication. Such determinants include language status, number of speakers and institutional support. The ethnolinguistic life of a group is what unites a group whose members behave differently from other communities in intergroup relations. Intergroup differences will be stronger if community members: 1) clearly identify with their group and view language as an important dimension of their identity; 2) perceive their group as a group with high ethnolinguistic activity [26, p. 78].

Thus, the results of the analysis allow us to conclude that scholars offer a variety of markers to define the term "translinguism" (eg, linguistic, cultural, ethnic, civic, political identity). However, fundamental to all these markers is the desire to overcome social inequality based on linguistic and cultural markers (heterogeneity) by forming linguistic, cultural, civic, political and economic relations through public policy. Translinguism, in fact, reinforces the perception of citizens, in particular migrants, about recognition in society and belonging to it. If translingualism succeeds, not only is a high degree of substantial equality achieved, but there is a general national unity or social cohesion. The fundamental argument of the proponents of translinguism is that the practice and recognition of linguistic and cultural traditions are crucial for personal and linguistic identity, and therefore are a prerequisite for successful integration into all other spheres of life and society.

The current idea of translingualism as a complex socio-cultural phenomenon requires the development of qualitatively new approaches to this problem. First of all, it is necessary to use an interdisciplinary approach that takes into account the results of research in various scientific disciplines – linguistics, psycholinguistics, sociolinguistics, sociology, biology and even physics, each of which can make a significant contribution to a unified synergetic theory of translingualism. The "ideal" concept of multilingualism must meet the requirements of plasticity, adaptability and universality, which would allow it to be used to study different types of multilingualism, taking into account many factors: the number of languages known to the individual, how to learn, degree of balance and so on.

2. TRANSLINGUISM AS A SOCIOCULTURAL PHENOMENON OF MODERNITY

In academic circles, the interest in language processes is actualized, issues related to language identity are raised, and there are discussions between representatives of various scientific fields about the processes of its formation in the conditions of translinguism.

Translinguism arises in a situation of communication in which an individual uses several language systems, moves from one language code to another, resulting in: 1) merging of several linguistic cultures with full preservation of linguistic and cultural identity of native speakers and 2) formation of mixed discourses [12]. Translinguism presupposes the penetration of one language into another, the emergence of a new quality of enriched linguistic culture.

The concept of translinguism first appeared in linguistics and linguodidactics in the late twentieth century. It is believed that one of the first authors of this concept was Vivian Zamel [27], but the origin of the idea of translinguism can be found even earlier in the works of Cuban culturologist Fernando Ortiz [22]. The paradigm of transculturalism revises one of the many concepts of identity - the linguistic identity of the individual.

Transculture, which emerges as a result of transculturalism and is closely related to translanguism, means "a new sphere of cultural development outside the established national, racial, gender and professional cultures" by overcoming "the closed nature of their traditions, language and value determinations" [4, with. 55]. In this context, it is important to distinguish between the concepts of transculturalism - multiculturalism - interculturalism.

The analysis of the domestic language space shows that affixoids / prefixoids multi-, poly-, inter-, cross- have long been used terminologically. Some of them function as absolute synonyms. To this list is added another: trans- with variations in the root of the word: cultural-, -culture, -culturalism, -linguality, -linguism. Frequency analysis of the usability of the outlined concepts in the Google search engine revealed the predominance of nominations with the Greek prefix poly- (24,100 words). It is customary to talk about multiculturalism in pedagogy, where it is perceived as a "quality of personality" [2, p. 12], a manifestation of her tolerance. The multiculturalism of the individual is opposed to ethnocentrism, nationalism, cultural fundamentalism, and racism. Terms with the prefix poly- very close nominations with the Latin component pluri-: pluriculture, pluricultural. However, these terms are not often used: they are used in three out of five Google searches. (Table 1) - the data presented are dated November 15, 2020.

Under multiculturalism understand cultural diversity, "a sharp increase in the internationality of information, art and subject environment of modern man" [4, p. 214]. This term is very close in meaning to the term "multiculturalism" – the coexistence of cultures without their merging, the equal existence of the national majority and minority.

Table 1. Frequency of use of prefixoids with the root -cult-

Prefixoid	Frequency	Total Amount
Interculturalism	2820	12718
Interculture	98	
Interculturality	1480	
Intercultural	8320	
Cross-culturality	1240	98740
Cross-cultural	97500	
Multiculturalism	335000	483900
Multiculturality	40900	
Multicultural	108000	
Pluriculture	3	13
Pluriculturality	5	
Pluricultural	5	
Policulturality	2400	52800
Policultural	50400	
Transculturality	523	11042
Transculturalism	3980	
Transcultural	7010	

Multiculturalism means a set of certain theories and practices for understanding social reality; it is a policy aimed at recognizing and preserving cultural differences due to ethnic, religious and other social factors. Multiculturalism is the practical implementation of the principles of multiculturalism, or ethnocultural diversity. Along with this concept, interculturality is used - focusing on the interaction of cultures, the result of which is the process of universalization of the world. Interculturalism includes the integration of cultures or acculturation, which involves the interpenetration and interaction of cultures, change under its influence of the dominant people of material culture, customs and beliefs of the ethnic group in contact with it, as well as the interaction of different sociocultural systems [2].

Linguistic analysis of the use of affixoids multi- and inter- showed that the Ukrainian language is characterized by the predominant use of the prefix inter-. This is due to the peculiarities of the construction of language discourse and cultural and historical influences on the development of the Ukrainian language in general.

In philosophical discourse we find another term - cross-cultural, which is used as a synonym for interculturality. Translated from English crosscultural - "one who is at a crossroads, on the border of cultures." Noting the subtle difference between intercultural and cross-cultural definition, M. Bergelson states: "The term intercultural communication refers to cases when communicative competence is so different that it is reflected at the end of a communicative event. The term cross-cultural usually refers to the study of a particular phenomenon in two or more cultures and has the additional meaning of comparison "[4, p. 166].

The concept of cross-culturality substantiates the legitimacy of the coexistence of subcultures in a multinational society. A stable balance of cultural diversity and monoculturalism is envisaged. According to the concepts of cross-culturalism, the self-worth of large and small subcultures is supported and respected, cultural and ethnic diversity is not seen as an object of elimination. On the contrary, all without exception, the culture of a multinational society with their features and differences are seen as social wealth and property.

Let us turn in this regard to the judgments of French scientists J. Burke and O. Menier [28]. French culture, according to Burke, has a long humanistic tradition, which involves appealing to different points of view. "The real national problem," Burke notes, is that, "following such traditions, it goes far beyond school." According to Menier, interculturalism means a pluralistic approach to education, recognition of the heterogeneous nature of cultures, acceptance of the thesis of unity in diversity. The scientist believes that we should abandon the "pathetic version of the concept of multiculturalism, which considers other cultures as deprived of destiny and in need of help to get on the common path of

equality." He proposes to treat all cultures as equal partners in intercultural dialogue. In intercultural communication, Meunier sees the movement "towards democracy and citizenship in the context of pluralism and globalization."

To begin with, let us note that the situation of expanding speech communication through acquaintance with foreign languages is ideally deeply positive, as it raises people's activity and promotes a creative attitude to life.

Thomas Bak (University of Edinburgh) found that those who spoke more than one language from an early age developed age-related dementia 4 years later. There was a natural question about the usefulness of learning foreign languages by adults. Among the participants in the experiment were those who knew only one language and those who spoke a foreign language. It turned out that the second group was capable of greater mental concentration, regardless of how early a person began to learn a second language. It is clear that the constant switching from one language to another stimulates brain activity and the ability to weigh verbal information more carefully. Neurobiologists add that this creates new neural structures, and this may not necessarily happen in childhood [7, p. 3-16].

However, not everything here is so rosy, starting from the fact that not everyone is capable of languages at all. And emigrants feel differently in a foreign environment. Yes, representatives of a more "distant" culture experience greater difficulties in communication. For example, people from Christian Eastern Europe, despite all the differences in mentality, are much easier to adapt to the Western European environment than people from Islamic lands, and here plays a role and saturation of modern lexicon with international vocabulary such as computer, file, fake, and a certain genetic affinity of European languages (in other words, it is easy to recognize two, in wool - wool, in swine - a pig, etc.). And a Swahili-speaking person doesn't stand a chance. He is doomed to marginality and discontent. Therefore, many Western countries are already seeking to impose serious restrictions to reduce the influx of such migrants - the introduction of language requirements, tests for intercultural compatibility, restrictions on certain activities. There is even the concept of "acculturation of migrants" - the process of transforming the culture of the new citizen or the culture of the host, which eventually leads to assimilation. And here the main attitude - to learn the dominant language and the basics of etiquette, recently - and deepen knowledge of local customs. In Europe and the United States, the testing of the principles of multiculturalism began with educational institutions, and here the focus from the beginning was primarily on the study of language. But it turns out that success is not guaranteed. After all, it is the loss of the native language that inevitably leads to the shaking of the authority of the native culture, the loss of one's own national dignity.

Transculture encompasses the simultaneous existence of an individual in the role of several identities in different cultures, with the partial preservation of each of them. The

author of the term, Cuban culturologist Fernando Ortiz, notes that as a result of transculturation, a new sphere of cultural development emerges outside the established national, racial, gender and professional cultures by overcoming the closedness of their traditions, language and value determinations. At transculturation there is a hybridization of cultures. In other words, transculturalism allows overcoming the cultural separatism, isolation, stratification and determinism of identity by the discourse of authenticity that have become the basis for multiculturalism. Transculturalism encompasses the focus on self-distancing, self-removal from any predetermined identity and self-criticism. Transculturalism presupposes the coexistence in different cultures with the preservation of the imprints of each of them. The result of transculturalism is a gradual change of culture, including through hybridization; acceptance of differences ("reconciling differences" [15, p. 8]) due to the fact that the individual acts as several identities in one and in another culture.

Accordingly, translinguism is a smooth transition from one linguistic culture to another; their merging without full assimilation, but with the support of the linguistic and cultural identity of language users, which leads to mixed discourse. Translinguism means the penetration of languages, their interaction, which provides a new quality of enriched linguistic culture. The sphere of translingualism can be characterized as blurred or "speech fluidity" [25, p. 160].

Translinguism involves not just the use of two or more languages in everyday life, but the creation of new language constructs with their help. At the same time, bilingualism is a daily linguistic reality of the individual [8, p. 151]. Using languages from its language repertoire, the translingual often violates language norms, adapting linguistic codes to the goals of communication and specific language context [24, p. 6]. There is a phenomenon of "language game": a set of game manipulations with language - its lexical, grammatical and phonetic resources.

As a result, it leads to distortion of linguistic identity and blurring of its main characteristics [11, p. 172]. It is known that language is not only a means of communication, communication between people, but also a spiritual component of the ethnos, a treasury of traditions, culture, the national heritage. However, in the conditions of multiculturalism, multilingualism, language and culture can form a new phenomenon - translinguism, which is quite fully manifested in the discursive practice of translinguals. According to A. Pennycook, translinguism is "the use of the entire communicative repertoire of the individual, as a result of which language and culture flow smoothly into each other, simultaneously helping and interfering with each other (hence the idea of transference and interference)" [23, p. 309]. Bilinguals not only speak two different languages well, but also think about them. Practice shows that depending on the environment, a person automatically switches to a language (and not only in the process of verbal communication, but also

mentally), sometimes without even noticing it. There is a kind of cultural integration at the personal level as a result of combining different elements of cultures, which leads to the formation of a qualitatively new phenomenon. Z. Proshina identifies communicative strategies and tactics that a person uses in a translingual situation: mixing and switching language codes, borrowing, hybridization, subjugation, simplification, use of international words, paraphrases, activation of metacultural knowledge and others. [24, p. 8]. Then comes the era of normalization of unstable social and identification states of the individual.

When studying translinguism, one cannot ignore the system of modern education. Translinguism as a socio-cultural phenomenon puts before the latter the complex task of preparing people, especially young people, to live in a multinational and multicultural environment, the formation of skills to communicate and cooperate with people of different cultures, nationalities, races, religions. The social essence of modern multilingual education lies in the formation of not just linguistic, but broad socio-cultural competence and the authenticity of the contextual interpretation of the meanings of intersubjective communication of representatives of different cultures.

Thus, translinguism as a socio-cultural phenomenon appears in the globalized world as an everyday reality. Due to the growing interaction of economic, scientific, cultural and political interests, it is the fact of real linguistic coexistence for the vast majority of the world's population, a means of socialization of the individual, forms the attitude of empathy and tolerance in the socio-communicative process, in a multi-valent approach to education. Translinguism expands cultural and linguistic identity, increases the reflexive and valuable attitude to the achievements of national culture, increases cultural wealth and opportunities for the individual to enter into intercultural dialogue. Polylingual adaptation to the new socio-cultural environment allows the individual to overcome culture shock and marginal socio-cultural status.

CONCLUSIONS

The analysis allows us to conclude that the concept of "translinguism" has not yet been sufficiently studied by modern scientists. Translinguism is an objective fact of modern reality; socio-cultural phenomenon of modernity. The processes of globalization contribute to the expansion of the scope of its functioning, in particular in the context of language practices of the individual, his identity.

The formation of translingual language thinking involves the unification and harmonization of significant elements: worldview of the traditions of different cultures. The translingual personality equally uses two, three or more languages in the practice of everyday life.

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SOCIO-ECONOMIC SECURITY AND INNOVATIVE ACTIVITY OF COUNTRIES: INDICATORS, RELATIONSHIPS AND DEVELOPMENT GUIDELINES

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ABSTRACT

At the present stage, all countries of the world face the problems of finding a balance between economic and social needs, strengthening socio-economic security in the globalization context. Practice shows that countries that are leaders in economic growth achieve their success crucially by active innovation, which is fully supported and stimulated at the state level. Their economic security is ensured through innovations that allow responding quickly to various threats: demographic, energy, environmental, etc. Therefore, the goal is to study innovative capabilities of the country and evaluate the indicators of its economic and social security. Comparative analysis and monitoring of economic, social and innovation indicators provide an opportunity to develop cooperation between the public and private sectors to identify priorities that allow the development and implementation of human-oriented policies that will make the economy more competitive and productive. Determining the priority areas of further development of Ukraine, socio-economic growth based on the intensification of innovation, it is necessary to comprehensively develop the following main components: innovation infrastructure, innovation culture at the national level and at the level of individual enterprises and institutions, the system of regulation and stimulation of innovation activity, tools and sources of business entities innovative activity financing, the system of commercialization of innovations. These areas should form a favorable innovation environment for the intensification of innovation in Ukraine, provide opportunities for the development of innovation potential and its implementation (commercialization) to provide the basis for further socio-economic development. An innovative model of development of the Ukrainian economy is able to become a platform for socio-economic stability and sustainable development.

Key words: *The Global Competitiveness Report, Social Security, the World Economic Forum, economic security, innovation activity, indicator.*

INTRODUCTION

The globalization of the world economy has led to the creation of a modern economic community, where each national economic system is closely interconnected with others. At the present stage, all countries of the world face the problem of finding a balance between economic and social needs, strengthening socio-economic security in the globalization context. Socio-economic security is a fundamental category of the world community and the basis of the economy of the future

Socio-economic security combines social and economic goals, rational and efficient use of both tangible and intangible resources. Ensuring social and economic security is a guarantee of independence, prerequisite for a stable and efficient execution of vital

functions of the society. Therefore, ensuring socio-economic security is one of the most important national priorities. It must be ensured primarily by production efficiency, which is based on the production of quality and competitive products. Responsibility for ensuring socio-economic security equally falls on all countries, businesses, NGOs, civil society as a whole and each citizen in particular.

One of the most effective means to ensure socio-economic security is an invention and implementation of the innovations. A powerful factor of globalization is the innovation process, which is a consistent chain of actions from the emergence of an innovative idea to its implementation in a system of innovative products, services and technologies and their dissemination in economic practices. Development in the field of innovation is a complex process. In modern conditions successful innovation activity becomes an important part of life, successful operation and development for many organizations (firms, companies, enterprises, business groups) of various economic activities. Stable economic growth in all sectors of the economy of any country directly depends on the dynamics and level of development and innovation, knowledge-intensive industries and technologies. Ensuring rapid and dynamic economic development requires an appropriate level of technical, technological, scientific, human resources necessary for the development and implementation of new innovative projects and appropriate protection of scientific, innovative, and intellectual and information property of inventions. Innovation changes the economic organization of a society. The presence of innovative activity leads to technological changes that are carried out using modern technologies. Innovation activity should provide a quantum leap in the development of not only scientific and technical potential, but also contribute to the ensuring of the socio-economic security.

The state of the world economy requires objective and comprehensive monitoring of economic and social security indicators, which primarily involves the actual monitoring, analysis and prediction of key groups of economic and innovative indicators and their relationship, searching for development guidelines in order to achieve economic stabilization.

1. INDICATORS AND TRENDS OF SOCIO-ECONOMIC DEVELOPMENT AND INNOVATIVE ACTIVITY OF COUNTRIES IN 2015-2018

Out of the large range of various world rankings that use different indicators that characterize the above aspects of economic development, as an integral indicator it's worth to take The Global Competitiveness Report, which was proposed by the World Economic Forum [1-4]. It characterizes the ability to compete successfully in international markets, counteract the competition pressure, protect economic and social interests, and so on.

The Global Competitiveness Index tracks almost 140 countries around the world and is based on 12 integrated indices, each of which includes partial indicators with a total of 114, from which you can choose the appropriate ones for the conduct of the study.

That is, as a rule, economic indicators are used to analyze the effectiveness of innovation, but in our opinion, it is necessary to assess the social effectiveness of innovation. That is, it is necessary to assess whether the income from innovation activities is spent on solving social problems and social security. The social efficiency of innovations is, in the future, a source of innovative activity of the population of the country, which has a desire for creative and inventive activity. Therefore, in addition to analyzing the country's innovation potential, it is worth to assess indicators of its economic and social security. The authors of the study out of 114 indicators selected indicators of social and economic security, as well as index of innovation activity of the country.

To analyse the social component of the country's security in the study will be used: 1.02 – Intellectual property protection, 1.06 - Judicial independence, 1.12 - Transparency of government policymaking, 1.20 – Protection of minority shareholders’ interests, 4.08 - Life expectancy (Table 1).

The following indicators were chosen for the analysis of economic security: 1.18 - Strength of auditing and reporting standards, 1.21 - Strength of investor protection, 3.01 – Government budget balance, 3.04 - Government debt (Table 2).

And the indicators of the country's innovation potential are: 9.01 - Availability of latest technologies, 11.06 - Control of international distribution, 12.01 - Capacity for innovation, 12.02 - Quality of scientific research institutions, 12.03 - Company spending on R&D (Table 3).

Let's take a closer look at the dynamics of social security indicators that reflect the state of comfort of an individual member of society in relation to the influence of external and internal factors.

Table 1. Dynamics of ranking indicators for social security in 2015 – 2018

Name of country	Name of indicators by years																			
	1.02 Intellectual property protection				1.06 Judicial independence				1.12 Transparency of government policymaking				1.20 Protection of minority shareholders’ interests				4.08 Life expectancy			
	2015	2016	2017	2018	2015	2016	2017	2018	2015	2016	2017	2018	2015	2016	2017	2018	2015	2016	2017	2018
Ukraine	129	120	125	119	140	132	129	129	99	104	25	53	139	134	136	129	88	87	92	92
Switzerland	4	3	1	1	11	6	4	4	24	21	19	20	32	24	19	13	5	4	4	5
USA	20	15	16	14	30	28	29	25	130	114	84	95	23	17	15	8	34	34	34	37
Singapore	2	4	4	4	20	23	23	19	7	6	6	3	10	6	6	4	8	6	6	8
Germany	21	20	19	20	15	17	24	24	23	13	10	8	38	33	32	17	21	18	25	28
Sweden	19	16	8	13	17	14	5	12	36	52	22	21	9	9	7	10	10	12	14	9
Poland	63	65	72	72	54	54	81	99	100	78	65	62	81	63	67	73	44	44	42	38
Georgia	102	101	99	95	65	56	63	87	40	45	24	40	110	88	105	112	72	73	69	67
Lithuania	58	55	51	62	71	68	58	56	54	29	21	18	89	85	86	88	73	72	82	60

Source: prepared by the authors [1-4]

Table 2. The ranking on indicators of economic security in 2015 – 2018

Name of country	Name of indicators, yearly															
	1.18 Strength of auditing and reporting standards				1.21 Strength of investor protection 0-10 (Best)				3.01 Government budget balance % of GDP				3.04 Government debt % of GDP			
	2015	2016	2017	2018	2015	2016	2017	2018	2015	2016	2017	2018	2015	2016	2017	2018
Ukraine	124	124	129	123	105	95	79	66	99	104	25	53	66	110	113	112
Switzerland	18	11	6	7	130	74	90	90	24	21	19	20	84	77	65	60
USA	32	23	19	16	6	25	29	31	130	114	84	95	134	129	128	125
Singapore	5	7	5	3	2	3	1	1	7	6	6	3	133	127	125	128
Germany	23	17	18	24	83	50	49	51	23	13	10	8	118	113	103	99
Sweden	14	13	9	14	34	32	14	18	36	52	22	21	68	67	63	52
Poland	58	52	47	54	45	32	49	41	100	78	65	62	96	83	75	77
Georgia	85	65	61	78	16	42	20	7	40	45	24	40	41	50	56	59
Lithuania	59	47	45	53	57	74	47	49	54	29	21	18	60	58	59	50

Source: prepared by the authors [1-4]

Table 3. The dynamics of ranking indicators for innovation in 2015 – 2018

Name of country	Name of indicators by years																			
	9.01 Availability of latest technologies				11.06 Control of international distribution				12.01 Capacity for innovation				12.02 Quality of scientific research institutions				12.03 Company spending on R&D			
	2015	2016	2017	2018	2015	2016	2017	2018	2015	2016	2017	2018	2015	2016	2017	2018	2015	2016	2017	2018
Ukraine	113	96	93	107	82	86	91	95	82	52	49	51	67	43	50	60	66	54	68	76
Switzerland	6	7	5	3	4	4	3	6	1	1	1	1	1	1	1	1	1	1	1	1
USA	2	2	3	6	5	6	2	1	2	2	2	2	4	4	5	5	4	3	2	2
Singapore	15	13	14	15	57	24	22	25	18	19	20	20	11	12	10	12	10	11	15	17
Germany	17	13	16	16	6	3	1	2	4	5	5	5	8	9	11	11	5	6	5	4
Sweden	7	4	2	5	10	10	6	5	6	4	3	4	14	11	7	13	6	7	6	6
Poland	90	72	68	64	109	87	65	61	67	72	68	72	63	63	54	49	98	84	62	60
Georgia	89	97	111	111	99	95	86	86	110	121	105	99	119	119	118	127	126	127	123	122
Lithuania	32	28	28	31	34	30	35	40	38	31	28	33	28	32	35	39	70	46	37	37

Source: prepared by the authors [1-4]

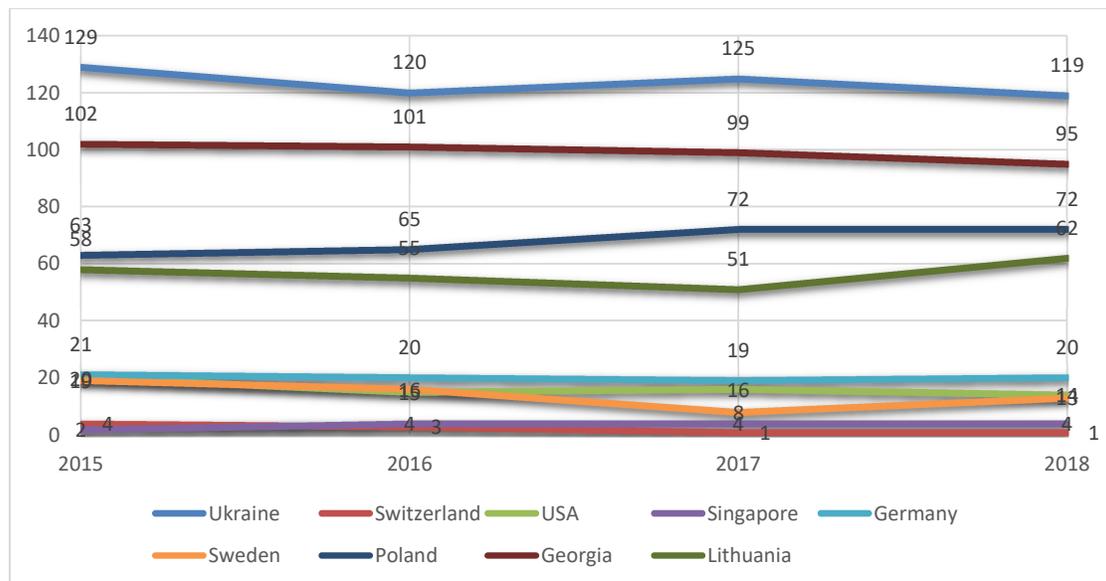


Fig. 1. Dynamics of the ranking of countries on the “intellectual property protection” indicator in 2015-2018

Source: prepared by the authors [1-4]

Intellectual property protection. This indicator means that the country has created conditions under which a person can earn by utilizing their own creativity, inventiveness and intellectual abilities. Figure 1 shows that Ukraine has the worst ranking in terms of intellectual property protection among the countries selected for analysis. The dynamics of the ranking of the state of intellectual property protection in Ukraine is similar to that of the United States — in general, during the period 2016-2018 the ranking improved, but in 2017 there was a decline. In developed European countries like Sweden and Germany in 2015-2018 there is an improvement in ranking standing, but the highest ranking is observed in 2017. The geometry of changes in ranking for the protection of intellectual property in Lithuania is similar to developed European countries, but in 2018 there was not an improvement, but a significant decline of the ranking. Leaders in intellectual property protection, Singapore and Switzerland, have the opposite trends. In Switzerland, in 2015-2018, there was a gradual improvement in the ranking for the protection of intellectual property, while in Singapore — a deterioration. It can be concluded that the model of intellectual property protection is profitable when there is a gradual improvement of ranking standing (Sweden, Germany, Switzerland and Georgia). Such a model can indicate the effectiveness of legal norms, mechanisms for their implementation as well as the activities of public authorities in the field of intellectual property protection. While “abrupt” trends in the protection of intellectual property may mean the effectiveness of legal norms, or, at the same time, the imperfection of the mechanisms for their implementation and / or inefficiency of public authorities.

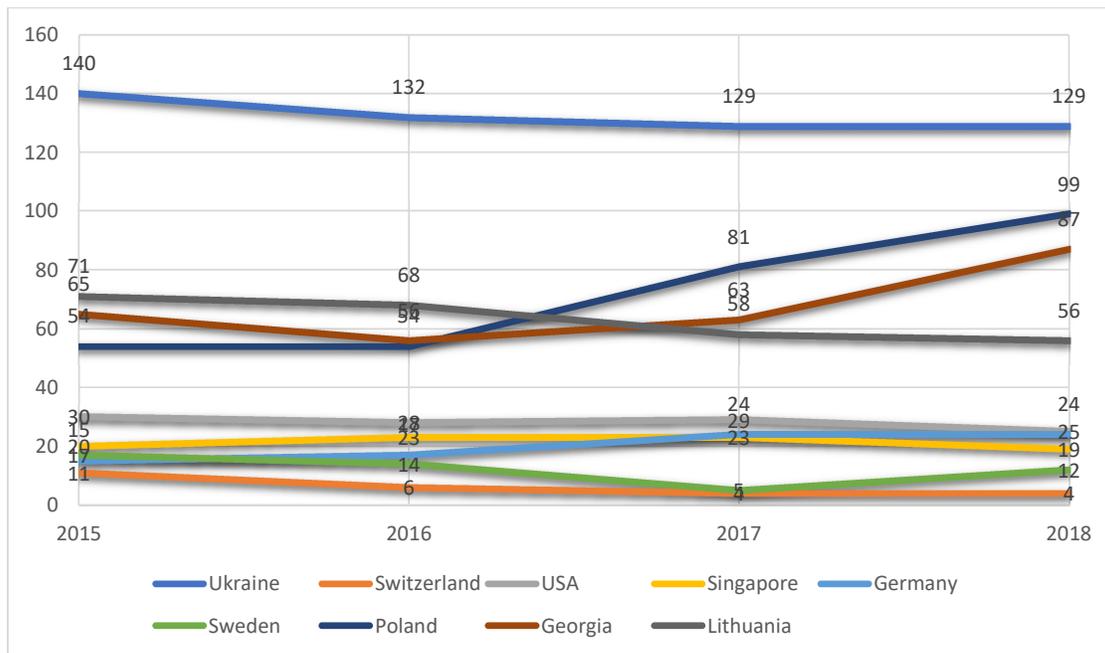


Fig. 2. Dynamics of the ranking of countries according to the “judicial independence” indicator in 2015-2018

Source: prepared by the authors [1-4]

Independence of the judiciary. This indicator characterizes the legal protection of the population in the courts, i.e. the effectiveness of courts' proceedings. As can be seen from Figure 2, Ukraine has the worst situation with the independence of the judiciary, but Ukraine's ranking for this component of social security is improving in 2015-2018. Similar trends, but with much better ranking as compared to Ukraine, are observed in Lithuania, Sweden, the USA and Switzerland. In Poland and Georgia in 2015-2018 years a significant deterioration in the ranking standing for the independence of the courts is observed - at 45 and 22 positions respectively. That is, in countries where the situation with the judiciary is improving, existing legal practices should be analyzed and further developed. In countries where the opposite is the case, the reasons for the lack of independence of the courts should be identified and the causes of the decline eliminated.

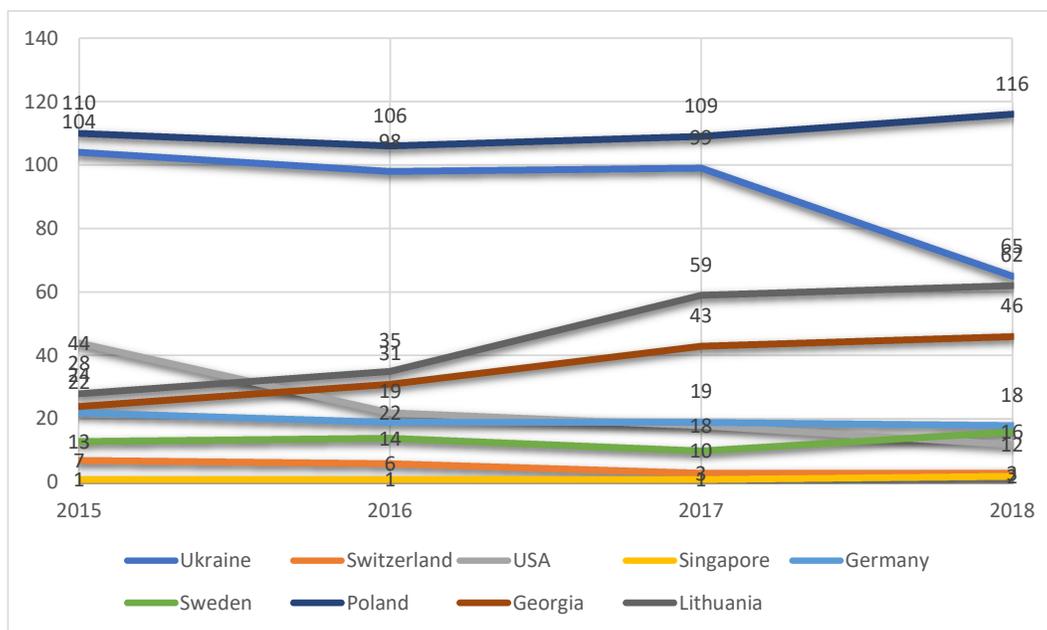


Fig. 3. Dynamics of the ranking of countries on the “transparency of government policymaking” indicator in 2015-2018

Source: prepared by the authors [1-4]

Transparency of public policy. This indicator characterizes the clarity and openness of public policy for the population, i.e. shows awareness of the population regarding the state and prospects of public administration. As can be seen from Figure 3, the leaders in this indicator of social security are the developed countries — Singapore, Switzerland, Germany and the United States. They either improve the ranking or have it stable. The situation is favorable for Ukraine. Despite the low ranking in 2015-2017, in 2018 Ukraine managed to improve its ranking by 39 positions and almost reached the ranking of Lithuania. Whereas in countries with a similar history of economic development and potential — Poland, Lithuania and Georgia, the awareness of the country's population is falling. That is, it can be concluded that in developed countries there is support for opportunities to make public and discuss government decisions.

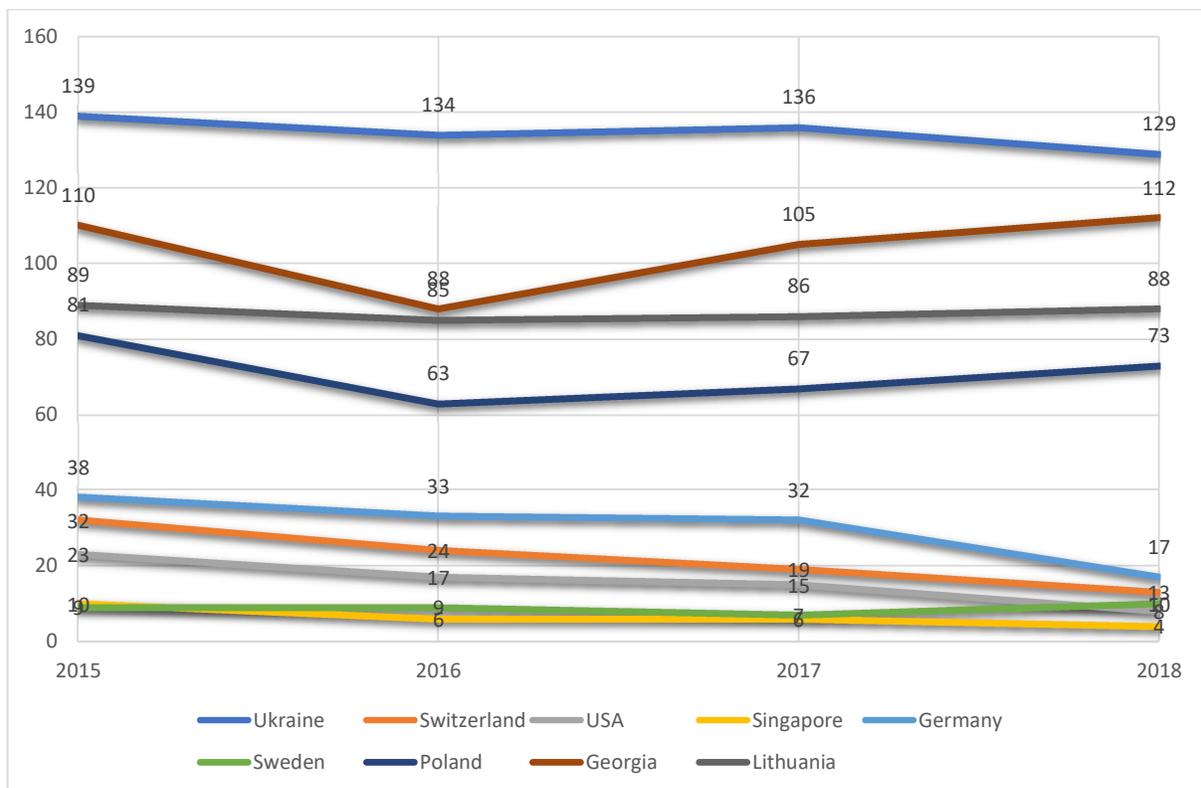


Fig. 4. Dynamics of the ranking of countries according to the “protection of minority shareholders' interests” indicator in 2015-2018

Source: prepared by the authors [1-4]

Protection of shareholders' interests. This indicator determines the existence of prerequisites for the protection of income and rights of shareholders who have both the status of employee and shareholder. It is known that the joint-stock form of ownership is more effective in comparison with other organizational and legal forms, as employees of such enterprises want to increase the profitability of joint-stock companies. Almost all selected countries showed an improvement in the ranking of shareholder protection in 2015-2018. Only in Georgia and Sweden did the ranking of shareholder protection fall. In Poland and Lithuania, the improvement of ranking standing on this indicator was “abrupt”. This may mean economic losses from reduced work efficiency of employee shareholders, so it is undesirable. Ukraine has the lowest ranking among the countries selected for analysis, but in 2015-2016 there was a gradual improvement in ranking standing.

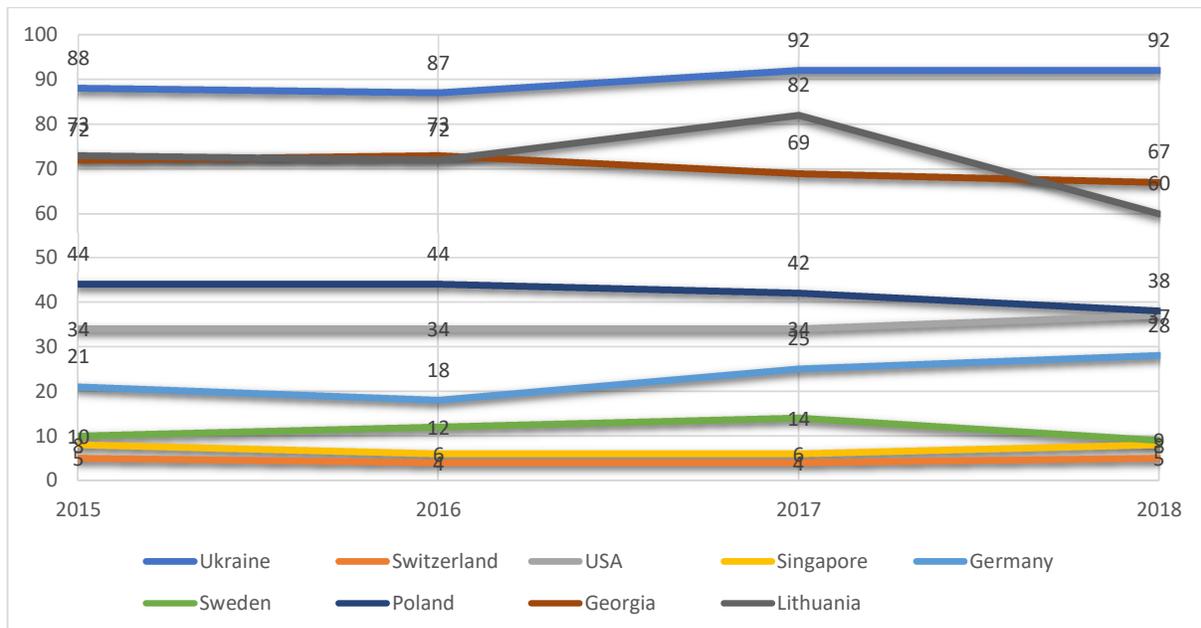


Fig. 5. Dynamics of the ranking of countries according to the “life expectancy” indicator in 2015-2018

Source: prepared by the authors [1-4]

Life expectancy. This indicator characterizes the cumulative impact of factors on human health, such as: the state of health, the level of personnel safety, care for the environment, food quality and so on. In our opinion, this indicator is the most tangible for the population of the country, and therefore is less subjective. Ukraine has the worst life expectancy ranking among selected countries, but the gap with other countries is not as significant as with other social security indicators. In 2015-2018, there was a slight decline in life expectancy ranking in Ukraine, the United States and Germany. In other selected countries, life expectancy ranking have either been stable or improved over this period. It is clear that the deterioration of public health has a negative impact on people’s ability to work, motivation to work, as well as demographic behavior. Therefore, the influence of the state on the factors of life expectancy is necessary.

Thus, the analysis of countries' ranking by **social security indicators** makes it possible to conclude that all countries seek to improve their ranking standing. However, this improvement is “abrupt” for some countries, which means some social and economic losses. Although Ukraine has the worst ranking in terms of social security indicators, almost all of them are improving. The exception is life expectancy, which, in our opinion, is an extended social indicator, i.e. the impact on it involves positive changes in the management of the entire social sphere.

Let’s evaluate the dynamics of economic security indicators.

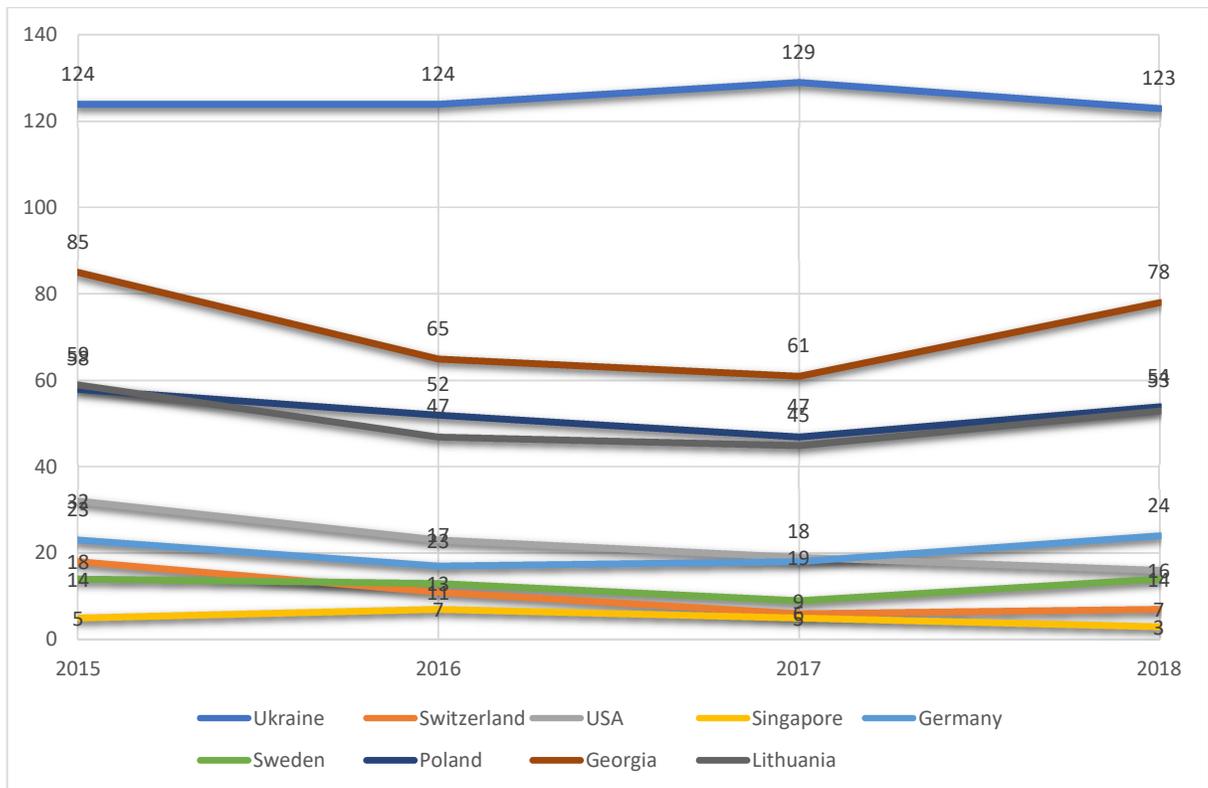


Fig. 6. Dynamics of the ranking of countries according to the “strength of auditing and reporting standards” indicator in 2015-2018

Source: prepared by the authors [1-4]

The strength of auditing and reporting standards. This indicator shows how transparent the business processes of enterprises, institutions and organizations are. Most of the selected countries: Germany, Sweden, Poland, Georgia and Lithuania show a “trapezoidal” trajectory of changing ranking standing by virtue of auditing and reporting standards. Switzerland, Singapore and the United States are gradually improving their ranking standing on this indicator. Ukraine improved its ranking position in 2015-2018, but this happened “abruptly”, with the deterioration of the ranking of auditing and reporting standards. Ukraine also lags far behind selected countries in terms of auditing and reporting standards. This has a negative impact on fiscal, monetary and budget policies.

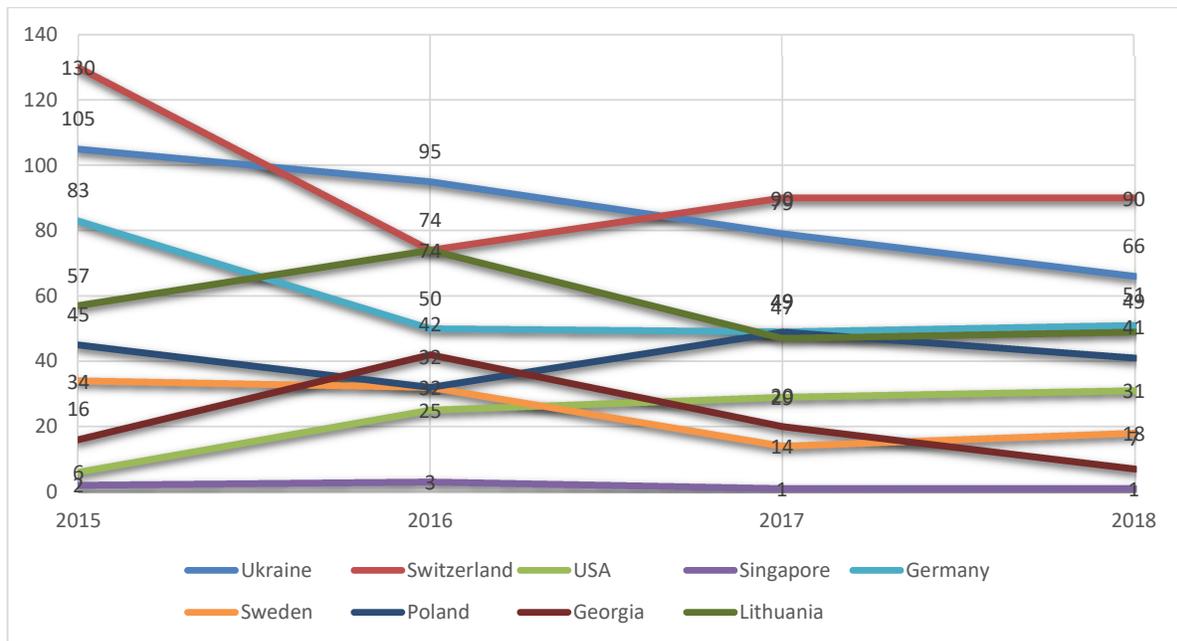


Fig. 7. Dynamics of the ranking of countries on the “strength of investor protection” indicator in 2015-2018

Source: prepared by the authors [1-4]

The strength of investor protection. This indicator characterizes the comfort of the conditions created in the country for investment in the country's economy by both foreign and domestic investors. Such conditions may include government support, favorable loans, preferential taxation, political stability, and so on. For the country, investor protection means job creation, GDP growth, and social development. As can be seen from Fig. 7, among the selected countries there is a variety of trajectories of change in the ranking values of investor protection, which indicates a significant impact of national characteristics and national policy priorities. Thus, if the country has high social standards (high wages and insurance premiums, high taxes), it negatively affects the protection of investors — high production costs which lead to low profits. That is why, in our opinion, in 2015-2018 Ukraine is gradually improving its ranking position in terms of investor protection, and the United States is losing the standing. It is interesting that the ranking of Ukraine in terms of investor protection is at the level of Switzerland's ranking. In our opinion, this situation is explained by balancing the factors of investment attractiveness. Thus, in Ukraine, investors are attracted by low social standards, the shadow economy, favorable territorial location, while in Switzerland currency stability, political stability, low taxes, and convenient location are attractive. Therefore, the differences in trajectories are caused by different ratios of national factors of investment attractiveness. The “abrupt” curve with the improvement of ranking standing in terms of investor protection is typical for Lithuania,

Georgia and Singapore. The “abrupt” curve with the fall of the ranking standing is typical for Switzerland, Sweden, Germany and Poland.

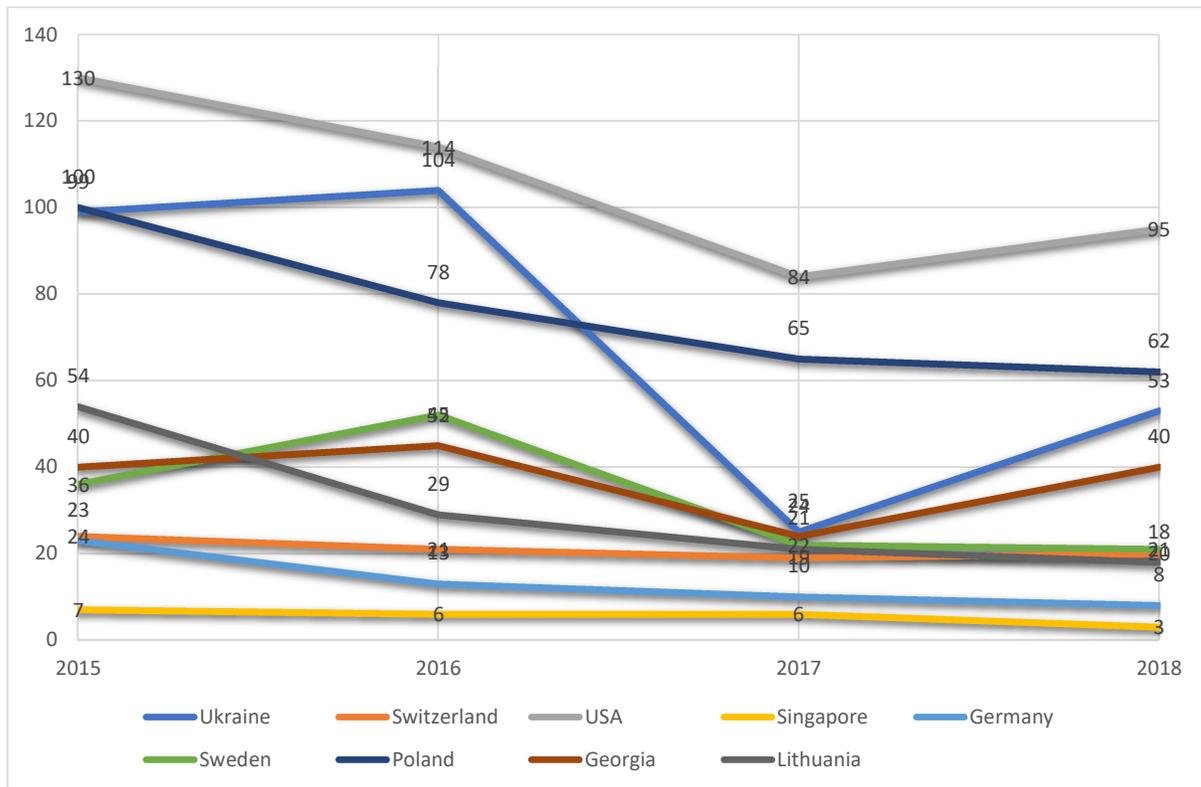


Fig. 8. Dynamics of the ranking of countries according to the “government budget balance % of GDP” indicator in 2015-2018

Source: prepared by the authors [1-4]

Government budget balance. This indicator characterizes the balance between revenue and expenditure parts of the budget. As can be seen from Fig. 8 for Ukraine, the USA, Sweden and Georgia in 2015-2018 the “abrupt” improvement of ranking standing on the state budget balance is typical. In our opinion, such changes in the balance of the state budget are undesirable, as negative "jumps" may mean a deterioration in funding for the social sphere. A more attractive scenario for changing the ranking on the state budget balance is a gradual improvement in ranking, such as in Germany, Switzerland, Lithuania and Poland. It is interesting that the ranking standing on the state budget balance improved in almost all countries in 2017. For the first time in ten years financiers attribute such trends to an accelerated recovery in consumer demand, investment growth due to still soft financial conditions and a revival of world trade. For example, economic activity in Ukraine grew in 2017-2019 due to rising prices for ferrous metals.

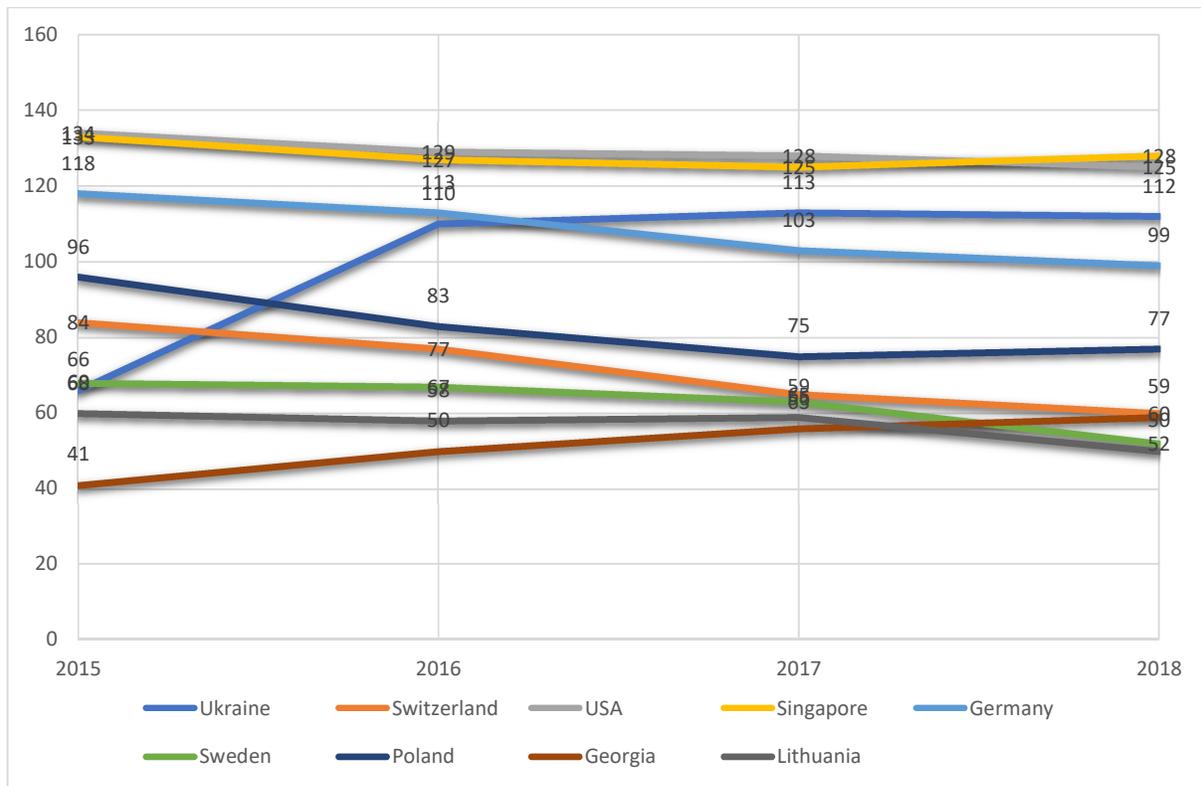


Fig. 9. Dynamics of the ranking of countries on the “government debt % of GDP” indicator in 2015-2018

Source: prepared by the authors [1-4]

Government debt. This indicator reflects the amount of external and domestic debt of the country. In 2015-2018, almost all selected for the analysis countries showed a reduction in public debt. The largest improvement in ranking, which corresponds to the previous indicator — the state budget balance, occurred in 2017. Decline of ranking standing occurred in Ukraine and Georgia. Moreover, Ukraine lost by 44 positions its public debt ranking. According to the Ministry of Finance of Ukraine, this fall was due to an increase by 1.7 times in the country's external debt in 2016.

Thus, the analysis of countries' ranking on **economic security indicators** showed that there are no clear leaders among the countries selected for analysis, the gap between countries is not as large as in the case of social security indicators, countries' ranking are highly dependent on external factors, such as world economic development. Ukraine's ranking is much worse as compared to that of the other countries only in the case of the strength of auditing and reporting standards. According to other indicators, Ukraine does not differ much from the developed countries of the European Union and the United States. This means that prudent government decisions can "revitalize" Ukraine's economy and, on this basis, strengthen social security. . World experience shows that innovative development is a determining factor in socio-economic transformation. This determines the urgency of

economic security issues [5]. Diagnosing the economic security of an enterprise, it is a comprehensive multilevel study of the external and internal environment, and the company, which gives the opportunity to develop strategic directions, on the basis of which security is provided a system development strategy, a strategic plan for its provision [6].

At the same time, economic recovery is not possible without proper innovation activity of the country, so to determine the development guidelines of Ukraine it is necessary to analyze the indicators of innovation activity of the countries selected for analysis. The results of the research show that there is a certain connection between the indicators of innovation in the world and the indicators of their economic security, as almost the same countries (with a few exceptions) occupy appropriate positions according to those indicators. Innovation is the engine of economic growth. Differences in the innovation activity of countries are determined by historical heritage, technological specialization, regional differences and peculiarities of the country [7].

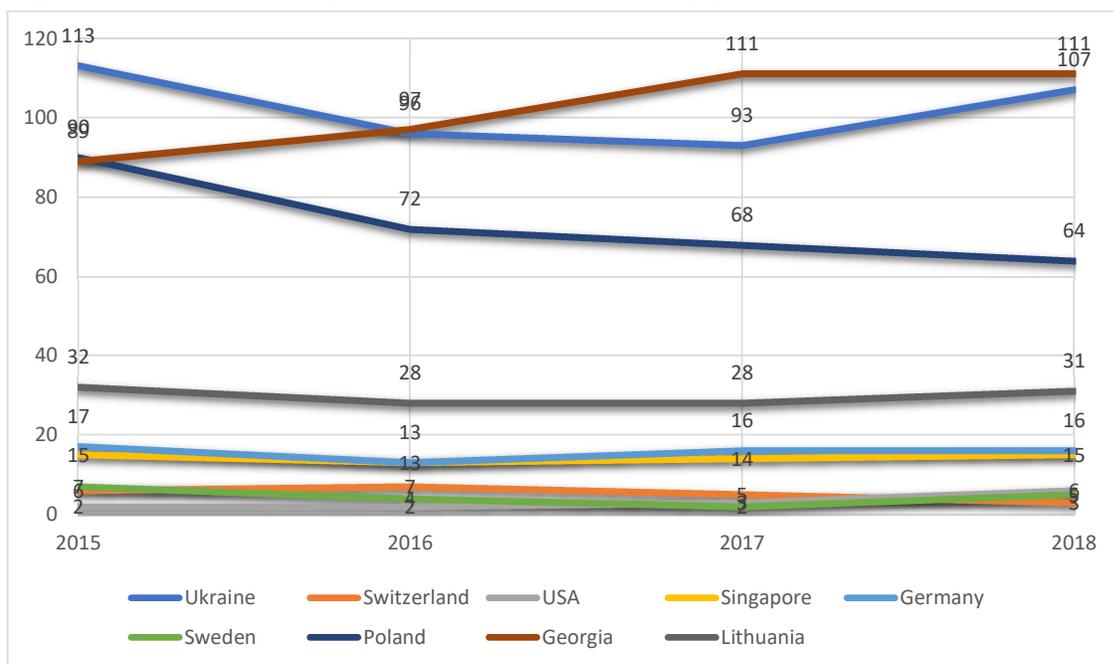


Fig. 10. Dynamics of the ranking of countries on the “availability of the latest technologies” indicator in 2015-2018

Source: prepared by the authors [1-4]

Availability of the latest technologies. This indicator means that the country is focused on technological development, in particular the introduction of innovations in the activities of companies. That is, the high ranking of the country on this indicator characterizes the high willingness of the country's companies to pay for the latest equipment and technologies. Although Ukraine is far behind the developed countries, but similar to one of the leaders in this indicator, Sweden, has a "trapezoidal" trajectory of change in ranking standing. This means that there is a similarity between the innovative model of Sweden and

Ukraine. Swedish model is based on the structures of state financial support, basic research at universities and institutes, as well as cooperation between them and the business. Therefore, for Ukraine it is necessary to reconsider the mechanisms of financing basic research, increase their efficiency and control the implementation of innovations in business. Poland and Georgia are near to Ukraine in terms of ranking.

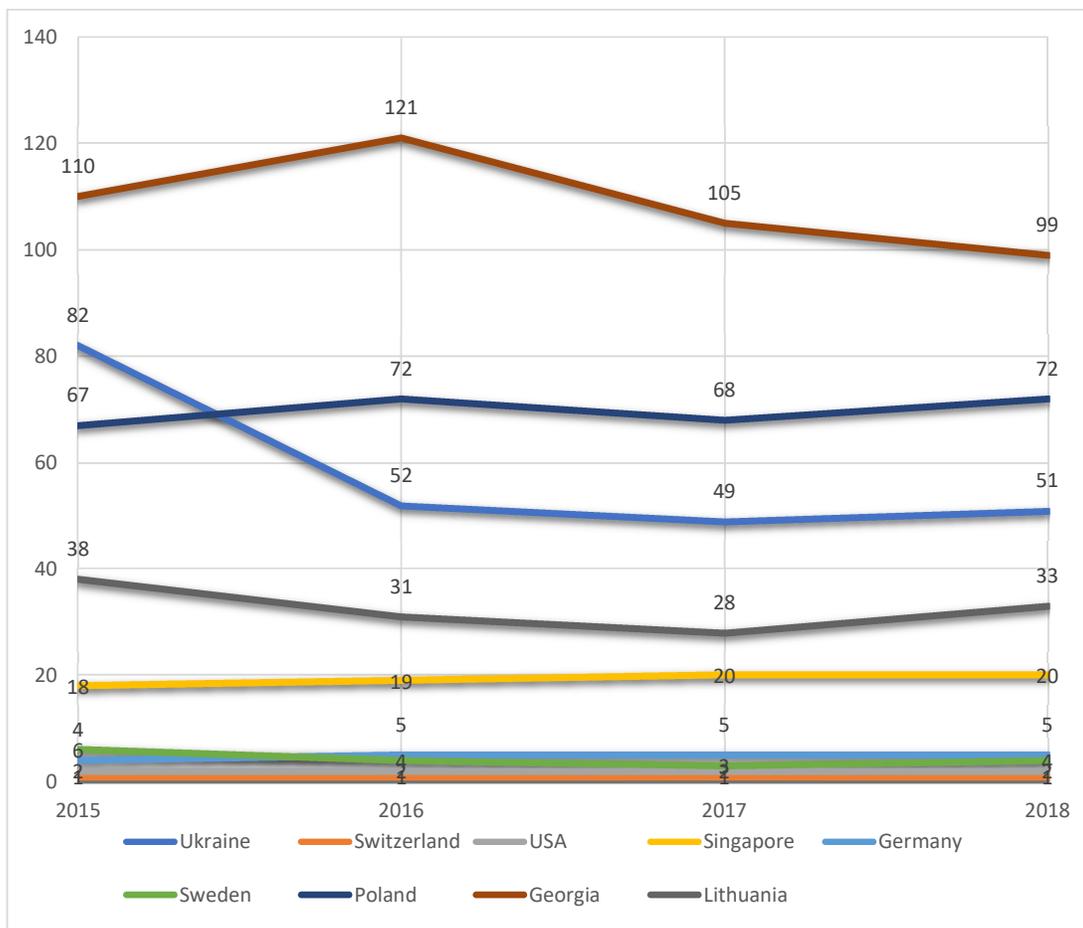


Fig. 11. Dynamics of the ranking of countries according to the “capacity for innovation” indicator in 2015-2018

Source: prepared by the authors [1-4]

Capacity for innovation. As can be seen from Fig. 11, Ukraine improved its ranking in terms of capacity for innovation and was ahead of Poland and Georgia on this indicator. Almost all countries, except Singapore and Poland, have improved their ranking standing on this indicator. It can also be concluded that the closer the country is to the leaders, the smaller the changes (sensitivity to factors) in the ranking. This, in our opinion, is due to the fact that the formation of significant capacity for innovation (employee competence, logistics, efficiency of research institutions and organizations, etc.) requires significant time. Big changes in the innovation potential also require a long period of time.

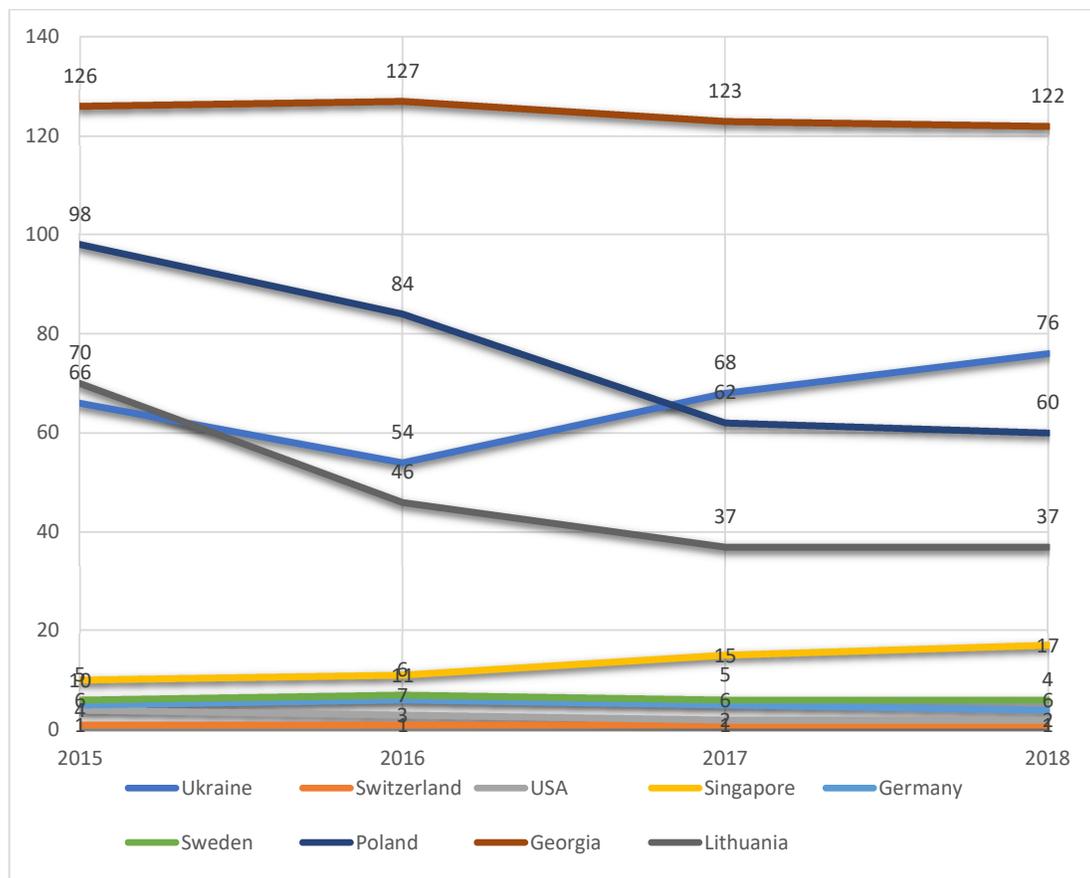


Fig. 12. Dynamics of the ranking of countries on the “company spending on R&D” indicator in 2015-2018

Source: prepared by the authors [1-4]

Company spending for research and development. This indicator characterizes the amount of funding by companies of their own innovation activities. In 2015-2018, all countries, except Ukraine and Singapore, improved their ranking in companies' spending on research and development. On the positive side, Ukraine is ahead of Georgia on this indicator. But, as with the indicator “availability of the latest technologies”, Ukraine lacks financial resources and / or the desire to spend them both at the state level and at the company level. Therefore, in our opinion, it is necessary to use the mechanisms of state support for innovative enterprises. Stojčić, Srhoj and Coad (2020) have proven the significant impact of government’s expenditure and public procurement on the innovative capabilities of EE countries [8]. Also to achieve this purpose, there are the following tasks: to analyze trends in innovative processes and innovative activity of enterprises by corresponding directions; substantiate factors of innovative activity by levels of the economy and determine their effect by components; propose a mechanism of innovative activity by levels of the economy in order to stimulate enterprises to introduce innovations for ensuring increased capacity of activities [9].

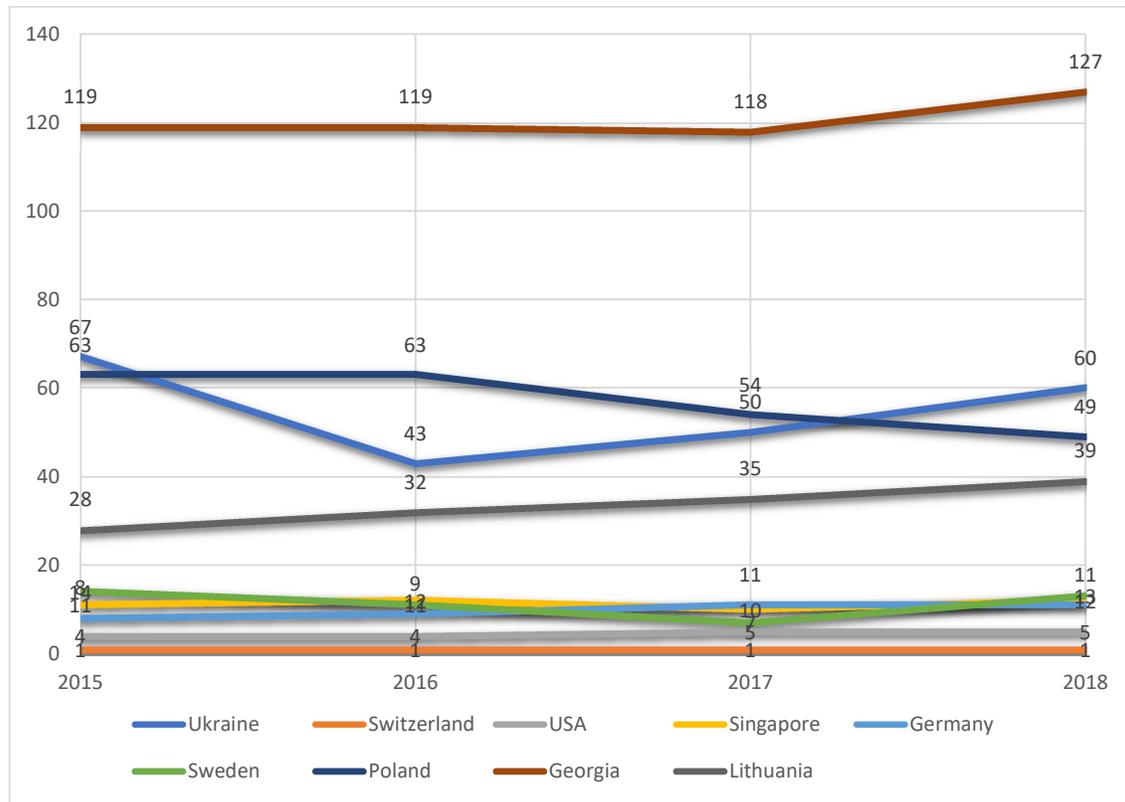


Fig. 13. Dynamics of the ranking of countries according to the “quality of scientific research institutions” indicator in 2015-2018

Source: prepared by the authors [1-4]

Quality of scientific research institutions. This indicator reflects the efficiency of the research infrastructure. Ukraine has significant reserves to increase the efficiency of research infrastructure, although in 2015-2018 it was ahead of Georgia and Poland. In our opinion, the main directions of improving the efficiency of research infrastructure in Ukraine lie in increasing its funding, modernizing the material and technical base and bring innovations to the implementation stage. As with the previous indicator — the capacity for innovation, the higher the ranking standing, the harder it is to improve it.

Thus, we can conclude that Ukraine in **terms of indicators of innovation activity**, as well as indicators of economic security, have no significant gaps as compared to the countries selected for analysis. However, in order to improve the ranking on the indicators of innovation activity, it is necessary to redistribute the financial resources obtained due to the success of the indicators of economic security to improve the ranking on the indicators of social security. Only the achievement of a high level of well-being of the country's population and a sense of security creates the preconditions for creativity, inventiveness and innovation.

2. INDICATORS, TRENDS AND RELATIONSHIPS OF SOCIO-ECONOMIC SECURITY AND INNOVATIVE ACTIVITY OF COUNTRIES IN 2019

In 2019, there were changes in the methodology for assessing the national competitiveness ranking of the world. These changes concerned the calculation of ranking and the selection of indicators according to the criteria of competitiveness of the world. The new methodology significantly reduced the indicators of economic security while mostly did not change the indicators of social security and innovation activity of the country. That is, the conclusions confirm that without proper social security it is impossible to succeed in innovation and in the country's competitiveness accordingly (Table 4).

Table 4. Dynamics of the ranking of countries by indicators of social security, economic security and innovation in 2019

Index Component	Ukraine	Switzerland	USA	Singapore	Germany	Sweden	Poland	Georgia	Lithuania
SOCIAL SECURITY									
Intellectual property protection	118	3	12	2	29	16	70	94	52
Government ensuring policy stability	115	1	16	2	19	32	123	57	83
Government's responsiveness to change	98	13	11	1	20	31	93	83	94
Healthy life expectancy	100	4	54	1	30	10	53	86	84
ECONOMIC SECURITY									
Debt dynamics	114	1	38	39	1	1	1	92	1
Internal labor mobility	81	76	1	n/a	14	85	127	123	19
Attitudes towards entrepreneurial risk	18	25	2	26	16	6	84	60	45
INNOVATION ACTIVITY									
Growth of innovative companies	109	10	2	14	8	3	84	108	26
Companies embracing disruptive ideas	102	20	2	13	7	14	109	75	27
R&D expenditures	67	3	11	14	8	4	36	82	41

Source: prepared by the authors [10]

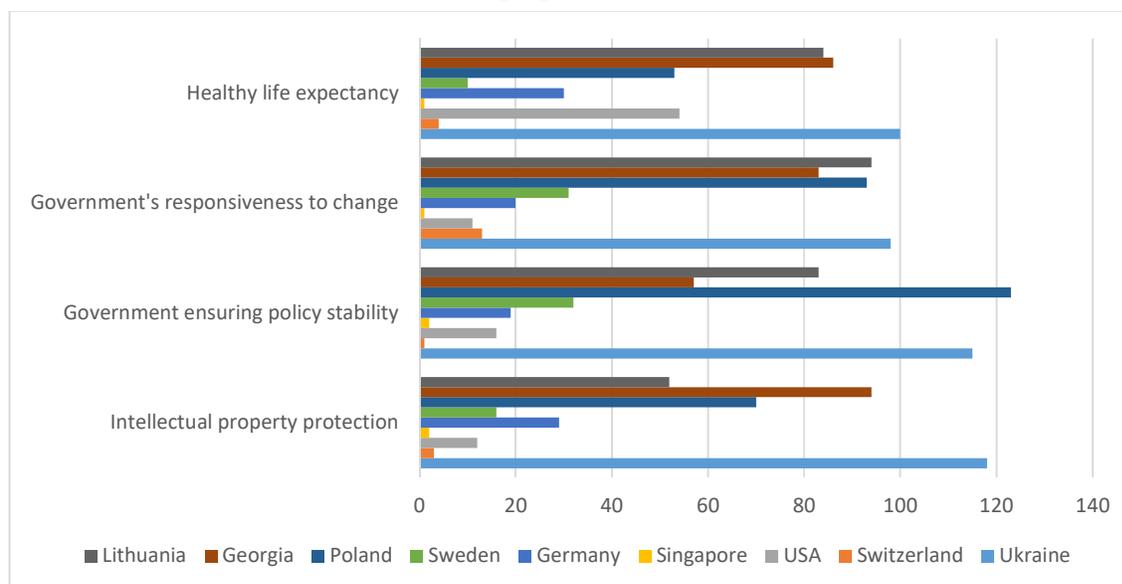


Fig. 14. Dynamics of the ranking of countries by social security indicators in 2019

Source: prepared by the authors [10]

In fig. 14 we can see that Ukraine in 2019, as in 2015-2016, lags far behind the countries selected for analysis in terms of social security indicators. But, as noted earlier, in 2015-2018 Ukraine improved its ranking on social protection indicators.

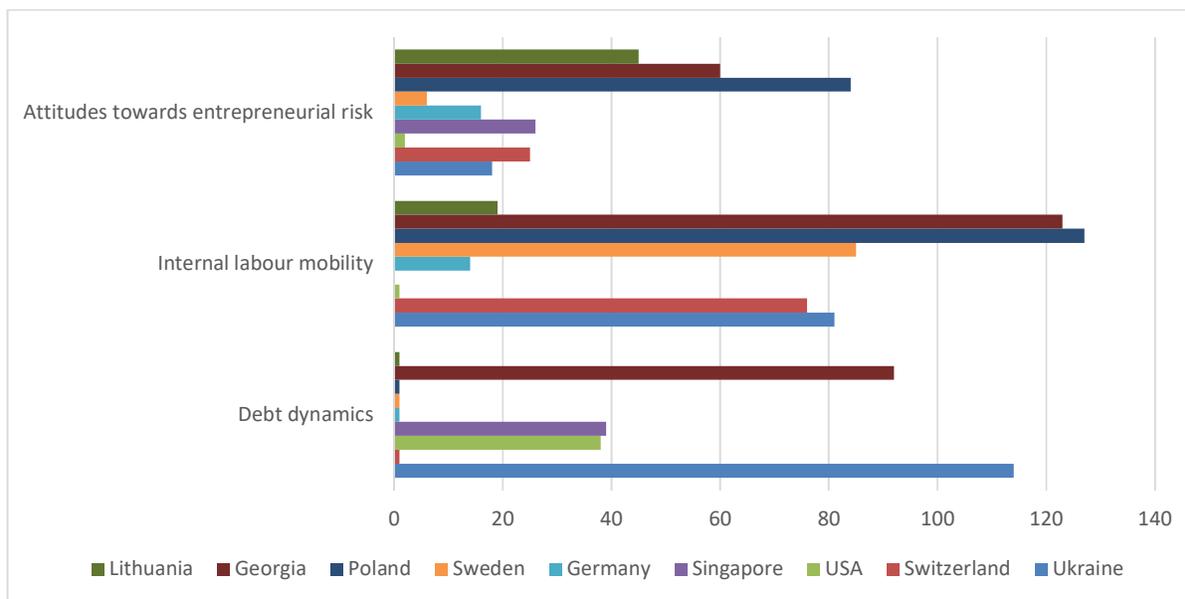


Fig. 15. Dynamics of the ranking of countries on economic security indicators in 2019

Source: prepared by the authors [10]

As can be seen from Fig. 15, Ukraine's ranking on economic security indicators vary — high ranking standing on indicators of business risk and internal labor mobility, while in terms of public debt, Ukraine is behind all other selected countries. The situation with public debt in 2019 differs from the situation in 2015-2018 where Ukraine was ahead of countries such as the United States and Singapore. In our opinion, Ukraine's ranking in 2019 is more in line with reality, i.e. the proposed changes in the methodology are objectively necessary. It is possible to get out of the "public debt trap" only by increasing the efficiency of innovation activities of economic entities, the revenues from which will "cover" the budget deficit and ensure the cost of social security.

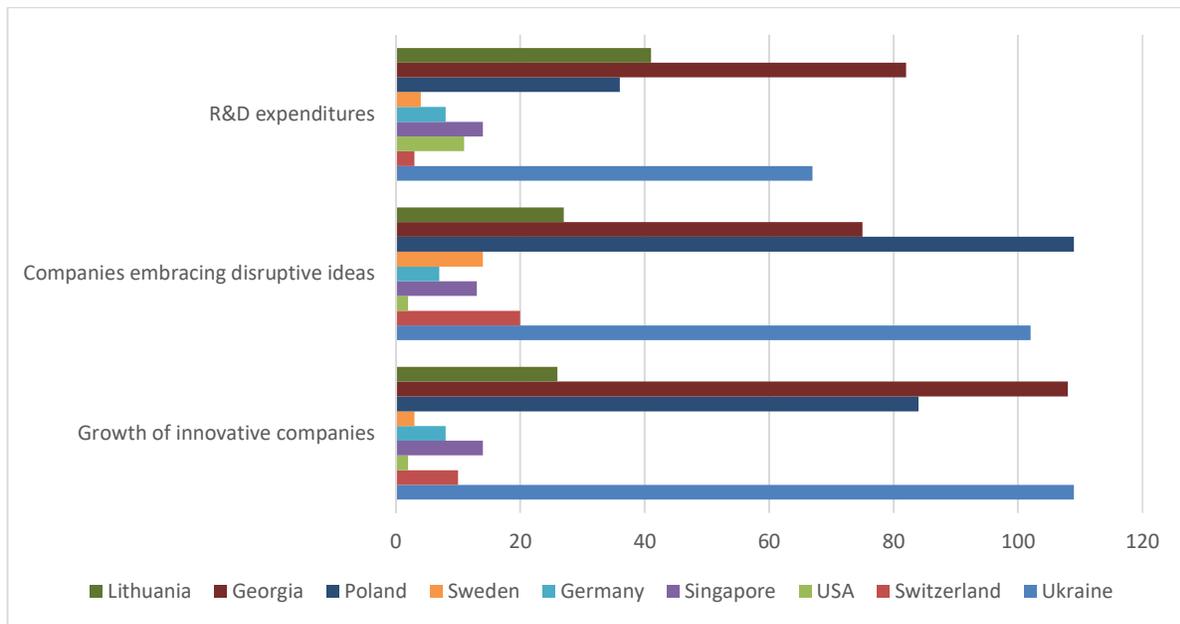


Fig. 16. Dynamics of the ranking of countries according to indicators of innovation activity in 2019

Source: prepared by the authors [10]

As can be seen from Fig. 16, Ukraine lags far behind the developed countries of Europe in terms of innovation indicators in 2019, in particular, it concerns the number of companies that implement innovative ideas, the number of innovative enterprises, as well as the spending by companies for innovation. In our opinion, this situation is caused by the low efficiency of innovation at the implementation stage of innovations in the business processes of organizations, which does not motivate the company to engage in innovation. The solution to this problem, in our opinion, should be initiated at the state level through its financial support. Economic security is ensured through innovations that allow to respond quickly to various threats: demographic, energy, environmental, etc. [11].

CONCLUSIONS

Comparative analysis and monitoring of economic, social and innovation indicators provide an opportunity to develop cooperation between the public and private sectors to identify priorities that allow the development and implementation of human-oriented policies that will make the economy more competitive and productive.

The concept of «socioeconomic security» is considered as a combination of economic and social conditions that ensure sustainable in the long run the production of the largest number of economic benefits per capita. Restricted resources create a greater number of economic benefits in order to ensure independence from imports and at the same time solve the problems of accumulation of society as much as possible knowledge, skills and abilities;

the creation of goods that do not directly contribute to the welfare of citizens (power system, roads, armaments and armies), but the presence of which is a prerequisite for ensuring the welfare of society as a whole [12].

Determining the priority areas of further development of Ukraine, socio-economic growth based on the intensification of innovation, it is necessary to comprehensively develop the following main components:

- Innovation infrastructure, both — production, technological (science and technology parks, incubators, etc.) and educational- scientific, financial, expert, information systems, patenting, licensing, certification, consulting, etc.;

- Innovation culture at the national level and at the level of individual enterprises and institutions, reorientation of corporate culture of business entities, increasing the innovative activity of staff;

- The system of regulation and stimulation of innovation activity, which provides for the use of macro- and microeconomic instruments to support innovation activity, stimulating tax policy of the state, increasing the innovation of the economy, the transition to a model of advanced innovation development;

- Tools and sources of business entities innovative activity financing, expansion of opportunities for investments of national and foreign investors, use of opportunities to utilize modern crowdfunding platforms, extra-budgetary, venture, insurance funds;

- The system of commercialization of innovations, which should include the introduction of new technological processes as well as modern waste-free, energy and resource-saving technologies, development of the intellectual property market, intensification of patenting, sale and purchase of inventions and developments of domestic scientists.

These areas should form a favorable innovation environment for the intensification of innovation in Ukraine, provide opportunities for the development of innovation potential and its implementation (commercialization) to provide the basis for further socio-economic development. After all, innovation is a system-forming element of socio-economic security of the country, as innovation directly determines the state of other components, such as production, foreign economic, investment, scientific and technological, environmental and others. At the same time, innovations and scientific and technical developments are the objects of close attention on the part of foreign economic partners, which is why they can become an important source of international competitiveness.

The main problem of innovation development governance in Ukraine is the lack of system management of the innovation process by the state. The scattering of managerial functions between a large number of government bodies leads to the absence of common goals, objectives, incoherence and inconsistency [13].

Thereby, Ukraine needs the optimization of the state system stimulation of innovation activity for ensuring the growth of economic security of the state.

An innovative model of development of the Ukrainian economy is able to become a platform for socio-economic stability and sustainable development. For Ukraine, the search for solutions to its socio-economic problems, especially in the era of digitalization, to a greater extent lies in the area of improving social dialogue and expanding CSR practices [14]. After all, modern innovation processes are closely intertwined with the goals of sustainable development, social and environmental priorities. The rapid development of the digital economy contributes to the formation of new management models, dictates additional requirements for the training and development of labor resources, and increases the responsibility of each market actor for the final results of work. Modern socio-economic development on an innovative basis is impossible without the environmental component, without the development and implementation of “green”, resource and energy efficient technologies, the development of recycling and waste free technologies and more.

Thus, in the modern digital world, where the processes of digitization and Industry 4.0 are gaining strength, the innovative path of socio-economic development can provide Ukraine with opportunities to ensure international competitiveness, realize the potential of science, creative and human potential, solve social problems and tasks, ensure high quality living standards, achieve environmental goals of sustainable development. The human-oriented concept of security (person-centered concept) is the main direction of social ordering of life in Ukraine [15]. Under this model, the priority is to invest in people, their knowledge and experience, the potential of health through the creation of favorable conditions for a long, safe and prosperous life; in intellectual development, education and science; in technological and information development. This can create a basis for long-term economic growth of Ukraine, social stability of society, environmental development. At the same time, innovative development is both a result and a factor of further development of innovation potential, innovation culture, technological, production development, management development of enterprises, favorable business environment and competitiveness at the national and international level.

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ECONOMIC RISKS IN CORPORATE MANAGEMENT OF THE DEVELOPMENT BY ASSOCIATIONS OF JOINT STOCK COMPANIES

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ABSTRACT

The content and features of the integration strategy in the system of strategic planning of the joint - stock company are determined. The sequence of formation and implementation of the integration strategy of the joint-stock company is substantiated. Strategic alternatives for ensuring sustainable development of the joint-stock company are systematized. The composition of the factors that determine the choice of development strategy of a joint-stock company is generalized. The content of the procedures for determining potential partners for the formation of a corporate integration association is established. Socio-cultural aspects of integration of corporate cultures of joint-stock companies are considered.

Key words: corporation, integration processes, management of integration development, economic risks

INTRODUCTION

Deepening the international division of labor, increasing dynamism and increasing the scale of integration processes in the context of steadily increasing globalization of market relations and production operations, aimed at the gradual creation of a single global economic and information space, are key current trends in the world economy. The most powerful driving force of deployment and a significant consequence of these complex processes of change in the system of social production is the strengthening of the integration orientation of transformations of the corporate sector of the economy, which are not only individual large transnational conglomerates but also a wide range of other corporate enterprises. which belongs to joint-stock companies), regardless of the scope and scale of their economic activity.

For domestic corporations, the actualization of issues of participation in the process of creating integration associations, expanding and strengthening cooperation in various areas of business is further defined as the urgency of modern requirements for the accumulation of large amounts of total capital resources, increasing existing resource and production capacity and increasing innovation. investment potential, and due to the need to significantly strengthen competitive positions in national and international markets in a

rapidly growing dynamic environment, as well as increase the competitiveness of goods and services produced, based on economic flexibility and adaptability, expanding the composition and strengthening the existing competitive benefits, diversification and limitation of economic risks, etc. On the other hand, the use of significant reserves available in the field of integration cooperation to increase business efficiency, as well as the implementation of relevant opportunities to improve the organization and management of corporate enterprises, is largely determined by the economic feasibility of corporate integration associations, rational identification of potential partners. cooperation, complete consideration of the diverse set of interests of the participants in the integration process in the structural construction and functional content of the management system of the corporate association, etc.

However, even when establishing the peculiarities of development and considering the mechanisms of functioning of various organizational and economic forms of integration associations among scientists, there is no consistency of opinion on the economic nature of the phenomenon of corporate cooperation and on determining the prerequisites for integration of corporate enterprises.

However, it should also be noted that both given the conscious limitation of the completeness of the classification approach by a simple list of forms of integration can not be sufficiently considered the whole complex range of characteristics and features of different integration associations, and when used in this context excessively extensive system. artificial features of inevitable smoothing of significant frameworks and boundaries, which determine the relevant differences between different types of integration associations, which, in turn, also determines the need for further deepening of scientific substantiation of ways to intensify integration processes in the corporate sector of the national economy.

1. PECULIARITY OF SIGNIFICANCE AND SCALE OF REPRESENTATION OF CORPORATE ORGANIZATIONS IN THE MODERN GLOBAL SYSTEM OF ECONOMIC RELATIONS

The extreme variety of forms of formation and peculiarities of functioning of associations of enterprises is available in modern economic practices due to the breadth of the range of motives and goals of intensification of integration processes, the sources of which may be market (strengthening of competitive positions of participants through combination of marketing opportunities and joint sales channels). counteraction to unfair competitive actions, streamlining and expanding the range of aggregate product offer, etc.), production and cooperation (concentration of production capacity, pooling of resource base and synergy of key competencies in the context of forming the whole chain of new value creation, -investment (increase of scientific potential and strengthening of scientific and technical basis of innovative activity, increase of ability of members of association

concerning accumulation of large volumes of investment resources, n facilitation of access to external sources of financing, etc.), organizational and managerial (ensuring systematic focus, effective coordination and coordination of joint actions in various areas of management, etc.), institutional (focus on minimizing transaction costs through the development of non-market mechanisms of economic cooperation). and maintaining mutual trust) the nature of the origin. In this case, despite the above and organized extremely wide and diverse range of forms of enterprise associations, organizational and economic regulation of structural and functional construction and legal regulation of the vast majority of the considered business integration structures is carried out in the form of corporate entities (corporations and business associations).

The corporation as a way of organized collective human activity should, obviously, be considered one of the oldest and most ingrained in the context of civilizational development of mankind practices. The initial attempts to create an organized human unity, based on the relationship of equity participation in the lease of latifundia, usually date back to ancient Greece. The very etymology of the term «corporation» is usually associated with the Latin term «corpus habere», which was widely used in Roman law to identify the legal status of a group of people, whose community was primarily based on the pooling of property contributions. However, unlike the individual («persona»), the legal capacity of such legal entities in Roman law was to some extent limited ([1; 2; 6]): corporations enjoyed their own (separate from the founders and participants) rights and had to bear their own responsibility , but the exercise of these rights and responsibilities (capacity) could take place only through individuals (the same members of the corporation).

Later, the use of such collectives spread to a much wider range of not only economic but also spiritual, religious, professional and other associations, which gives good reason to link the origin of the concept of corporation with the late Latin «corporatio» (that is, «union», «union»). In recent times, after the collapse of the Roman Empire, the principles of corporate governance in various spheres of human interaction were transferred to the social practices of medieval European states in conjunction with the preservation of the general principles of Roman law. Later, with the beginning of the New Age, the rapid development of trade corporate organizations and associations was closely linked with the organization and implementation of equity relations in the development of open new lands.

At the same time, the fundamental difference between the new trading corporations of the era of the Great Geographical Discoveries was to some extent overcoming the isolation inherent in medieval corporate unions and unions, which was caused by the desire to restrict access to trade secrets and opportunities , for example, V. Radaev [3, p. 154]). The industrial revolution, in which there was, on the one hand, the rapid growth of social opportunities for large-scale production of useful goods and services, and on the other - increased urgency to accumulate for this purpose huge amounts of financial and investment

capital, led to the final formation of this phenomenon corporate organization of the joint-stock type, which is currently the basis of the modern world economic system. In the organizational and legal sense, the corporation (of course, given the significant differences in the regulatory framework and regulatory framework in this matter in the continental and Anglo-Saxon legal systems and traditions) is considered a company (ie, a special type of enterprise based on participation, participation). unification of individual efforts and capital, separation from the corporation of its founders and members, independence and autonomy in management, etc.).

Thus, the very phenomenon of the corporation is based on orderly features and properties that primarily characterize and determine the principles of construction and general principles of collective activity and cooperation of people in the direction of achieving jointly recognized and jointly defined goals, common interests and others. In this case, the corporation as a somewhat united and structured human community is determined by the specificity of the content of the approach to streamlining the interaction of founders and participants, which allows us to consider such an entity as a special type of organizational group. In particular, the following features and properties should be considered characteristic of the corporation and corporate relations: the use of participatory relations to streamline cooperation and interaction of participants; legal separation and property separation of the company from its members; full general legal capacity and administrative independence, which are manifested in the emergence of a wide range of rights and obligations of the company as a legal entity, completely separated from the founders; separation of powers arising from the possession of corporate rights (shares in the capital of the company), and management functions; the presence of a separate management vertical to represent the interests of owners in the organizational structure and in the highest governing bodies of the corporation; voluntary transfer by participants of a share of their own rights and powers at the disposal of the corporation, etc.).

It should be noted, however, that the peculiarity of the importance and scale of corporate representation in the modern global system of economic relations determines the extraordinary expansion of the basic (system-forming) content and significant diversity of identification of corporations in the general context of public relations. Thus, the generalization of the existing theoretical provisions for establishing the essence of the concept of «corporate organization» or «corporation», allowed the author to identify such approaches that exist to address this issue.

First, the corporation as a specific form of organized identification of the sign of social unity of people. The scope of this approach extends far beyond specific economic entities (economic organizations), which are considered only a separate type of organizational support for the community of individuals and groups of individuals, united by a sense of homogeneity of interests, values and goals, which, in turn, serve as a basis for

formation of coordinated and agreed models and strategies of collective behavior in the direction of approximation to achieve mutual benefit and realization of common expectations. Important and characteristic of this approach is the consideration of corporate organization as an integral part of the social system, the fundamental principles and basic principles of which are manifested in the creation of a standardized corporate form of organization of economic relations of the whole community in the direction of organic inclusion of such productive individual and collective cooperation in the general context of life support and development. Thus, the corporate organization is considered to be a certain connecting institutional link of relations both at different levels of building a system of social relations and between phenomena and processes unfolding at these levels (the institutional nature of such a combination is to standardize and streamline socially recognized practices and approaches for use in the regulation of economic relations). At the same time, the implementation of the institutional function of the corporation is carried out in the opposite direction: on the one hand, in terms of integrating a possible wide variety of acts of human economic interaction through unification (within corporate requirements) of economic activity in the most general context of the existing social order; and on the other hand - in the direction of development, implementation and implementation (through appropriate improvement, standardization and simplification of the used norms and rules of regulation of economic interaction) more perfect, adequate and appropriate to the realities of economic life, mechanisms of economic relations.

Second, the corporation as an integrated business structure. Under this approach and in this case, the economic space of economic interaction is considered as a set of inextricably linked and intertwined segments, which use alternative in nature modes of resource allocation - market and administrative. In this case, the above institutional function of the corporate organization receives a more significant economic content and acquires a new meaning, which is to increase the flexibility of the economic system of the economic mechanism of society, within which there is the formation of two ways of economic relations: market, optimal use of resources; which, however, may be accompanied by the emergence of significant amounts of unproductive transaction costs and limited opportunities for social regulation in the distribution of total wealth (see, in particular, S. Sukharev [4], O. Williamson [5], E. Furubotn and R. Richter [7] and etc.); corporate, which is a set of localized economic entities, the internal economic structure of which is based on administratively managed redistribution of resources (subject to the requirement of voluntary transfer of participants' rights and powers to the corporation), but economic interaction between them occurs through the use of market mechanisms. Thus, corporate organizations (corporations) in the economic (interaction of non-coercive-market and centralized-administrative redistribution of resources) and structural (interpenetration of components of the economic mechanism, differing in the principle of construction -

decentralized-voluntary for markets or hierarchically-functional for enterprises) aspect represent a certain extremely mobile link between the market-economic and administrative-organizational spheres of the economic system of society. Within this approach, to some extent embodies the specific corporate ideology of economic convergence of different economic mechanisms (market and administrative), initiated in the classic works of A. Burley and J. Mins [8], J. Galbraith [9], D. Kotz [10] etc.

Third, the corporation as an organizational and legal form of collective business organization. The emergence of such a view of the genesis and patterns of nature of the corporation in the capitalist economy is inextricably linked with one of the most important features of corporate organization, which is the separation of ownership and management. The growing needs of enterprises in capital resources needed to create a technologically complex and technically cumbersome industrial production base, as well as a significant increase in requirements for knowledge and innovation of the final product almost made it impossible to continue economic activity on the basis of purely private capital. Similarly, an excessive increase in the variety of management and professional decisions related to the current activities and strategic prospects of enterprise development, determine the need to strengthen the professional leadership of corporations. At the same time, gradually (in the context of identifying these trends) there was a development of deep transformations of the content of social and labor relations, in which the increasing needs of modern post-industrial society in creative saturation and professionally specialized filling of productive employment of employees gradually reflected in partial labor. , with the spread of the use of collective forms of joint investment, participation in capital, etc. In this context, the economic functions of the corporation as an extremely effective organizational form of flexible support and mutually beneficial support of economic cooperation have been further identified through expanded inclusion, on the one hand, in the structure of the investment mechanism of capital formation and reproduction. the sphere of relations between the owners of the means of production and employees. Moreover, in both cases, corporate organizations acted as a powerful integration basis for updating and revising the organizational and economic foundations of collective entrepreneurial activity through the acquisition of acts of interaction of a wide range of participants in economic activity aimed at achieving common compromise goals, coordination and balancing of different interests and implementation. mutually beneficial cooperation (as opposed to the purely private business's narrow focus on individual satisfaction of the requirements of capital owners, increased exploitation of employees, neglect of social needs, etc.).

Fourth, the corporation as a form of organization of specific joint-stock relations based on membership (participation). The implementation of expanded functions and the implementation of new tasks of corporate entities in the system of transformation of social relations to some extent determines the need to revise the content and features of structural

and organizational structure and economic mechanism of corporations. At the same time, the ability of the corporate internal economic system to flexibly balance the interests and aspirations of not only shareholders and staff, but also a wide range of people interested in the development of the corporation (the state) acquires much more importance (relative to the traditional conditions of industrial technology), consumers, suppliers, contact audiences, etc.). The corporation acts as a quasi-market for the distribution and redistribution of corporate control, ie the ability to influence management decisions on the distribution and use of resources available to these groups. Such a quasi-market, initially formed by balancing the capital contributions of the corporation's members to the formation of its property base, is further developed through the involvement and subordination of the mechanism of corporate regulation of the diversified influence of stakeholders. The effectiveness and functionality of this type of corporate cooperation is almost crucially determined by the openness and transparency of the procedures for distribution and redistribution of shares of corporate control as objects in the domestic quasi-market (on the same basis as in the real market relations). Under such conditions, the traditional joint-stock form of the corporation (usually characterized by the maximum level of manifestation of the previously noted advantages of the corporate organization) also acquires a new functional content, which is to form a reliable (recognized as appropriate and meets the expectations of participants) basis of corporate cooperation.

Thus, in modern conditions, the formation and development of a joint stock company to ensure the performance of a wide range of important social functions and full realization of economic benefits of a joint stock corporation involves the formation and support of a special type of connection, which is characterized by integration aspects of construction and operation: as a public or social contract; as a manifestation of human unity; as a way to identify common interests; as an integration form; as an organizational and legal form; as an organizational form; as a legal construction; as a form of capital pooling.

2. GENERAL CHARACTERISTICS OF ECONOMIC RISKS IN CORPORATE GOVERNANCE OF INTEGRATION DEVELOPMENT OF ASSOCIATIONS OF JOINT-STOCK COMPANIES

On the other hand, it should be noted that the generalization of theoretical provisions for determining the nature and content of the category «integration» allows to identify the presence of signs of corporatism in the context of integration processes (Table 1).

Table 1. Identification of signs of connectivity in theoretical approaches to identifying the essence of corporate integration processes

Approach to defining the essence of integration	An approach to defining the essence of a corporate organization	Corporate aspect of integration implementation
Integration as a certain state of connection of parts of a whole	Corporation as a form of organized identification of the sign of social unity of people	Corporate typification of economic interpersonal and collective relations as a component of ordering and structuring the social system
	Corporation as an integrated business structure (association of enterprises or capital)	Execution of the institutional function of combining and supporting the interaction of market-economic and administrative-organizational spheres of the economic system of society
Integration as a combination of focus on the whole and the process of creating the whole	Corporation as an organizational and legal structure of the organization of collective entrepreneurial activity	Ensuring the focus of integration on achieving common compromise goals, coordination and balancing of divergent interests, implementation of partnership mechanisms and mutually beneficial cooperation
	Corporation as a form of organization of specific joint-stock relations based on membership (participation)	Formation of a proper and adequate to the expectations of the participants basis for the integration process of cooperation based on the distribution and redistribution of corporate control
Integration as a process of emergence of integrated integrity		

Source: author's development.

Thus, the consideration of integration as a certain state of connection of parts of the whole in the context of institutional tasks of the corporate organization is based on the unification of functional and procedural aspects of interaction of integration processes, which due to increasing unification and typification as key in terms of integration dynamics properties and characteristics of these entities (internal structure, modes of operation, the order of inclusion in economic life, etc.), and in relation to the recognized rules of cooperation (institutional aspect of the management mechanism), allows to achieve a closer relationship and a high level of homogeneity relations. Ensuring the organic combination of target orientation to increase the integrated closeness of interaction of subjects in the process of formation and development of economic structure of society is achieved through flexible interpenetration of market (economic relations based on voluntary participation of subjects in trade using a price mechanism based on balancing). supply and demand) and administrative-organizational (actually a corporate organization based on the use of a certain level of coercion in terms of the manifestation of volitional principle in the internal allocation of resources) ways to achieve jointly established and freely recognized goals, which are the general basis for collective entrepreneurial activity [16-20]. The emergence of integrated integrity as a certain stage, the result of integration dynamics involves the creation of an orderly system of a wide range of relations (economic, social, industrial, cultural, etc.), within which based on established rules and procedures governing conditions of participation and acts of interaction stability in joint activity, stability of functioning and stability of development of the corporate formation constructed thus can be reached [21-25].

Thus, the management of corporate integration processes involves the need to justify, make and implement management decisions, which are determined by different levels of

identification of the following parameters (Fig. 1): strategic orientation in the decision-making process and extremely high cost of management decisions. implemented by the company, will be aimed at solving the most long-term development challenges and associated with the implementation of large amounts of investment); great importance of new competitive advantages and new competencies (related to the implementation of the desire to create original new opportunities to strengthen competitive positions, ensuring the formation of innovative competencies); variety of conditions for determining the forms of interaction with other subjects of economic relations (usually related to a limited range of the most fundamental decisions on streamlining the composition of partners in corporate integration and establishing forms of cooperation).

Determining the parameters of acceptance and implementation of the space of acceptance and implementation of management decisions in corporate governance of integration development of associations of joint stock companies allows to form a basic description of the key features of this process (Table 2).

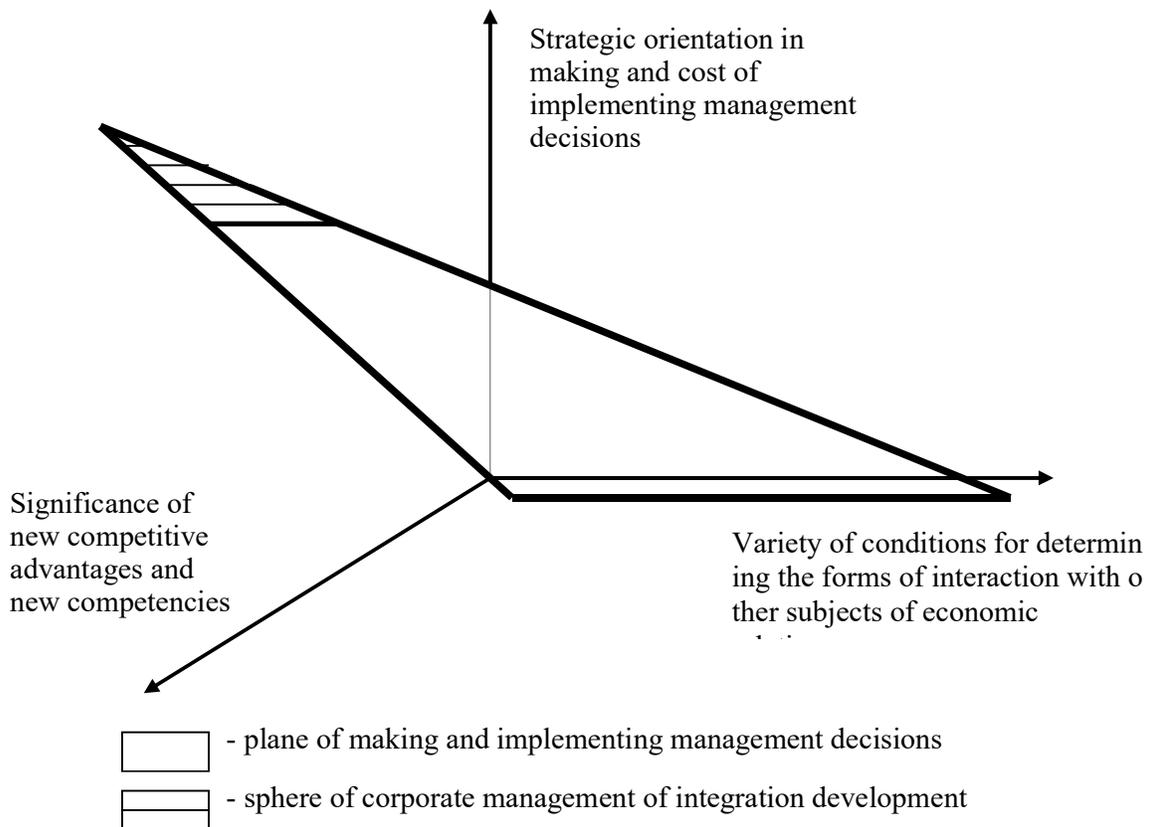


Fig. 1. Sphere of management decisions at corporate management of integration development of associations of joint-stock companies

Table 2. General characteristics of corporate governance of integration development of associations of joint-stock companies

A sign of the management process	Characteristics of corporate management of integration development of associations of joint-stock companies
Goal	Formation within the perspective balance of property rights of the group portfolio of competencies of the association of joint-stock companies to achieve a dynamic increase in the return from obtaining strategic complementarity of competencies
Object	Regular activities to increase the synergetic and emergent properties of the integration association
Subject	Corporate mechanisms of management of integration processes considered through definition of interrelation of the mechanism of corporate integration with other mechanisms of management of association of joint-stock companies (mechanisms of corporate management, strategic management of integration association, innovation and integration development, reflective harmonization of corporate cultures processes, implementation of the program of transformations and overcoming resistance to organizational change)
Subjects	The highest governing bodies of the corporation, shareholders, staff, potential partners in integration
Principles	Local rationality and organization
	Relative value of resources
	Unity of socio-cultural space
	Complementarity of competencies
	Impact balancing
	Self-reproduction
	Free choice of behavior
	Cooperation and clarity of interest
	Imperativeness of individual behavior
	Sufficient variety of incentives
	Minimization of externally systemic contradictions
	Protection of property rights
	Minimize the cost of maintaining competencies
	Distributed democracy
Reproductive balance of resources	
Emergence	

Source: author's development.

The key guideline and basic requirement for the implementation of the described approach to building a mechanism for corporate governance of integration development of associations of joint stock companies, focused on solving problems of increasing synergetic and emergent properties of integration association, is to deepen economic localization of economic relations within the achieved new quality unity.

CONCLUSIONS

The peculiarity of the importance and scale of representation of corporate organizations in the modern global system of economic relations determines the extraordinary expansion of the basic (system-forming) nature of content and a significant variety of identifying features of corporations in the general context of public relations. At the heart of the corporation's phenomenon are orderly features and properties that primarily characterize and determine the principles of construction and general principles of collective activity and cooperation of people in the direction of achieving jointly recognized and jointly defined goals, ensuring common interests and others.

The most significant differences between the forms of integration and the types of integration entities are related to the identification of the following features and characteristics: the degree of voluntariness of the unification procedure; conditions of the integration procedure; common contours of information exchange and reporting; types of resources involved in joint activities.

Management of corporate integration processes involves the need to justify, make and implement management decisions, which are determined by different levels of identification of the following parameters: strategic orientation in the process of making management decisions and extremely high cost of management decisions. investment); great importance of new competitive advantages and new competencies (related to the implementation of the desire to create original new opportunities to strengthen competitive positions, ensuring the formation of innovative competencies); variety of conditions for determining the forms of interaction with other subjects of economic relations (usually related to a limited range of the most fundamental decisions on streamlining the composition of partners in corporate integration and establishing forms of cooperation).

The formation and development of a joint stock company to ensure the implementation of a wide range of important public functions and full realization of economic benefits of a joint stock corporation involves the formation and support of a special type of connection, which (in the context of these approaches) is the following integration aspects of construction and operation: as a public or social contract; as a manifestation of human unity; as a way to identify common interests; as an integration form; as an organizational and legal form; as an organizational form; as a legal construction; as a form of capital pooling. The motivational basis of corporate integration development is determined by a clear focus on creating new competitive advantages and improving the emergent properties of the participants in this process, between which within this kind of interaction there is a special relationship. Thus, the content and direction of corporate integration is to localize economic relations of entities engaged in cooperation, in the direction of creating a certain (limited by selected rules and regulations; structural construction of supply chains; personal preferences of decision makers, etc.) economic space of interaction, partially separated from the system of market relations.

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FORMATION OF SPECIALIZED CREATIVITY AS BASIS FOR SUCCESSFUL PERSONAL SELF-REALIZATION

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ABSTRACT

The author outlines coherence between implementation of the creativity formation phases with sensitive age periods. Taking into consideration the statement that the creativity specialized phase, which corresponds with the formation of creative abilities in the relevant field of human activity and provides the conversion to the original creativity, occurs in adolescence, the study clarifies the personal development of visually impaired students at this age within a context of their creativity formation. Due to a reasonable fact, that visual impairment can negatively affect the development and formation of students personal qualities, their emotional and volitional regulation, reduce their activity, the key expression is that an individual's awareness of his / her own defect opens out compensatory abilities. Thus, identifying the peculiarities of the formation of structural components of creativity of visually impaired adolescents` will determine the features of the educational process of their creativity formation at this age period. The structural model of creativity and the criterion base of research of condition of its formation were developed. Diagnostic complex has been developed for determining the state of formation of the structural components of creativity of visually impaired adolescents, a detailed step-by-step plan for its implementation and data analysis have been provided.

Key words: *creativity, adolescence, visual impairments*

INTRODUCTION

Taking into consideration the complexity of the creativity nature, it can't manifest itself only in one aspect of human life, but can be embodied in the unity of several of them. Conformation of this is found, in particular, in the psychological theory of the 4P's Creativity Model (Rhodes, 1961). According to this model, creativity can be viewed from four perspectives: person, process, product and press of the environment. In other words, it is expressed through the personal ability to be creative; appropriate mental processes, which are developed at a high level; ability to generate unique ideas and implement them effectively (produce creative products); as well as a certain level of manifestation of transformative interaction with the environment where the individual is located.

For the personal creativity development the essential element is a gradual conversion between the active phases of its formation in appropriate age periods of sensitivity. Specialized creativity, which is formed as the capacity for creativity in relevant field of human activity is an external criterion for the conversion to original creativity, occurs in adolescence (Druzhinin, 2000).

It is known that visual impairments reduce personal activity in general, inhibit development of cognitive interest and internal activity. In the age period, which is the time of specialized creativity formation, visually impaired students often begin to critically assess the impact of visual impairment on their personal development, to realize the importance of consequences of this defect for their future role in society. This significantly narrows the range of their interests, limits the scope of their activities and interaction with the environment, and negatively affects the process of their specialized creativity formation.

Taking into consideration thesis, that an individual's awareness of his / her own defect opens out the compensatory abilities (Vygotsky, 1927), we can assume that identifying the peculiarities of the formation of each of the four structural components of creativity of visually impaired adolescents will determine the level of their creativity formation and the features of the educational process of their creativity formation at this age period.

1. STRUCTURE OF PERSONAL CREATIVITY AND ITS DIAGNOSTIC ASSESSMENT

Creativity is defined as a complex integral formation (Valeyeva, 2009; Fufayev, 2010), as a complex personal formation of dynamic nature (Hramatiuk, 2013; Muzyka, 2014); as a multifaceted psychological structure of personality (Boldenko, Palatkina, 2013); as the result of external influences and self-education (Biryukova, 2004), as a characteristic of activity (Ilina, 1984) etc. Most of these scholars focus on the notion of creativity as proactive activity on the way to self-improvement, self-development and realization of inner potential. It should also be emphasized the core element of creativity, from the point of view of contemporary psychological and pedagogical thought, is a balance between internal necessity of individual and external catalyst that caused this necessity.

The complexity of the phenomenon under consideration leads to divergence of views on the identification of the main criteria for its evaluation, and thus complicates the diagnosis of the level of formation of the structural components of creativity. The investigations devoted to the creativity of the visually impaired students are found in the studies of separate researches and scientific schools around the world. Among them: Rubin & Klineman (1974). These scholars investigated the potential for creative growth in visually impaired students (5-13 years old). Warren (1994) studied the correlation between intellectual and artistic creativity aspects of blind students. At Queen Rania Faculty for Childhood, Hashemite University, Al-Zarqa, a group of scholars (al-Masa'deh, Emaolit, 2015), led by Al-Dababneh, conducted study of the training program impact on the development of creative abilities of 9–10-year-olds with visual impairments. A group of scholars from the University of Catania, which included: Caroli, Sagone, Falanga, Orazio (2019), focused their research on diagnosis and development of divergent thinking of blind and visually impaired children and adolescents.

In Ukraine, the issue of creative abilities and development of their manifestations in visually impaired children and students was touched upon by Tolmacheva (2017).

Assuming that creativity can be a unity of four structural components which correspond to the fields of human activities, logically there is a necessity to develop and justify the criteria for studying the level of creativity formation of visually impaired adolescents. In our study, each structural component of the creativity corresponds to a certain criterion: structural component «person» to source criterion, structural component «process» to motivational criterion, structural component «product» to activity-behavioral criterion, structural component «environment» to synergistic criterion.

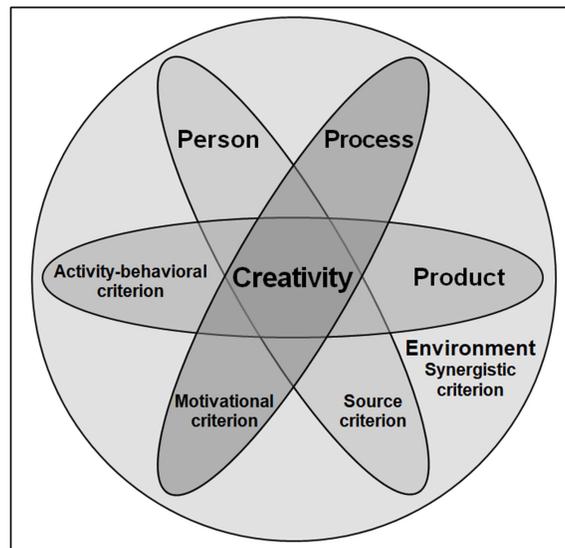


Figure 1. Structural model of personal creativity

Each criterion corresponding to a certain structural component of creativity is characterized by certain indicators. We shall analyze them in more detail.

The source criterion («person») is based on such a phenomenon as creative potential, which shows the ability of individual to creativity. A number of researchers (Lukanovska, 2010; Zenasni, Lubart, Barbot, 2013) believe that it is determined by the ability to perceive the objects and phenomena of the surrounding world in a holistic manner, together with their properties. Such mentality features as flexibility, originality, speed, brevity, intuition are also significant. More than that, there are some preferable traits of character, such as independence, optimism, firmness and ambition. In addition, personal sensitivity to problems, the tendency to identify contradictions and inconsistencies, to ensure the selection of necessary modifications to optimize the activity, an intuitive approach in identifying problem areas and the effectiveness of their optimization.

Motivational criterion («process») reflects the intrinsic wish of individuals to manifestation of their own individuality in the process of self-realization. A number of researchers emphasize the direct interdependence of intrinsic motivation with creativity and self-determination of personality.

According to studies conducted by Chiu (2014) and Heo (2014), purposeful work on the development of self-regulation helps to strengthen motivation of the individual to conscious action, which increases the creative component of his/her activity.

Activity-behavioral criterion («product») is manifested by the target characteristics and personality, namely the production / creation of something new. As Rhodes (1961) noted, and we agree, the products of creativity appear as artifacts of thoughts and the embodiment of ideas. Manifestation and implementation of creativity largely depends on the ability of individual to think in a certain way and generate ideas. Some researches single out creative thinking as a separate species. Guilford (1968) singled out such features of creative thinking as: originality of expression of thoughts, desire for intellectual novelty; the ability to highlight the object from a new angle, to expand its functional use. Among the structural components of creative thinking are considered: speed, flexibility, originality, detailing of thinking, which fully reflect the creative process of individual.

Synergistic criterion («environment»). Given the synthesizing nature of creativity, the importance of nonlinear thinking in creative processes and emotional sensitivity of individual, propensity for creative interaction, productive facilitation and at the same time sense of coherence and interaction with both social and natural environment in conditions that meet the requirements of time and features of the cultural landscape, we see the appropriate correlation of this structural component with the synergistic criterion. We find something similar, in particular, in the conclusions of Piaget (2003), who came to the conclusion that the source of knowledge is not concentrated in objects or subjects, but in the interaction between them. One of the main indicators of this criterion is empathy, which is recognized as a necessary condition for creativity. In addition, this criterion, in our vision, combines both the internal mood and ability of individual to feel, merge with his / her environment, and the conditions of the environment, its impact on the individual.

The analysis of scientific and methodical literature on the problem of diagnosis and formation of creativity of students, in particular those with visual impairments, allowed to clarify the importance of taking into account the specific features of these students in adolescence during the organization of experimental work and selection of methods for diagnosing their creativity and its structural components. We have taken into account the following factors such as: compliance of the content of the task for a certain age category at the time of the study; availability of material for perception by each respondent; adaptation of the selected material taking into account the peculiarities of visual perception of students with visual impairments (use of the optimal font size for ease of reading printed materials, contrast enhancement, printing in Braille). Given the nature of the phenomenon under study and sensitivity of the adolescent period of personality development to the formation of creativity, choosing the contingent of respondents for the experiment, we focused on students in 5th to 8th grades (age 10–15 years).

Organizing our study, we relied on the principles of comparative approach, which allow us to more accurately identify the level and features of the phenomenon under study, namely creativity of students in 5th to 8th grades with visual impairments and their peers who do not have visual impairments. Students in 5th to 8th grades with different visual impairments and different visual acuity were united in one group – experimental group № 1 (EG1). In the experimental group № 2 (EG2) we united students in 5th to 8th grades without visual impairments. A total of 68 visually impaired pupils and 43 visually impaired peers participated in the pilot study. In addition, 19 teachers (10 from general-education schools and 9 from special general-education schools) have been recruited to serve as class supervisors for pupils with and without visual impairment in 5th to 8th grades who have become respondents to our study.

In accordance with the structural model of personal creativity (Fig. 1), proposed by Rhodes (1961), which is the basis of our empirical study, we developed a diagnostic complex that involved the diagnosis of four structural components of creativity according to certain criteria (Table 1).

Table 1. Diagnostic complex of creativity of students in 5th to 8th grades with and without visual impairments (students in 5th to 8th grades)

Creative activity criteria	Indicators	Diagnostic methods
Source criteria	– need for activity as a permanent feature of individual; – risk-taking, a spirit of experimentation; – positive qualities of the emotional and willful sphere, such as autonomy, determination, optimism, perseverance	Personality-Based Test of Creative Potential (Davis & Subkoviak) edited by Pashnev (2016)
Motivational criteria	– diversity of interests; – high level of ambition; – high level of introspective motives (activity for pleasure) – sustainability of intentions, commitment; – emotional stability; – tendency to find and promote solutions to problems / issues; – ability to predict and assess the consequences of activities	«Study of self-regulation» (Zverkov & Eidman, 2005)
Activity-behavioral criteria	– active and purposeful initiative; – freedom of activity; – harmony with an implicit tendency to dominance; – ability to balance activity; – moderate motility and speech expression	«Type of behavioral activity» Jenkins Activity Survey (JAS), developed by Jenkins, Zyzanski & Rosenman (1974) and adapted by a team of staff members Bekhterev Federal State Budgetary Institution National Research Medical Center
Synergistic criteria	– sense of coherence and interaction with social and natural environment; – manifestation of emotional response to the experience of another person; – ability to concentrate on the object of perception; – observation; objective, holistic perception of objects and phenomena of the world	Balanced Emotional Empathy Scale (BEES) Megrabian in Epstein's modification (1996); Creativity Checklist (CCh) Johnson in Tunic's modification (1979)

Thus, during the study we used only 5 methods: 2 – aimed at determining the personal ability to creativity of respondents and their creative abilities; 1 – aimed at determining the formation of the volitional sphere, as the ability to consciously control their own emotions, states and actions; 1 – aimed at determining the type of behavioral activity of individual; 1 – aimed at determining the general empathic tendency as the ability to empathize.

2. COMPARATIVE ANALYSIS OF THE STATE OF THE FORMATION OF THE STRUCTURAL COMPONENTS OF CREATIVITY AND RESEARCH RESULTS

We conducted a detailed step-by-step diagnostic assessment of the phenomenon under investigation, where each stage included the study of one of the structural components of creativity (person, process, product, & environment) according to a certain criterion.

1. Peculiarities of the formation of the structural component of creativity «person» according to the source criterion

In order to determine the state of formation of the structural component of creativity «person» of students in 5th to 8th grades with and without visual impairments by source criteria, study was conducted using the diagnostic method «Personality-Based Test of Creative Potential» (Davis & Subkoviak, edited by Pashnev, 2016). The results obtained during the study are given in table 2.

Table 2. Levels of personal creativity of students in 5th to 8th grades with visual impairments (EG1) and without visual impairments (EG2) (in%)

Experimental groups	Level of personal creativity		
	Low	Medium	High
EG1	55,6	38,45	5,95
EG2	10,5	59,65	29,85

Therefore, characteristics of the levels of personal creativity of students in 5th to 8th grades with and without visual impairments revealed that the vast majority of EG1 (55.6%) respondents, at the time of diagnostic assessment, had a low level of potential creativity. At the same time, the vast majority of EG2 respondents (59.65%) had a medium level.

According to the key indicators of this diagnostic method, most adolescent students without visual impairments strive for activity, risk, self-improvement, isolation and independence, although these issues are characterized by predominant instability. However, their visually impaired peers strive for sustainability, security, need support, and are more likely to adapt to the environment than to affect it. They are characterized by self-concentration, flexibility, indecision, caused by insecurity. Relying only on what they know well.

Thus, process of developing creativity among students in this age period should be directed towards activating their need for activity, adjustment of their self-esteem, which to a certain extent there is a positive attitude on the part of others; therefore, the pedagogical conditions of the educational process should be an important part of this process.

2. Features of the formation of the structural component of creativity «process» by motivational criterion

Determining the formation of the structural component of creativity «process» of students in 5th to 8th grades with and without visual impairments by motivational criteria, we implemented using the diagnostic method «Study of self-regulation» (Zverkov & Eidman, 2005). According to the results of this study, depending on the values of the indicator, respondents were divided into groups by levels: higher, high, medium, reduced, low (Table 3).

Table 3. Comparative characteristics of the levels of formation of self-regulation (SR) in students in 5th to 8th grades with visual impairments (EG1) and without visual impairments (EG2) (in%)

Experimental group	Level of SR				
	Low	Reduced	Medium	High	Higher
EG1	12,3	48,3	24,4	13,6	1,4
EG2	3,55	33,35	33,25	22,8	7,05

It was determined that EG1 and EG2 respondents have different levels of self-regulation. The vast majority of EG1 respondents have a reduced level of self-regulation, while the majority of EG2 respondents have a reduced and medium levels.

These results show that most respondents with visual impairments (48.3 %) and a large proportion of respondents without visual impairments (33.35 %) have emotional instability, vulnerability, which can lead to the absence or difficulty in controlling one’s own emotional states. These pupils have a low level of reflexivity, which suggests that planning is likely to be difficult. The perceived lack of self-confidence can be attributed to a lack of adequate self-evaluation. All this reflects the immaturity of the volitional sphere of the individual as such. It is believed that individual differences in volitional qualities in the presence of visual impairments depend on many factors, such as the time of vision loss, the characteristics of the individual and so on. However, one of the most important factors are the conditions of upbringing. Only due to highly developed volitional qualities, such as: persistence, purposefulness, independence, it is possible to overcome painful reactions to a visual defect and life difficulties caused by them.

Taking into account the results obtained, necessity of support motivated behavior of students in 5th to 8th grades with visual impairments, development of the ability to identify important goals for themselves, and initiative to achieve them. The logical components of the educational process arise. In addition, a systematic pedagogical impact aimed at increasing their self-regulation must necessarily take into account their individual interests and the variability of the activity must include the possibility of their own choice. Internally driven motivation increases the need to develop competence and reinforces the issue of self-fulfillment, which will be preserved even after the goal is achieved.

Developed self-regulation, in addition, helps to reduce concerns about health, increase the adequacy of self-esteem, the establishment of reflexive processes and consistent and focused activity of the individual as a whole.

3. Features of forming the structural component part of creativity «product» due to active-behavioral criterion

Diagnostic assessment of the structural component of creativity «product» of students in 5th to 8th grades with and without visual impairments under the active-behavioral criterion was carried out with the aid of the diagnostic method «Type of behavioral activity» developed on the basis of the Jenkins Activity Survey (JAS) developed by Jenkins, Zyzanski & Rosenman (1974) and adapted by a team of staff members Bekhterev Federal State Budgetary Institution National Research Medical Center.

As a result of the implementation of the above-mentioned method, among the EG1 respondents there was a tendency to the prevalence of type of behavioral activity «Type–B» (47.8%) and «Conditional–type B1» (33%). Among the EG2 respondents the following distribution was found in the types of personal activity: the majority is characterized by «Conditional–type A1» (38.6%) and «Conditional–type B1» (22.85%) (Table 4):

Table 4. Comparative characteristics of behavioral activity of students in 5th to 8th grades with visual impairments (EG1) and without visual impairments (EG2) (%)

Experimental group	Type of behavioral activity				
	A	A1	AB	B1	B
EG1	3	7,25	8,95	33	47,8
EG2	17,5	38,6	17,6	22,85	3,45

According to the key of the method, the results show that the majority of adolescents with visual impairments (47.8%) do not feel an acute need for any activity without a special need for its results. They are able to experiment in ways to achieve their goals, but in the process of activity prefer to use those materials that are well known to them. Their inherent initiation of parallel goals, which are actualized to avoid failures, probably plays a protective function. The world as a whole is unpredictable for them; it cannot be fully comprehended, so they often need awareness in a clear sequence of actions. When faced with significant difficulties, they are more likely to abandon the goal. These students do not have a pronounced tendency to rivalry or a desire to dominate the team. They are characterized by softness of character, which is mainly manifested in the attitude to flexible adaptation to external conditions.

The second common type of personal activity among EG1 respondents is «Conditionally – type B1». This suggests that 33% of them are characterized by moderate activity. Without showing interest in a detailed analysis of problems / situations, based on formal logic and a complete set of facts, they tend to think about any activity in terms of its

necessity, benefit or harm. They need to feel their benefits. These students do not show a strong tendency to dominate, conflict is seen as an undesirable and unproductive way to achieve the desired, but in certain situations and exceptional circumstances, they can take on the role of leader. In such a case, their activities will be aimed at compromises, finding similarities even in divergent positions.

The results found among EG2 respondents are quite ambivalent, where the most common are two opposing types of personal activity, such as «Conditionally – type A1» and «Conditionally – type B1». So, when 22.85% of students are characterized by moderate activity, focus on finding compromises, situational initiative; 38.6% of their peers are constantly striving to be active, able to make quick decisions, prone to ambition, want to improve their performance.

4. Features of the formation of the structural component of creativity «environment» according to the synergetic criterion

The formation of the structural component "environment" of creativity of adolescents by synergistic criteria, we studied using the method "Balanced Emotional Empathy Scale - BEES" by Mehrabian (1972) and modified by Epstein (1996). The results of this technique are shown in table 5.

Table 5. Levels of emotional response of students in 5th to 8th grades with visual impairments (EG1) and without visual impairments (EG2) (in%)

Experimental group	Level of emotional response				
	Very low	Low	Medium	High	Very high
EG1	-	36,7	22,2	33,85	7,25
EG2	-	21,05	40,25	33,35	5,35

According to the obtained results, respondents with a low level of emotional response in all EGs were identified. Among students enrolled in EG1, they make up the highest percentage (36.7%). Although most literature sources state that reduced empathic abilities among this category of adolescents are quite common for the formation of creativity, attitude to the perception of others, the implementation of social communication and the ability to predict interaction with the social environment are basic indicators.

Among the respondents of both EGs, those with a medium (normal) level of emotional response were identified, namely: 22.2% were found among EG1 respondents, and 40.25% among EG2 respondents, which is the overwhelming majority in this group. The medium (normal) level of empathy indicates a tendency to judge others according to their actions; ability to control one's own emotional manifestations well, but at the same time the presence of certain difficulties in interpreting the emotional manifestations of others, predicting the development of relationships / interactions with them.

With a high level of emotional response, almost the same percentage of respondents from both EGs was found: EG1 33.85% and EG2 33.35%. According to the key of the method, these students are distinguished by their ability to control their emotional states and interpret the emotional states of other people, they are amenable, ready to do routine work, less prone to aggressive manifestations and violence, compared to those with low emotional response.

It is believed that adolescence is the most emotionally stressful. It is during this period that work on the formation and development of the ability to control one's emotions and recognize the emotional states of others is extremely important. In adult life, this can be a guarantee of personal success, and for visually impaired students – even successful social integration.

Our findings are confirmed by the results of a study by Yildiz & Duy (2013). Researchers emphasize that it is at this age that visually impaired adolescents have the greatest difficulty in establishing long-term friendships, and systematic work on the normalization of empathy helps to establish this problem, to strengthen strong social ties.

Also, in order to deepen the study of the formation of the structural component «environment» and synergistic criteria, we used the method «Creativity Checklist» (CCh), developed by Johnson (1979) and modified by Tunic (1997). The methodology can be carried out in two ways: the expert monitors the social interaction of respondents in a particular environment and evaluates them accordingly, or the methodology is carried out by self-assessment of creativity by respondents.

Considering a number of studies in which the results confirm significant differences in the self-esteem criteria of adolescents with visual impairments and their peers without such impairments (López-Justicia, Pichardo- Martinez, Amerzcua, Fernández, 2001; Nikulina, 2008), in order to obtain an expert opinion, we addressed the teachers of the respondents to our research.

According to the comparative characteristics of the levels of creativity in students in 5th to 8th grades of both EGs, a higher percentage of students with visual impairments (44.05%) have a low level, while a higher percentage of students without visual impairments (45.65%) had a medium level, which is shown in table 6.

Table 6. Comparative characteristics of levels of creativity in students in 5th to 8th grades with visual impairments and without visual impairments (in%) (analysis of teachers)

Experimental group	Level of creativity				
	Very low	Low	Medium	High	Very high
EG1	17,55	44,05	31,15	7,25	-
EG2	3,6	26,4	45,65	15,65	8,7

Thus, the results of this diagnostic method reveal a significant percentage of adolescents with visual impairments show difficulties in taking risks, they find it difficult to use their knowledge and experience in unusual situations, so solving creative tasks is a significant effort. Based on the results obtained using the non-parametric statistical Mann-Whitney U-test, statistically significant differences were found between respondents EG1 and EG2 for all four structural components of creativity, such as: for the structural component of creativity «person» ($U = 114.000$, $p = 0.000$), by the structural component of creativity «process» ($U = 200.500$, $p = 0.000$), by the structural component of creativity «product» ($U = 192.500$, $p = 0.000$), by the structural component of creativity «environment» ($U = 279,500$, $p = 0.018$).

Application of rank correlation criterion r_s Spearman according to the results of experiment revealed positive correlation between structural components of creativity «person» and «process» ($r_s = .858$, $p 0.01$), between «person» and «environment» ($r_s = .508$, $p 0.01$) between «process» and «environment» ($r_s = .562$, $p 0.01$). This shows that the effectiveness of the development of creativity potential of visually impaired adolescents is linked to the priority forms of activity they apply to solve problems, and their creative communication with the environment. At the same time, a negative correlation was found between the structural components «person» and «product» ($r_s = -.563$, $p \leq 0.01$), which indicates that at this stage of ontogenesis EG1 respondents do not yet have enough experience to embody their ideas in practical activities. Therefore, the process of forming their creativity should focus on the formation of higher mental functions, such as: creative thinking, memory, perception, language, and so on.

For comparison, among the EG2 respondents a positive correlation was found between the structural components of creativity «environment» and «product» ($r_s = .551$, $p \leq 0.05$), which may indicate that the creativity of adolescents without visual impairments directly related to the level of their communication with the environment. The process of forming ideas is due to a comprehensive response to the symbiosis of their needs, which activated them, their feelings and sensations, as well as a developed imagination.

Therefore, the process of forming creativity depends on the formation of its structural components: person, process, product, and environment. The lack of formation of each of them suppresses manifestations of creativity and delays the formation of specialized creativity, preventing an effective conversion to the phase of original creativity formation.

CONCLUSIONS

Based on the analysis of basic theories and priority directions of creativity, a diagnostic complex has been developed and tested, containing: source, motivational, activity-behavioral and synergistic criteria, which correspond to the four structural components of creativity: «person», «process», «product », and «environment», respectively.

The peculiarities of the formation of creativity, the characteristic tendencies of their violations are revealed. It was found that in adolescents (students in 5th to 8th grades) with visual impairments the formation of structural components of creativity («person», «process», «product», and «environment») occurs specifically due to the uniqueness of their psychosocial development. Features which hinder the development of a creative approach in the process of life and suppress the desire to stand out, to show their own individuality.

The obtained results testify to the need for purposeful pedagogical influence aimed at forming four structural components of creativity of adolescents (students in 5th to 8th grades) with visual impairments and highlight the basic conditions and factors that will contribute to this in the educational process.

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CURRENT DEVELOPMENTS IN MANAGEMENT OF HUMAN RESOURCES

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ABSTRACT

Modern socio-economic life requires research on the basic factors of development on the mission and values of the company, business reputation, brand, motivation, anti-crisis measures, corporate culture, effective communications as a set of human capital investments, which can be both the greatest value and the greatest risk, and their quality acts as a renovation element of enterprise management. In today's market situation, business reputation should become an integrative integrity and an important strategic asset, which is due to the growing importance of creating competitive advantages for the company through intangible assets, the growing importance of non-price competition, the role of personal ties, institutional and social investments, direct sales, knowledge and consumer confidence becomes the guarantor of a successful business.

Key words: *crisis communications management, optimization of business process, business reputation, corporate culture, goodwill, crisis communications, positioning, brand value, uncertainty, economic security, anti-crisis measures.*

INTRODUCTION

Nowadays managers need more than ever the ability to anticipate risks, change strategy, make decisions and get results in the face of rapid technological and social change. The most important tool used by a manager is communication with other people, their sense of commitment and desire to promote the growth of the company, which forms a holistic system of values of employees and the company, and allows you to achieve dream horizons and grow, helping each other develop their personal abilities.

Scientists highlight different areas of formation of the system of value-semantic sphere of the individual in modern conditions and in the near future, which will move towards the humanization of socio-economic life of society. But this issue requires further research, especially on corporate culture, mission and values of the company, business reputation, brand, motivation mechanism, anti-crisis measures as a renovation element of enterprise management.

New technologies are increasingly being replaced by other functionalities - human capital, which embodies experience, analytical skills, professionalism, corporate culture, ethics of relationships and most importantly - inspiration for accomplishments.

Effective communication of intellectually capable people related by one idea is able to introduce innovative technologies, increase labor productivity and meet the rapidly growing needs of consumers.

1. COMMUNICATION MANAGEMENT

Communication management is a well-coordinated and well-established system of personnel that provides effective interaction, action or inaction in accordance with the goals and taking responsibility for performance within the organization.

Corporate social responsibility in the modern sense is a pillar of corporate sustainability. This can be seen as a corporate response to sustainable development, represented by strategies and practices that address the key issues of sustainable development in the world. This requires planning a series of activities and focusing on long-term efforts to build and maintain friendly relations and understanding between the organization and its public.

Reputation management, as well as communication management, operates with all the tools of public relations - public relations. This helps to maintain a constant dialogue with the target audiences. The constant desire for information openness also applies to the field of public relations. Signs of non-transparency are corruption, the judiciary, economic policy, accounting and disclosure standards, and regulation. Reputation is the most valuable asset and today it is designed to solve such an important task as overcoming opacity. Public relations - the establishment of two-way communication to identify common ideas or common interests and achieve mutual understanding based on truth, knowledge, and full awareness.

Public relations functions:

- establishing mutual understanding and trust between the organization and the public;
- creating a "positive image" of the organization;
- preservation in strengthening the reputation of the organization;
- creating a sense of responsibility and interest in the organization's employees;
- expanding the sphere of influence of the organization by means of appropriate propaganda and advertising.

Public relations can perform its functions in the following areas of human activity:

- public relations;
- government relations;
- international and interethnic relations;
- relations in industry and finance;
- mass media.

Oral speech is the oldest means of communication between people and, despite competition from the written side, remains today the most powerful way to maintain public relations.

Unfortunately, modern managers and public figures lack the ability to speak at collective events, official meetings, although it is one of the professional requirements in public life. Preparing a speech by a public relations specialist is a common practice in governments, business circles or enterprises. Reputational components of corporate culture and business reputation in management are the main criteria and evaluation indicators of the object, which focus the main efforts in the formation of reputation and management of employees. Every employee and the whole team take part in the formation of corporate reputation and culture of behavior in business.

Today, corporate culture is one of the key tools for business success in conditions of high labor mobility, market competition, rapid social development and change of informal institutions in people's minds - habits, values, mentality. Corporate culture can not only change, but also requires changes adequate to the changes in the external environment if the company wants to succeed or maintain a leading position in its industry [1].

The main factors of innovative development are the human factor, knowledge and culture. Transformational processes in the economy should be carried out by people who have the skills of a leader, the right system of values, rules, norms of behavior, traditions and business models, united by the concept of corporate culture. Corporate culture is one of the complex material and spiritual phenomena, the study of which faces a number of problems that increase the growing interest in considering it as an internal source of organizational change and a finely planned management tool.

2. CORPORATE CULTURE

Corporate culture is the motivated behavior of a group of people within an organization, built on the experience, skills, knowledge, traditions and spiritual values accumulated over many generations.

Corporate culture belongs to the class of phenomena that have a multifaceted interpretation and different definitions in the context of constant development and transformation. Each country has its own beliefs, languages of communication, symbols, habits, values and history that shape the national culture, which in turn influences the development of business culture.

Culture is constantly present and has a significant impact on decision-making in management during business meetings, communication between employees, partners, consumers, the public, negotiation, use of social media, Internet communications. The company's culture is also reflected in the dress code, number of working hours, work

schedule of the institution, keeping business records, payments to employees, behavior when working with customers, social and environmental awareness of staff. Corporate culture develops organically over time under the influence of the aggregate traits of people who work in companies. Corporate culture is the beliefs and behaviors that determine the effectiveness of interaction between employees and managers of the company, their work with customers and partners. The culture of the organization is characterized by constant changes and adaptation to the new requirements of modern society.

Every properly motivated ordinary worker and top manager must be able to bring new value, propose changes, innovative solutions, invent the best way to implement them. The meaning of the word "culture" follows from two main types of human activity: material and spiritual. The first is an activity related to the transformation of nature for the benefit of man, the second is an activity to improve the spiritual forces of man, his mind and system of thinking.

Material culture is everything that relates to human relationships with the environment, meeting its needs, ensuring the continued existence, the technological side of life. Under social culture means the relationship of people to each other, the system of statuses and social institutions. Spiritual culture is the subjective aspects of life, ideas, attitudes, values and behaviors that focus on them. Corporate culture is closely interrelated with business ethics, business philosophy, organizational behavior. Today, culture is becoming a priority factor in business success, because it sets guidelines for behavior: within the organization, in the interaction between employees in the workplace (work culture), outside the organization, in the interaction between various institutional actors and business partners. Development of modern job responsibilities, instructions, rules of record keeping, legislative acts should contain rules of Internet communications, protection of automated enterprise management systems [2].

Management needs to constantly unite and retain staff, monitor their satisfaction and work hard to study the needs and means of influencing employees.

The motivating role of corporate culture is manifested if the goals and values are accepted by employees and shared by them, supported at all levels of the organizational hierarchy. On the contrary, imposed values that are alien to employees, norms and rules that diverge from real practice lead to demotivation. The motivating role of corporate culture is manifested in the creation of specific feelings and states of employees of the organization:

- pride in their organization and involvement in it;
- sense of need and demand;
- desire to follow the best examples and practices, to strive to follow them, to adopt their experience;

- a state of involvement in the goals and objectives, directions of development, which creates a sense of transparency, clarity and prospects and forms confidence and security;
- a sense of the importance of their role, their contribution, through social approval and recognition of the organization in the external environment.

Corporate values are the dominant guidelines, worldviews, attitudes, which set, above all, moral and ethical group norms and are a tool for countering the impact of destructive, disorganizing processes within the team. The result of the implementation of the motivating function of corporate culture is manifested in the degree of loyalty and commitment of employees of the organization. In this regard, the formation of employee values is a strategic task of any manager. The motivating factors of corporate culture include the following: the possibility of self-realization and the availability of ways to do so within the organization; availability of career growth, transparent and effective system of professional growth and change of job status; availability of staff rotation; transparent and accessible information system. Built communication, established communication flows. In modern conditions, it is the factors of corporate culture that most often determine the sense of pride of employees for their industry, a sense of involvement and a sense of usefulness of their work.

If a person does not accept the norms and values or pretends to accept them, then its adaptation in the organization is almost impossible. Such employees must resign for the common good. If employees accept all the norms and values or accept the most important ones, then the adaptation process should be considered successful. Understanding the importance of the adaptation process, organizations have developed certain methods of its implementation, which depend on what kind of adaptation they belong to.

The motivational mechanism that operates in the organization must be tuned to the fullest realization of the needs of the employee, but the growth of each employee in contrast to his needs is not unlimited. To do this, the manager must have a good idea of what the needs of his employees and how to organize the life of the organization as a whole, as well as its individual units, so that these needs are met in the real situation of the organization. A properly constructed motivational system must provide a certain type of production behavior of the employee or group of employees to whom this system of motivation is applied: routine or innovative. It is necessary to identify the priority needs of employees of the organization, which they would like to meet through their participation in this production process. Comparing the identified needs and the potential tangible and intangible capabilities that the organization has to meet these needs, you can determine a specific motivational mechanism for influencing the employee, where you need to agree on rotations, internships, mentoring experienced mature masters.

Motivation systems must be understandable to employees, appear fair to the majority and be realistic for use in practice. They must be based on the main goals of the business organization and meet the basic principles of its organizational culture, develop dynamically and help ensure compliance with the requirements of the external environment.

The company's mission and values are its core, which allows you to competently select, motivate and retain employees, as well as develop business in the right direction.

There are values that are important to absolutely everyone and have universal significance, such as peace, freedom, well-being, respect and love. Their presence helps people to understand each other, to cooperate, to provide help and support. The lack of common values (objective or subjective) or the contradiction between them divides people into camps, turns them into opponents, competitors, opponents. That is why modern theory and practice of management pays serious attention to this issue. Hence another definition in relation to the company - a set of values that are declared and cultivated by the management unit, as well as supported by most of the staff.

Mission is the meaning of existence, what we, the company and the whole world live for and why we need each other, and what benefits everyone brings to society. Common values unite people, pointing to similar interests. They explain why we work in this place, and the mission directs, makes clear what benefits the company brings to customers, shareholders and employees, what is the responsibility to them and society. If the employee shares these goals and principles, if they coincide with his personal beliefs, then he will be comfortable in this atmosphere; if not, the results achieved are likely to be low.

The mission of the leader is to develop the personality of each worker, his talents, bring him to success and evaluate his achievements as a component of the project, teamwork, because the person grows - the team becomes stronger, the competitive advantage of the company grows. We must not forget the following things: qualification, work experience, education, experience. Friendly relations do not always lead to an acceptable level of productivity according to the position held. Lack of employee experience is not a problem today if he shows a good result. After all, it is the productivity of professional activity and a positive assessment of the tasks set to increase the efficiency of the entire company.

To work productively - it must be safe, comfortable and cozy; sometimes you need rotation, career growth, active leisure, constant positive changes. In this case, the staff will not look for a better fate in other companies. People learn throughout their lives, and if they receive effective training in their company, which will provide them with material and career growth in the future, they will begin to appreciate the opportunities provided to them. Such events can take place at enterprises under the condition of competently formed corporate values.

Of course, there are people who are indifferent to corporate values, visions and missions: mostly those employees who perform monotonous, routine work in accounting, security, cleaning, but a sense of belonging to the company's activities should be cultivated by everyone. Contradictions between the employer's own ideals and values must be eliminated.

The desire of the Japanese to work with maximum efficiency is not hidden in some mystical features of their national character, but in the use of well-thought-out, clearly organized and at the same time flexible and adaptive labor management system, which acts as one of the key elements of the Japanese production management system in general.

Conclusions. The concept of reputation management should focus on authenticity, price and quality parameters, extraordinary presentation and memorable design, which will allow "sarafan radio" to disseminate information about the company, management and products addressed to the target audience. Reputational characteristics should be interesting, extraordinary and even provocative in their target audience, which will cause an irresistible desire to share content in the chain of social contacts. Reputational characteristics must be as densely and qualitatively developed as possible, which would be sufficient to create a holistic image of the subject of reputation.

The economy is at the center of human activity: globalization and technological change have a negative impact on the environment, political stability and human health, the structure of their knowledge and skills, the degree of competitiveness. The growth of the level of profit, the innovation component is accompanied by a decrease in the total share of the labor force with a simultaneous increase in the intellectual and cultural component of its quality. Constant investment in innovative projects increases the demand for skilled labor, which will increase the requirements for security, education, retraining. The greatest value will soon be not experienced staff (the experience of many in 10-20 years will become obsolete), but those who will have the skills to quickly master new competencies.

Strengthening the role of intangible assets in the development of the organization, the development of a balanced hiring strategy in accordance with corporate values will reduce the professional incompetence of the staff and unite properly motivated employees. Prospects for the formation of a motivational mechanism now consist of encouraging employees to work in teams on projects with a mandatory outline of their personal contribution, unlimited commitment to company values, non-traditional methods of motivation and corporate culture. Problems of labor quality and personnel management need to be addressed in the context of building a socially oriented national economy, long-term development strategies at all levels of government, because competitiveness and development of knowledge-intensive industries without young, active and highly skilled labor in modern conditions is not viable.

Quarantine has shown in practice how important it is for the company's management to maintain control over the situation when some employees switch to remote access. Tracking staff activity during working hours is the key to maintaining business manageability even in the most adverse conditions. The two "pillars" on which the stability of any organization stands are the efficiency of its activities and security. On people who offer high-level ideas and are interested in their implementation as a personal development program. At present, only value management can be effective. People are not worried about the capitalization of someone's business there, they are worried about the survival of the planet, their environment and family. That's why you need to build company policy in the new environment.

The main purpose of internal communications is the interaction between departments as a means of achieving business efficiency.

At the same time, it is one of the tools to achieve the strategic goals of the company through an organized process of exchanging internal information between all employees as representatives of their departments. Consider the main tricks of the HR function in support of effective internal communications. In general, coherence is due to the following four factors: a good employee, a good master, a good relationship "supervisor-subordinate", a good working environment.

1) So, the main features of a "good employee", by Japanese standards, are: camaraderie, a sense of responsibility, a desire to cooperate, excellent health, a spirit of rivalry. From the point of view of Japanese managers, such a person is satisfied with his work, aware of his place in the hierarchy of positions, always committed to the cause. In the quality group, such an employee shows initiative, is not satisfied with what has been achieved, works tirelessly on himself, learns new effective methods of detecting defects.

2) "Good master" - this person must show dedication and be steadfast, determined to achieve long-term goals of the firm. If the master is satisfied with instant success, ie does not focus on the future, he can do more harm than good. Focus on long-term goals in general is inherent in Japanese business, forms a solid part of its credo. Reluctance or inability to see the future is seen in Japan as a lack of propensity for leadership, which also includes the ability to listen and put yourself in the place of the interlocutor. An important quality is justice. The master, which fits into the framework of the above model, according to the Japanese, is best suited to participate in the movement for quality.

3) The quality of "good relations in the system" supervisor-subordinate "includes the ability to combine the efforts of the master and ordinary performers in their pursuit of production goals. Such a combination of efforts is achieved in joint work, in group activities, in conversations and heartfelt conversations, all of which are an integral part of the activities of quality circles.

4) "Good working environment". The energetic efforts of Japanese managers are aimed at: $\frac{3}{4}$ creating in the employee a kind of desire to be in a work environment, $\frac{3}{4}$ to awaken in him a pleasant expectation from each future inclusion in the work process. Favorable working environment is a prerequisite for quality groups. It is against this background that the merits of the other three factors are manifested as much as possible. The system of quality circles consistently demonstrates their high efficiency - they are one of the "keys" of Japanese business. Psychological compatibility of group members is the basis of effective communication. Most Japanese workers, skillfully attached to the ideals of the firm, are concerned with the belief that they are the "true masters" of production.

This illusion helps to create and maintain a number of factors in the area of influence of which employees fall from the first day of their stay in the company. First, adaptation. Dozens and hundreds of graduates of educational institutions in the tens and hundreds join the company's staff every April. For several months, they are trained in groups according to a specially developed program by the company. The training is designed to develop a strong corporate spirit and already at the stage of special training to consciously participate in the discussion of problems and tasks of the unit to which young people are attached. In addition, many workers and employees live in the company's dormitory for several years after entering employment. Shared roof and dining room - another factor that stimulates the development of corporate spirit. Secondly, the hierarchical ladder. They are that newcomers are constantly, but essentially, non-stop moving from low status to high. This practice takes place in both private and state-owned enterprises, as well as in public institutions. In the first year of work, newcomers are sent under the care of "older brothers", ie employees with some experience. Their activities, or rather, their every step, "finds a response" from the guardians, who, sparing no time, help their subordinates. And next year, when a new addition comes in April, yesterday's newcomers themselves become guardians. Their status thus rises to a step higher. In the same way, they are advancing to the next year and throughout all subsequent ones. And although these increases are not so significant, their regularity creates in people a sense of continuous growth.

This purely psychological "sowing" gives Japanese business a fairly stable "harvest". With this kind of restructuring, entrepreneurs create a large and fairly reliable contingent of controllers and supervisors who actually manage on behalf of capital. As a result, there is no need for large staffs of craftsmen. Their duties are zealously performed by ordinary workers who have advanced on the social ladder. Third, the constant rotation of staff. Its essence is that in a Japanese company regularly (every three to five years, depending on the traditions of the company), is retraining staff for new specialties, of course, within the main professional area. Moreover, the larger the company, the more frequent the rotation. As a

result, each employee acquires five or six specialties, becoming a generalist. In many cases, this solves the problem of interchangeability.

At the same time - and this is perhaps the most important - the sphere of mutual assistance of employees is expanding. Fourth, interpersonal communication. According to the results of socio-psychological research, between the size of enterprises, on the one hand, and the intensity of labor rhythm disorders, the level of labor turnover and dissatisfaction - on the other, there is a directly proportional relationship. It is explained, among other things, by the lack of communication between employees. It is estimated that if people work at a distance of ten meters from each other, the probability of their communication with each other at least once a week is 8-9%. When the distance is reduced to five meters, the probability of communication reaches 25%.

It is noteworthy that in the last decade in Japan there has been a steady upward trend in the number of compact enterprises, where all staff are housed under one roof. The facts show that in such enterprises both productivity is higher and products are of better quality.

The Japanese were convinced that a small enterprise is better suited for the introduction of innovations. This is especially important when in many cases the bet is made on small-scale production. "Male - wonderful!" - This is today's motto of Japanese business. A small business is closer to the heart of an ordinary Japanese - it is associated with his home. Fifth, the ethnopsychological color of the firm. A Japanese company is not just an enterprise - it is a part of Japan. Most Japanese companies practice various entertainment activities for their employees, group trips to nature, joint walks, all kinds of evenings, promote the organization of family events. At the expense of the company are often held various sports competitions, visits to theaters, mass meetings.

All this creates in employees a sense of belonging to the company, and many do not think of life outside it. Some reluctantly break away from the atmosphere of the company, even going on vacation. There are many cases when employees do not fully use their free days and evenings. The life of the company completely absorbs them. And this is largely because Japanese management (as opposed to American) in addition to the purely production sphere extends its influence to the "personal world" of workers.

It should be noted that most socio-cultural corporate events are painted in the national color. As a result, the Japanese have sharpened national feelings, and at the same time they show respect for those who gave them the opportunity to better master the richness of national culture. Every company considers it its first duty to bear certain costs to create a positive mood in employees. It is believed that without this you will not strengthen the corporate spirit of the company. The management of Japanese companies is firmly convinced that the money spent on employees, the attention paid to them is more than offset by the return they receive from staff imbued with corporate spirit. And not just from the

staff. Information about the social activity of the company is disseminated to the public, attracts graduates of secondary schools and universities.

Corporate spirit, manifested in the commitment of employees to the ideals of the firm, acts in Japan as a goal and as a means of management begins with the psychology of employees, their sense of master of production, no matter how illusory, is directly related to cultivating corporate spirit. quite real economic indicators. Japanese management spares no effort to further strengthen this spirit. It should be noted that in recent years, Western management is trying to borrow from Japan forms and methods of work to form if not a corporate spirit, then at least a group instinct. These processes are not so simple, because they, on the one hand, crash against the walls of individualism, and, on the other hand, the Japanese specifics in lifestyle and behavior, and artificially woven into its fabric corporate culture, cannot always give the same positive results in Western Europe and the United States. As for the problems of stability and flexibility of workers, more and more entrepreneurs in the West come to the conclusion that the "problem of employment" is one of the most difficult to increase competitiveness. There is a stereotype in history that the entrepreneur himself decides who and when to dismiss. And the guarantee of job safety is a fundamental condition for the employee's willingness to increase productivity, quality and efficiency. Studies show that reasonable work guarantees for staff make any company more profitable and competitive, especially if the strategy of stabilizing employees is used as a means to increase flexibility in personnel management, provide conditions for close cooperation and retain the most qualified people as a reputable component of the company.

The manager must clearly realize that such reputational traits as politeness, tact, delicacy, are absolutely necessary for "the ability to behave in society." We must not forget about the culture of communication, a sense of moderation, kindness, you need to fully manage your emotions, stress. It is necessary to have your own, but definitely civilized style of behavior, your own, but definitely noble image, the same image of a manager, which guarantees not only half the success, but also constant satisfaction from the activity. The reward strategy identifies specific areas of creation and development of organizational programs that provide reward for those types of behavior and levels of efficiency that contribute to the achievement of major organizational goals. However, intangible motivation (moral incentives, organizational incentives) also plays an equally important role. The most typical examples are self-control of quality and results of work, free time, organization of joint rest of collective, creation of image of the company, participation in acceptance of certain decisions, encouragement of various kinds, etc. As practice shows, there is a certain category of employees for whom relations in the team are more important than wages.

In today's conditions of fierce competition for staff, an effective leader constantly works as a coach, and his system of staff motivation should include multicomponent stages:

determining the conditions and factors of personnel incentive system, assessing the degree of influence of each factor, qualitative characteristics of incentive components optimization model of personnel competencies and forecast of enterprise development under the condition of its application.

Reputation management within the organization involves the formation of a corporate code of conduct, the development of its philosophy, concept, image of the first persons, models of attractive behavior, a certain program of action in the event of force majeure. To this end, the development of the main directions of positioning the organization and strategy, its promotion in the market, the development of corporate style, including logo, slogan, representative products. Another area of reputation management is the creation of a corporate code of conduct. This requires the development of standards of corporate behavior governing the relationship of shareholders and top managers between employees, models of employee behavior with customers, activities to create corporate spirit of the company, which in conjunction with other organizational actions to create, such as corporate identity, logo is the basis of brand formation and business reputation of the organization.

Ineffective internal communications also depress a company's ability to see beliefs and expectations change over time. In virtually all well-managed organizations, functional departments not only keep their finger on the pulse of various stakeholders, but also try to actively manage their expectations. In order to minimize reputational risk, it is proposed to use the following:

- creation of an internal regulatory framework to eliminate conflicts of interest between employees and customers;
- strengthening the role of mission, value and corporate culture as a vector of communication and behavior of company employees, the basis for implementing changes in business, brand building;
- analysis of the impact of reputational risk factors (both as a whole and separately) on performance indicators as a whole;
- reengineering the format of broadcasting the mission of values, tasks and achievements from the owner and management to employees, namely the channels and tools that make up the system of internal communications.
- segmentation of personnel and the base of age and professional parameters.

Thus, the main factors of reputational development are the human factor, knowledge and culture. Insufficient attention to the reputation of the company's management, lack of differentiation and assessment of reputational risks, strategic approach to reputation management requires the development of a system of key performance indicators of the company's reputation management process.

CONCLUSIONS

Transformational processes in the economy and digitalization of society should be carried out by people who have not only leadership skills, but the right system of reputational values, rules, norms of behavior, traditions and business models, united by the concept of corporate culture. Corporate culture is one of the complex material and spiritual phenomena, the study of which faces a number of problems that increase the growing interest in considering it as an internal source of organizational change and an intangible tool of management. In order to manage the reputation, the following measures are necessary: the company's reputation development strategy must be approved; the code of business reputation is formed and approved; it is necessary to regularly publish reputation ratings of top managers, company owners and to anticipate sources of reputational risks.

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ANALYSIS OF THEORETICAL AND PRACTICAL TOOLS OF POLITICAL SCIENCE IS AN IMPORTANT FACTOR IN DEVELOPMENT OF PROFESSIONAL COMPETENCE OF POLITICAL SUBJECTS

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ABSTRACT

The article deals with the methodology of holding the election campaign and the problems of segmentation of the political market. It is indicated that the analysis of the social component of the electorate will help in the compilation of rating indicators and in the formation of pre-election tactics. The relevance of the material lies in the fact that future political scientists need to learn to comprehensively analyze and investigate all the factors that influence the course of the election race. It is the tools of analysis, comparison, modeling that will help to achieve the most correct forecasts and desired results. Thus, there is the prospect of reaching new levels of the formation of political science schools and career growth. This is understood as the purposeful provision of methodological, instrumental and theoretical preparedness for participation in solving both scientific research and applied managerial, expert and analytical tasks in the field of politics or in areas associated with it, through a combination of disciplines based on modern achievements not only in world political science, but social sciences in general. Professional growth is achieved through the systematization of theoretical knowledge, as well as a new understanding of practical problems. Therefore, an in-depth acquaintance with the practical aspects of politics and political processes in a broad theoretical, comparative and analytical perspective should demonstrate results. A successful person, from the point of view of advanced training, is characterized by the ability to quickly adapt to the changing requirements of professional activity in the field of politics (both in terms of its study and in terms of practical political activity).

Key words: professional growth and development, US elections, midterm elections, campaign strategy, Jeanne Shaheen, New Hampshire.

INTRODUCTION

If you try to get acquainted with the pre-election strategies of American politicians, you may get a false impression of the fragmentation of their formation. It may seem that this is just a collection of unrelated facts, each of which develops in accordance with only its own internal logic.

The upward trend in such facts increases the fragmentation of strategies, which in turn confuses all those who are forced to take an interest in US politics.

However, in our opinion, the increase in the amount of information about elections cannot overshadow the fact that all politicians have to solve approximately the same tasks. This means that some degree of similarity is a quality that allows us to study American campaign strategies in order to predict the victory of one or another candidate.

In the fall of 2014, the midterm elections to Congress were held in the United States. Thus, on November 4, 2014, there was a change in the political balance of power in the legislature. As before, voters determined who exactly would take 435 seats in the lower house of Congress and 37 seats in the Senate. For Democrats, the election was particularly tough, partly because any of the president's party rarely succeeds in midterm elections, and partly because Obama's low approval rating could have been a significant obstacle for Democratic candidates. In the light of the fortunate coincidence of circumstances, the Republicans had the opportunity to get more convincing results in the elections. Scientists were given another chance to verify their versions of the pitfalls of the American elections.

The research is based on a descriptive method, as a series of procedures for collecting, primary analysis and presentation of data and their characteristics. As a geographic area, our focus is on the New England region, and the conclusions from this study may not be applicable to other states.

1. THE PROBLEM OF SOCIAL CLASSIFICATION OF VOTERS IN THE UNITED STATES

Elections in the United States are so important because they define the specifics of American political life for several years to come. The presence of some circumstance in the election campaign leads to a political aftermath throughout the entire activity of a politician. In order to better understand why the American elections are characterized by certain tendencies that affect the activities of "servants of the people" it is worth starting with some important initial conditions.

Initially, it was known that four Democratic and two Republican senators were not going to participate in this election. In our opinion, the difference of two senators should not be associated with the drop in the rating of the Democrats. The situation with the House of Representatives confirms this thesis with 16 Democrats and 26 Republicans refused to participate in the elections. Nevertheless, it should be noted that the general situation was still more favorable to the Republicans than to the Democrats. Moreover, in 2012, it was the Republicans who, having received 234 seats, again took the House of Representatives.

As always, the election campaign in the United States was characterized by pressure on narcissistic feelings of voters, emphasis on contrasts (with me, tomorrow will be better than today), high level of optimism and by the creation of artificial excitement. As before, the advertising campaign in the media forced voters to vote for the image of the candidates rather than for the candidates themselves. Commonly, the more familiar a politician is, the higher his popularity. The tendency of an increase in the cost of the electoral race persisted: for example, in 1998 the total amount spent on the elections equaled to 1 billion 618 million 936 thousand 265 dollars (Goidel Gross, 1994). In 2002, this amount was 2 billion 181 million 682 thousand 66 dollars. As a result, in 2012, 3 billion 664 million 141 thousand 430 dollars were spent. The average amount spent on the campaign by the winner was \$ 1 million 567 thousand 293.

There is no single classification of the American voter (Campbell, Converse, Miller, & Stokes, 1980). There is a not fully formalized approach according to which all American voters can be conditionally divided into those who constantly vote for the same party and into independent voters, that is those who do not join a particular political party. Such citizens, in turn, fall into two categories: those who tend to lean towards one of the two main parties (often called leaners), and those who do not express any preference between Republicans and Democrats (often called pure independents).

The difficulties associated with a voter known as swing voter are quite complex and Americans for a long time did not know how to solve them. Initially, the term swing voter was so vague that it could not even be filled with content (Mayer, 2007). Initially, this term was understood as a voter who was in vain to convince, since he constantly changed his mind and on election day voted randomly. Such a voter either likes both candidates or dislikes everyone equally. It is also important to note that swing voter is not convinced that one of the candidates is clearly superior to the other.

For most of the second half of the twentieth century, campaign strategists did not target such a voter precisely, since they considered the probability of changing his voting decision to be low. Investments in bringing the swing voter to one side usually did not pay off with the election results.

Over time, the idea that not all voters are equal established among American political strategists. According to this logic, during the election campaign, for a successful outcome, attention must be paid to those voters who, at least, will not go over to the other side. Thus, campaigns tend to ignore the most loyal supporters and focus their propaganda on those independents who will most easily accept the politician's agenda. And then the opinion was divided. For some, the study of American National Elections (ANES) was taken as a basis for classifying swing voter. ANES is a national survey conducted in an election year, according to which a scale of sympathy from 0 to 100 is compiled for each candidate. Swing voters are those who occupy a scale from 0 to 15 (Malhotra & Krosnick, 2007).

According to another logic, swing voter is simply a category of independent voters, which is also called a floating voter, i.e. a voter who votes for the Republicans in some elections, and then for the Democrats in others (Mayer, 2008).

There are a number of authors who agree with the following definition: swing voters are those respondents, who tell sociologists that they do not know how they are going to vote in the upcoming elections and no more (Hall & Thompson, 2018).

The swing voter is believed to have a number of features such as less support for current administration. They are more moderate in both general ideology and on specific issues. Such voters are less informed and less interested in politics than other groups of

voters. Demographically, they are multifaceted: they are women, young people, retirees, Catholics and people of Latin America (Gayte, Chelini-Pont, & Rozell, 2018).

Can we talk about the same importance of swing voters in elections at the congressional or state level as at the level of presidential elections? Definitely yes. If we consider swing voters as those who have not yet decided, then such people exist in almost every district. Moreover, sometimes their percentage in local elections is higher than in presidential elections.

The number of swing voters depends on the intensity of the information campaign. The organization and intensity of the presidential election is good at providing voters with data on the main candidates. In the presidential campaign, before the fall, the majority of voters are faced with well-chosen images of party candidates, which are imposed on them through all possible media channels.

Many “lower rank” elections start with candidates who are not very well known, and as a result, the fight for those who have not decided yet is very important (Jäckle, Metz, Wenzelburger, & König, 2020). The flow of agitation creates a situation for voters when they need to choose between a candidate they know well, but with negative image, and a candidate about whom they have never heard anything.

In such situations, swing voters will play an essential role, because all voters will be divided into 3 groups: who have never heard of the candidate; who have heard, but they have no information to make a decision; informed voters who can give a positive or negative assessment. The winner is the candidate for whom the swing voters will vote. Because when people find themselves in a situation of uncertainty, they have to use other people's behavior as a template for their own. The more people hear positive about a candidate from ordinary citizens like them, the higher his popularity.

Such situations are not uncommon in the US elections. Quite often, members of the same party cannot agree, and are nominated at the same time. As a result, in a district where the overwhelming majority supports one party, one politician is more recognizable, than the other. The role of swing voters will also grow in the case when both candidates from different parties have a sufficiently high recognition and popularity and voters do not know who to vote for.

Thus, in many election campaigns, swing voter is the key type of voter.

2. POLITICAL STRATIFICATION AS A BASIC TOOL OF A POLITICAL STRATEGIST (CLASSIFICATION BY PEW RESEARCH CENTER)

Historically, it is the orientation towards the views of independent voters that brings victories in conditions of fierce competition and swing states, i.e. states in which the outcome of the election is not clear until the last moment, since the main contenders have approximately equal chances of winning. How many such districts were there in the 2014

campaign? It is difficult to determine, but Cook's report shows that the number of fluctuating districts i.e. those who have not yet decided on a clear favorite has been reduced to 90 (Zingher, 2019).

It should be noted that a number of the main factors influencing the choice of the voter did not undergo radical changes: age, experience, ideology, gender, race and religion (Eaves & Husser, 2017), which are superimposed on the situational electoral circumstances.

While there are a number of theories (for example, the theory of Anthony Downs (Downs, 1957)) that the campaign of candidates should be based on the ideological views of the average voter, the practice of American elections shows a different result. In fact, there is polarization, which became especially clear after the 2002 reform (Hirano, Snyder Jr, Ansolabehere, & Hansen, 2010).

The administrative change in the boundaries of electoral districts has led to the emergence of "safe" constituencies, in which the legislative bodies, for the most part, either very conservative or very liberal candidates. We can confidently state that Democrats are becoming more and more liberal, Republicans are more and more conservative, and there is less and less common between them and the era when distinguishing a Republican from a Democrat was already difficult in the past.

Now the differences are quite clear: liberals live more in cities, and conservatives in rural areas; only 2% of conservatives use public transport on a daily basis, compared to 19% of liberals. There are also differences in the way different ideological groups spend their free time. Liberals are younger, conservatives are generally older (Therriault, 2006). The ideological factor has become much more important for motivation in voting for Republicans than for Democrats (Abramowitz & Webster, 2016).

Based on these differences, the Pew Research Center for the People & the Press has created its own classification, where, depending on the views and values, eight groups of voters are distinguished. The first group is hardline conservatives who are fairly easily recognizable. They are more likely than others to say they are "angry with the government," they follow politics closely (74% of them always vote in the primary), nine out of ten are not Hispanic whites, 55% of them attend church once a week. More than a quarter of them say that they will be unhappy if their family member ties himself in family with a representative of another race (Levendusky, Pope, & Jackman, 2008).

The second group is business conservatives, who differ from the first group in that they strongly support Wall Street and have a positive attitude towards immigrants. They fit the definition of "freedom fighters" very well, 45% of them have high family incomes (\$ 75,000 or more), 54% of them live in the suburbs. Two thirds (68%) have investments in the stock market (Anzia, 2011).

The third group is convinced liberals. They are highly educated people who strongly support social protection and express very liberal thoughts on almost all issues. Most of them always vote for Democrats. They are very optimistic about the country's future. They share the idea that America's success lies in its ability to change, and not due to its dependence on outdated principles. Most of them believe that the government should do more to help those in need, even if that means going deeper into debt. 21% of them have academic degrees and live mainly in cities.

Taken together, these three groups form the electoral base of the US Democratic and Republican parties (Hopkins, 2017). These are the largest, well-studied and predictable, but not the only groups of voters. A feature of the following groups is that, as a rule, they do not trust both parties.

The fourth group - young outsiders, to whom belong young people who are not yet settled in their views, who are eclectic in their views. For example, they are against increasing government spending, but for the protection of the environment. They are in favor of the state's assistance to the poor, but at the same time against increasing social benefits (Hall & Thompson, 2018).

The fifth group - skeptics in a quandary, i.e. people with financial debts. This group has the lowest family incomes. Only a third of them work on a permanent basis. They think they are poor because government aid is too small. It is difficult to give a detailed description of the views of this group, since there is no necessary amount of information on them (Panagopoulos, 2016).

The sixth group is a new generation of leftists who advocate the legalization of homosexuality and abortion, and the strengthening of environmental protection. However, they are well aware of the impact of Wall Street on the economy (Jérôme, Jérôme, Mongrain, & Nadeau, 2020).

The seventh group is the believing left, who combine strong support for the government with a conservative attitude on many social issues. This group is not well educated. They oppose gay marriage and the legalization of marijuana. Almost 85% of them believe that religion is very important in life and 51% want the government to do more to protect morality (Thomsen, 2020).

The last group is bystanders, which includes citizens who find themselves on the sidelines of the political process (Grossmann & Hopkins, 2016). They typically did not even register to vote and pay very little attention to politics.

This classification divides people according to their views and values, and not on their party sympathies. Sociological studies show that, according to this approach, more and more Americans are consistently falling into these groups, which is used by party strategists for their own purposes.

This approach is better than others, as it ties social indicators to political ones. Most Americans don't look at politics through party glasses, they look through social issues. For political strategists, this means that by combining advertising in certain groups, you can win elections. This does not mean that you can create any combination of groups. For example, the first and second groups traditionally support the Republicans. Combined, they make up about 27% of all registered voters (de Chantal, 2020). However, it doesn't mean that it is possible to create various combinations.

First, hard conservatives are very conservative on key social issues, while business conservatives are more progressive. Among business conservatives, 72% favor citizenship for those illegally in the United States, but only if they meet certain conditions. The solid one's are totally against it. Second, hardline conservatives oppose an increase in the role of government in the economy and are skeptical of big business.

Business conservatives believe that big business does not carry the negativity attributed to it. Third, they have different attitudes towards foreign policy. The first group is in favor of reducing activity in the international arena. The second is more supportive of the active participation of the United States in world affairs. Differences in views between the two groups force Republican candidates to bet on only one of them.

For Democrats, the electoral base is convinced liberals who make up 15% of the population and 17% of registered voters (Bonikowski, 2019). To be successful, a party must rely on support from other democratically oriented groups, such as the faithful left. The problem is that they have strong religious convictions that distinguish them from diehard liberals or the new generation of leftists. The latter have a rather individualistic outlook on life and oppose the expansion of the social protection system. The difference in views also prevents Democrats from mechanically summarizing the votes of these groups.

Young outsiders and skeptics have a hard time joining any base. They are not swing voters but floating voters and change their mind without any synchronous logic.

This political stratification leads to the fact that candidates take positions designed not for the average voter in the country as a whole, but for either the average voter from their party or the average voter in primary districts (Misch, Fergusson, & Dunham, 2018).

After the reform of 2002, a large number of districts appeared where people with certain views live concentrated. The consequences of the 2002 reform are not fully understood, but even now we can say that when in a district with a clear ideological coloration a candidate is well known long before the elections, political advertising has less impact than in cases when little is known about candidates in the same district.

This is how powerful ideological advertisements in the 2000 election influenced the likelihood of voting for Bush, but not the likelihood of voting for Gore. Convincing answers have not yet been found to the logical questions "how much advertising and by what

percentage increases the rating”. Shaw, a well-known author on political advertising, believes that with an average of 500 GRP (Gross Rating Point or total rating reflecting the total number of audience contacts with an event), advertising increases the rating of politicians by 2.2% (McKay, 2020) . A number of authors emphasize that the impact of advertising is strongest at the end of the campaign, when the majority of voters are thinking about elections (McKay, 2020).

For congressional candidates, active supporters form the core of the campaign. Experts on sympathies believe that the mobilization of activists into the ranks of parties most often occurs when previously inactive voters agree with the new position of the party leader, while previously active people who no longer agree drop out of the ranks of active ones. Acting as opinion leaders, they provide vital campaign resources(Kitchens & Swers, 2016).

Such sympathizers, as a rule, in everyday life are rich and educated people who show an increased interest in politics. The more a person is interested in politics, the more likely that person will become ideologically convinced. As a result, active supporters tend to take more extreme views on a wider range of political issues than the general electorate. Their position makes certain adjustments to the electoral strategy (Ratliff, 2020).

The public support of a famous person (for example, a film actress) dramatically increases the effectiveness of the election campaign. The popularity of the politician joins the popularity of the actress. This is especially true if the budget for an advertising campaign is small. The above tendencies lead the campaign headquarters of little-known candidates to strategies designed to attract highly motivated ideologically motivated activists, which also leaves an imprint on the campaigns of others.

3. TECHNOLOGIES AND WAYS TO MOBILIZE VOTERS

In light of the mobilization of highly motivated activists and the disproportionate ratio of electoral groups, the issue of turnout is of particular importance. The winner is not the one who has more voters, but the one who will bring them more to the polling station.

If in the 1998 elections the voter was mobilized mainly through meetings, now it is the creation of special databases of telephone data on people, and emails and work in social networks (Jones, Bond, Bakshy, Eckles, & Fowler, 2017). To better understand the increased role of the Internet in American election campaigns, suffice it to say that it was only 2014, and the site <https://www.readyforhillary.com> was already working. Moreover, the level of elaboration of the site is quite high. These are flash screensavers, and the ability to invite other people, and a request to donate money, and links to various social networks, and your own merchandise store, and the possibility of feedback. It has instructions on what to do in the field and the ability to subscribe to news. Such sites will play a central role in

voter engagement in the future. For Democrats, working with the masses is more important, since it is traditionally believed that if the turnout is high, the Democrats gain more votes (Goding, 2017).

It is believed that the attitude to their civic duty to come and vote among voters depends on their social status. There are fewer unused votes among high-status voters than among low-status voters (Dolan, 2006). Also, the turnout depends on the intensity of the company.

It should be pointed out what we mean by the intensity of the election campaign. For us, this is the degree to which information about a candidate is disseminated among voters. Previously, the main indicator of the intensity of a campaign was the amount of money spent, but now it is more likely the number of mentions in social media networks.

If we take the American elections, then the midterm elections are not as intense as the presidential or governor's elections. This is explained by the fact that more people participate in the elections of the governor and the president. At the same time, acting representatives of the people have one important advantage: thanks to their fame, it is easier for them to convey their ideas to voters. The actions of the same incumbent governors, as a rule, are accompanied by a lot of media coverage. I would like to note one more aspect of the turnout. Voters often refuse to vote for candidates for the House of Representatives. They simply do not have enough information for the final choice. They treat voting as if it were a test, where questions are selected that they can answer (Lublin, 1997). This attitude, in turn, affects voter turnout. Hence the importance of this issue.

Having made a short overview of the main electoral imperatives in the United States, it is worth moving on to consider how they manifested themselves in the strategies of Republicans and Democrats. The 2014 elections were generally not as tough as the 2000 elections, but by no means easy, allowing polarization to emerge.

We should immediately address the following problem: there are states in which it may not be possible to know what is the right action in terms of electoral strategies. Double-checking the theoretical provisions would be extremely difficult empirically. For example: is it unjustified to care more about what happens to voters today than about what will happen to them tomorrow? It must be admitted that most of the American electoral strategies come out of the fact that only the consequences, directed to the future, matter. For American politicians, the value of an act is determined most often by its causal properties of generating a desired state of affairs. The problem of the voters' attitude to the way a politician keeps his word, which is a direct consequence of this, requires separate consideration, and we also put it outside the brackets. Note that most likely the result of the coincidence of words with deeds of the politician will strongly depend on the social composition of the district.

Practice shows that a promise creates a special responsibility between the politician and the voter. At the same time, it is important to understand that the relationship between them is not identical to the relationship between the boss and subordinates. After the elections, the politician has to constantly maneuver between different interest groups, and therefore nothing that was promised in the elections can create a special moral relationship between the representative in power and the voters, in which the politician's obligations to one type of voters are greater than the obligations to other voters. Whatever the voter does, whatever the politician says, he can never have more claims over the representative of the district in the legislative district than anyone else from the same district. The constituency spokesman views promise and contract not as special moral ties with the constituent, but simply as adding new factors in adding up overall utility to the constituency.

We will not consider the strategies of politicians for election in all states, we will only consider elections in New Hampshire. "Granite State" is an iconic district. Since 1952, all those who perform well in the state have won nationwide party nominations. This means that based on the 2014 elections, it is possible to predict the specifics of the next elections (Klumpp & Polborn, 2006).

The reasons for the importance of this district are rather unexplored. Why exactly from 1952? Because Truman withdrew his candidacy after that state's primaries that year. His fate was repeated by Lyndon Jones in 1968. In 1988, virtually all Republican candidates, with the exception of George W. Bush, withdrew their candidacy after the primaries in the same New Hampshire. The peculiarity of this state is that lesser-known and little-funded candidates who do well in elections in this state become serious contenders for winning the nomination from the party. In 1992, Bill Clinton, the little-known governor of Arkansas, won the county election and received a massive boost in both media coverage and campaign finance (Mackie & Rose, 2016).

S. Mago points out that winning the primaries in New Hampshire increases the candidate's share of the total primary votes by 26.6 percent (Mago & Sheremeta, 2019). Thus, the elections in this state significantly influence the entire election strategy. For an American politician, the easiest way to avoid collapse is to copy the elements of the election of those who won this constituency.

More insight into why New Hampshire plays a disproportionate role in the election comes from the fact that it has its primaries ahead of Super Tuesday, when 24 states hold their primaries. The results in New Hampshire are shaping expectations in these states. This explains why candidates spend disproportionately large amounts on "early" constituencies than later ones. In simpler terms, this model can be described as follows: the winner of the first fight is far more likely to win the overall competition than the loser in the first fight (Irfanoglu, Mago, & Sheremeta, 2015).

The specificity of the Republican election campaign in this state was that their candidate had never conducted any political affairs in this state before (Parker, 2012). The consequence of the fact that Scott Brown was from another state caused them to have problems communicating their ideas to the inhabitants of the granite state.

Firstly, insufficient knowledge of voters led to an erroneous determination of citizens' preferences. Most likely, the information that was available at the headquarters of the Republicans was not objective enough, otherwise it is difficult to understand the tactics of defiant behavior and outrageousness that were adopted.

Secondly, during the systematization of views on the promotion of the candidate, it was obvious that the Republicans did not have an approach to certain groups of potential supporters. There were no massive types of advertising such as press conferences by S. Brown's supporters, public lectures, foundations and charity.

Thirdly, the wrong choice of the target group of advertising was complemented by the lack of systematic promotion in the media. In the very first meeting with voters, he was presented as phony, i.e. "Fake". It was not clear how it was possible to achieve a planned and competitive rating with such a low-quality PR company. If it is still possible to understand why Scott Brown escaped to call New Hampshire the state of Massachusetts, then why he knew nothing about the geography of the state and the distribution of labor resources is a mystery. The difference became apparent only later, when Joan Shahin demonstrated herself two heads higher in face-to-face debates.

Such mistakes in the selection of personnel and the organization of their work led to a natural result: to a convincing victory for the democrats – Joan Shahin. With the help of her core of voters, she, as in 2008, took her 51.6% winning in most polling stations.

CONCLUSIONS

This election was held as a rehearsal for the presidential election, and anyone who wanted to take the number one post in the United States had to closely follow the development of events. The emergence of new tools for promoting ideas with the task of mobilizing the masses creates a constellation of circumstances from which election strategies emerge. These strategies are certainly state-specific, but still have a lot in common. The commonality in the strategies is reflected in the number and type of voters in the district, on the turnout and on the ideology. This is superimposed on the intensity of the campaign.

At the moment, based on the elections in the "Granite State", we cannot predict exactly how the elections in the United States will be held, because we do not know in what situation this or that candidate will be. The limitations of research methods for American elections are that they cannot guarantee 100% probability of specific events under specific conditions or unambiguously predict the state of American society in the future. Therefore, the topic needs further detailed research.

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THE PROBLEM OF DEVELOPING LOGICAL THINKING IN THE CONTEXT OF IMPROVING METHODS OF TEACHING MATHEMATICS

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ABSTRACT

The problem of developing the logical thinking of students through the inclusion of elements of logic in the teaching of mathematics also depends on the choice of teaching methods and methodological techniques. To achieve maximum success, it is necessary to make visible to the student the process of thinking, concepts and their connection, the structure of judgments and actions taken with them. For this purpose Carroll's tray, concept table, Venn diagrams, concept map are presented. It is shown that skillful use of these methods makes the learning process effective, accessible to students, interesting and attractive. In the case of Carroll's tray, it is shown that by serving the cakes on the tray, it becomes possible to develop students' linguistic and logical thinking. Moreover, the method becomes especially effective when elements of logic serve as educational material in mathematics. The method is used both for judgments or statements without variables, and for judgments or statements with variables. A scientific experiment confirming the effectiveness of this method is also presented. It is shown that the concept table, which is usually an effective way to compare and systematize concepts, has been particularly effective in comparing three or more concepts. For the same purpose, a Venn diagram is used, in which two or more circles are used to compare concepts, objects, ideas, showing their similarities and differences. A concept map or idea map is used to visualize concepts, ideas, their relationships, and relationships associated with an object of study.

Key words: logical thinking, method, judgment.

INTRODUCTION

The problem of developing the logical thinking of students through the inclusion of elements of logic in the process of teaching mathematics was studied by many authors [4], [5], [7]. The effectiveness of solving the problem also depends on the choice of training methods and methodological techniques. To achieve maximum success, it is necessary to make visible to the student the process of thinking, concepts and their connection, the structure of judgments and the actions taken with them.

Modern pedagogical literature offers many "tools" that serve this purpose, with the help of which students are transferred skills for recording, systematizing and classifying their thoughts and knowledge [1]. A number of such techniques, which have a clear methodological structure, are called "graphic organizers," which, due to their simplicity, are easily absorbed and used by students of different ages. We present several such methodical techniques, as a result of frequent applications of which students get the opportunity to develop abilities and skills of logical thinking (comparison, analysis, synthesis, classification, systematization, etc.) [1, 31-42].

1. JUDGMENTS WITH THE HELP OF "CAROL'S TRAY"

The essence of this reception lies in the fact that students are offered an interesting task taken from life, which at first glance has nothing in common with mathematics: about serving pies on a tray, then, considering the issue of presenting the properties of pies in a drawing, we attract students to the field of identifying logical forms, and training is carried out through dialogue and discussion [2], [6], [8].

a) Carroll Tray Steps

The following steps are required to apply the Carroll tray during training. Firstly, it is necessary to solve the issue of depicting a tray with pies. The first main question asked by the teacher is: how can you find out whether there are or not pies on the tray depicted?

The result of discussions on this issue leads to the following agreement: if there is a pie on the tray, then a white sign is depicted on it ○, and if not, a black sign ●. Thus, we will have three images of trays (see fig. 1).

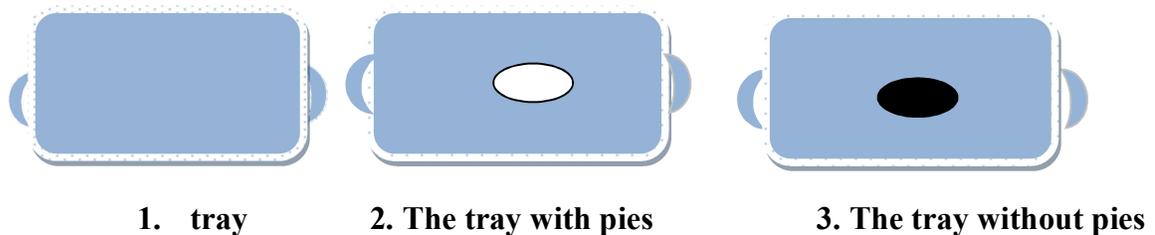


Fig. 1. The Carroll tray

In the first figure, we can say nothing about the contents of the tray. On the second tray there are pies, and on the third - no.

Next, a question is raised about such an image of a tray in order to have information about the properties of pies, and first we will satisfy only one property, say, freshness. The teacher suggests the question of how to find out whether there are fresh pies on the tray or not, how to make both fresh and non-fresh pies visible in the picture.

The teacher with the students forms the answer: we put fresh pies on one side of the tray, and stale ones on the other, for example, fresh from above, and stale from below, and so that they do not mix, draw a dividing line in the middle (see fig. 2).

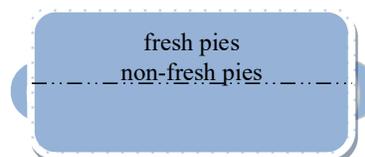


Fig. 2. The tray with fresh and non-fresh pies

In this case, the following question naturally arises: how can we depict the fact of the presence of fresh and stale pies on the tray, should you draw pies in the corresponding areas of the tray? To answer this question, we remind you that we depicted the presence of pies on the tray using white and black pies. The teacher proposes to depict a tray with the following content:

- a) tray, on which there is a fresh pie;
- b) tray, on which there is no fresh pie;
- c) tray, on which there is a non-fresh pie;
- d) tray, on which there is no non-fresh pie.

Accordingly, the following figures are drawn on the board or displayed on the screen (see fig. 3).

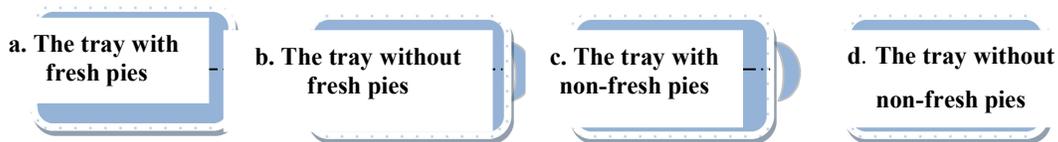


Fig. 3. All cases of the tray with fresh and non-fresh pies

Now it is possible to solve the opposite problem, that is, to propose that the following situations be formulated (see fig. 4).

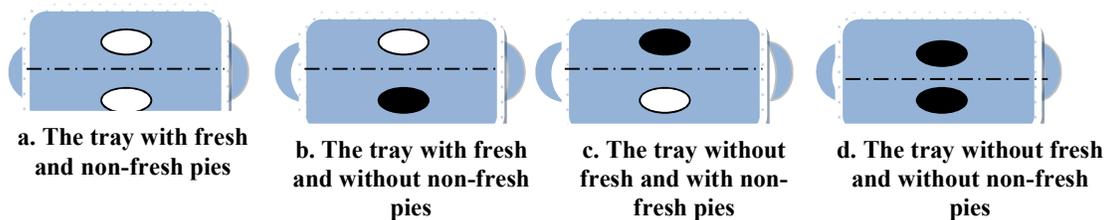


Fig. 4. All cases of the tray with fresh and not fresh pies

The following responses are expected:

- a) on the tray there is a fresh and non-fresh pie;
- b) there is a fresh pie on the tray, but there is no non-fresh pie;
- c) there is no fresh pie on the tray, but there is a non-fresh pie;
- d) on the tray there is no both fresh and non-fresh pie.

At the next stage, the observation expands, and the question is posed to depict the tray in such a way as to have information about another sign of pies, say, about taste. During the discussion, it is important that at the previous stage we divided the tray into two parts, since we dealt with one sign - freshness and its denial - obscurity, and now two signs and their two denials are given: fresh, stale and tasty, tasteless. What about that?

This clarification of the task suggests that on the left side of the tray place tasteless, and on the right side - tasty pies. That is, to accommodate all types of pies, it is necessary to divide the tray into four parts (see fig. 5).

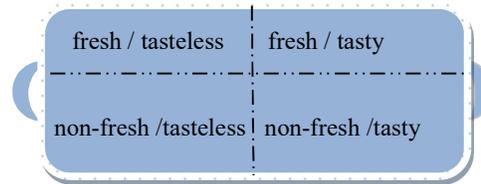


Fig. 5. Multi-profile tray

To facilitate the task, number the tray departments and consider a few examples (fig. 6):

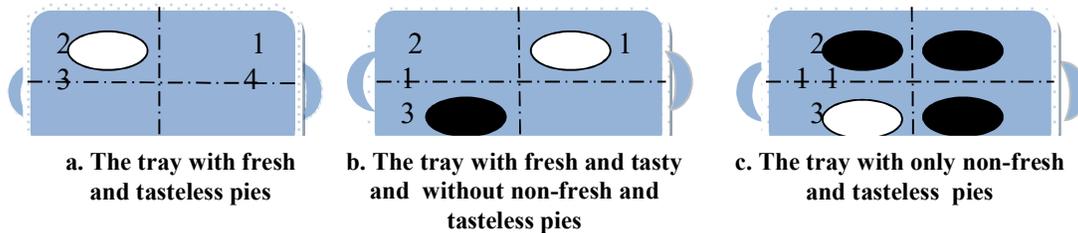


Fig. 6. Some cases of multi-tray

In Figure a) the second department is not empty, that is, there are fresh and tasteless pies on the tray. And it is impossible to say anything about the other departments, there may or may not be pies. In figure b) the first section is not empty, and the third section is empty. That is, there are fresh and tasty pies on the tray, and there are non-fresh and tasteless pies. Again, nothing can be said about the rest of the departments. On the last in) tray, the third department is not empty, but the remaining three are empty. Therefore, on that tray there are only non-fresh and tasteless pies. Similarly, the following questions can be answered:

How to depict a tray with four departments if it:

1. no pies;
2. no fresh pies;
3. no non-fresh pies;
4. no tasty pies;
5. there are no tasteless pies;
6. there are fresh and tasty pies;
7. no fresh and tasty pies;
8. there are fresh and tasteless pies;
9. no fresh and tasteless pies;
10. there are non-fresh and tasteless pies;
11. there are no non-fresh and tasteless pies;
12. there are non-fresh and tasty pies;
13. there are no non-fresh and tasty pies.

b) Judgments using Carroll's tray

Make sure that with the help of black and white circles depicted on a tray with four departments, we can make judgments about pies figurative and obvious. Consider the following tray, where in the first section there is a black circle, and in other sections there are no circles (see fig. 7):

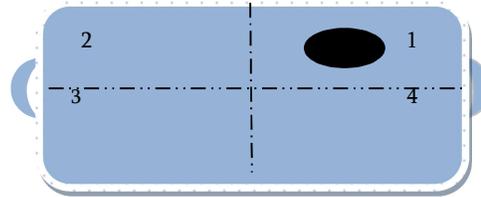


Fig. 7. The tray without fresh and tasty pies

The teacher can invite students to formulate judgments that correspond to this tray. The exercises at the end of the previous paragraph help you find solutions. In particular, the following responses are expected:

There are no fresh and tasty pies on the tray. (1)

There are no tasty and fresh pies on the tray. (2)

Then the teacher takes the next step and shows that the judgments given can be written in a different way.

Observation 1:

- All fresh pies are tasteless;
- All tasty cakes are not fresh;
- Every fresh pie is tasteless;
- Each tasty pie is stale;
- Any fresh pie is tasteless;
- Any tasty pie is stale;
- An arbitrary fresh pie is tasteless;
- An arbitrary tasty pie is not fresh.

Further, the teacher must draw the attention of students to the fact that the words "all," "any," "each," "arbitrary" have the same meaning. (Other examples may be given). This, on the one hand, is important for clarifying the language thinking of students and, on the other hand, gives some knowledge about the structure of the general judgment by volume (when using a generality quantum).

Next, the teacher places the black circle in the second, third and fourth divisions and examines the judgments corresponding to the next three trays (see fig. 8).

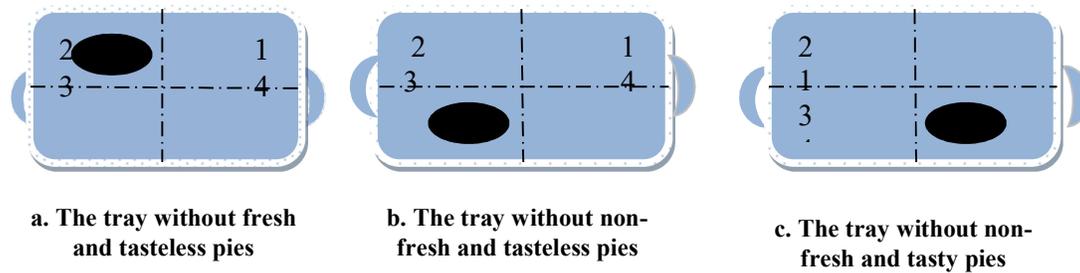


Fig. 8. The tray without fresh, non-fresh, tasty and tasteless pies

You can observe them through exercises. Here are similar exercises.

Exercise. For each of the three trays, imagine a judgment corresponding to 1 observation.

After reviewing the cases presented, the teacher discusses the judgments corresponding to the white circle tray (see fig. 9):

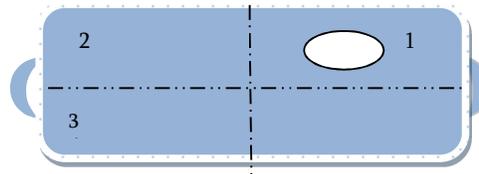


Fig. 9. The tray with fresh and tasty pies

Comparing the answer of the students, the teacher shows that the judgments given can be written in any of the following forms.

Observation 2.

- Some fresh pie are tasty.
- Some tasty pie are fresh.
- Existes a fresh pie (s) which is tasty.
- Existes a tasty pie (s) that is fresh.
- There is a fresh pie that is tasty.
- There is a tasty pie that is fresh.

Here too the circumstance which as it was noted above, is important for specification of language thinking of pupils is useful to draw the attention of pupils that the words "some", "exists", "There is" are used with identical sense, and, besides, gives certain knowledge of the structure of private judgment of volume (at application of a quantifier of existence).

Then the teacher puts the white circle in the second, third, fourth department and considers the judgments corresponding to the next three trays. (see fig. 10).

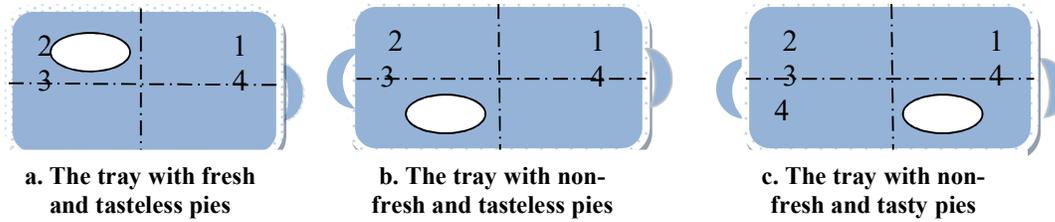


Fig. 10. The tray with fresh, non-fresh, tasty and tasteless pies

Observations about them can also be made using exercises. Here is an example of such an exercise.

Exercise. For each of the three trays, present judgments similar to those given in the second observation.

To clarify the thinking, a great opportunity is to compare the following judgments: "There are tasty and fresh cakes on the tray" and "There are only tasty and fresh cakes on the tray." The linguistic perception of their difference for the student is not so clear. But the image on the trays makes this difference obvious (see fig. 11).

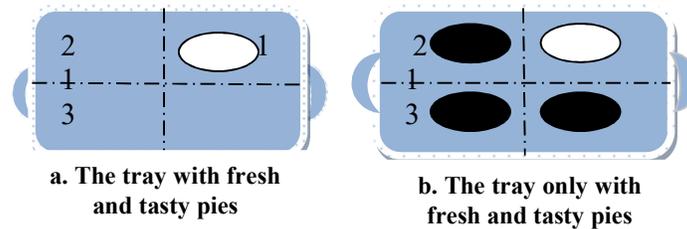


Fig. 11. The tray developing linguistic thinking

After a detailed discussion of this situation, the teacher invites students to compile and compare judgments corresponding to trays with the following content (see table 1):

Table 1. The table of interpretation

Only in the second department white circle	In the second part there is a white circle, and in the rest there are black circles
Only in the third department white circle	In the third section there is a white circle, and in the rest there are black circles
Only in the fourth section is a white circle	In the fourth section there is a white circle, and in the rest there are black circles

Observation by the Carroll tray can be expanded by setting the task of depicting the tray so that there is information about another, another (third) feature of pies located on the tray. This case has also been considered by us.

2. IMPROVING LEARNING METHODS AS A MEANS OF DEVELOPING LOGICAL THINKING

a) Table of concepts: this method is effective for comparing and systematizing concepts and is especially useful when three or more concepts (subjects) are compared. The table is composed of compared concepts (one row for each concept), and their comparing characteristics (for each characteristic one column), the number of columns is due to how deep and in what volume the concepts are compared. The table is as follows (see Table 2):

Table 2. Comparative table of concepts

Signs Concepts	Sign A	Sign B	Sign C	...
Concept 1				
Concept 2				
Concept 3				
Concept 4				

Using a table of concepts, you can compare each other, for example, functions - by parity, periodicity, monotony and other features, polyhedra - by the number of faces, edges, vertices and other features, judgments - by the number, quality, value of truth, and so on. This technique can be used during training, both in individual and in collective work in small groups. The result of comparing concepts (objects, tasks) can also be figuratively represented by T-prominent and m-prominent tables, which have a simpler structure and are used both to compare concepts and objects, and to represent different sides of the same subject. A table resembling the letter T in its shape consists of two departments (columns), where the characteristics of two comparing concepts, or opposite characteristics (quality, side) of one subject, are recorded. Similarly, the m-prominent table consists of three divisions (columns), which gives more opportunities for a more multilateral representation of the comparison. For example, comparing the properties of a rectangle and a rhombus in a geometry lesson can be represented by a T-prominent table (see Table 2), and comparing the properties of a rectangle, rhombus and a square with an m-view table (see Table 3).

Table 3. T-prominent table

Rectangle	Rhombus

Table 4.m-prominent table

Rectangle	Square	Rhombus

The use of the described tables not only contributes to an accessible and understandable presentation of the information material, but also the tabulation process itself helps to systematize and strengthen the knowledge of students, and, more importantly, shapes and develops their abilities and skills of analysis and synthesis. Moreover, the T-prominent and m-prominent tables can also be effectively used in discussions during the training process. For example, using T-prominent tables, it is convenient to present tasks and situations involving statements "true-false," answers "yes-no," relationships "positive-negative," and with an m-view table - statements "correct-wrong-not defined," answers "yes-no-not," positions "pro-against-abstain."

b) Venn diagram: the diagram is represented in two or more circles and is used to compare concepts, subjects, ideas, represent their differences and commonalities. The properties of the objects to be compared (data, characteristics, and so on) are recorded in circles, with their commonalities highlighted and recorded at the intersection of circles. Comparing the Venn diagram with the T-prominent and m-prominent tables, we note that in it the features and commonalities of the compared objects are more clearly and noticeably presented. For example, a comparison of a rectangle, rhombus, and square with a Venn diagram is presented as follows (see fig. 12).

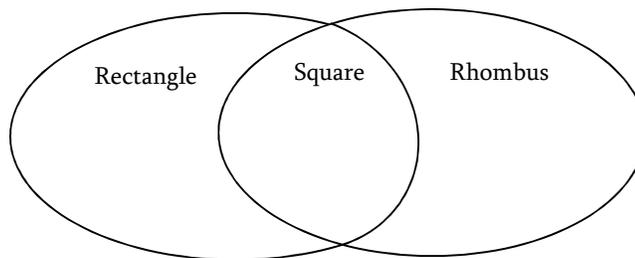


Fig. 12. The Venn diagram

The Venn diagram can have both a simple structure (in the case of two circles) and a complex structure (in the case of three or more circles). If the area of the circles or the area of their intersection is not enough to fully record the information material, then this is just a technical issue, and it can be solved by giving the addition scheme as follows (see fig. 2):

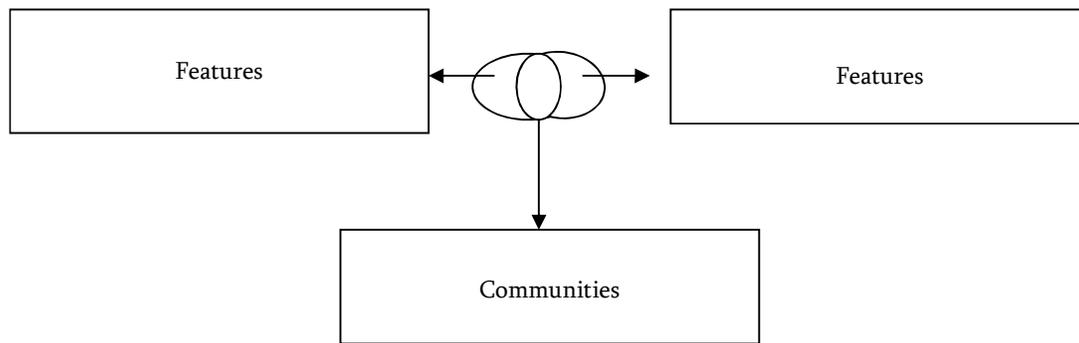


Fig. 13. Enlarged Venn diagram

The representation of logical structural forms by Euler circles is similar to the Venn diagram for comparing concepts, but this similarity has a need for additional clarifications. Note that the expression of concepts, judgments and conclusions through Euler circles, after all, is based on sets representing the scope of the concepts considered and the actions taking place between them. That is, by means of Euler circles, the relationship between concepts in volume is represented. While the Venn diagram provides an opportunity to represent the relationship between concepts also in content. And the relations between the two concepts differ in volume and content. Let us give an obvious example: the volume of the concepts of "parallelograms" and "trapezoid" do not have an intersection, while the contents of these concepts have commonalities (convex figures, quadrangles, have parallel sides, and so on). Thus, Euler circles and the Venn diagram, although similar externally, perform different functions. Moreover, the Venn diagram provides an opportunity to visualize comparisons not only of different concepts, but also of different subjects, situations, tasks, ideas, information. The Venn diagram plays an important coordinating role and can have a variety of applications during the learning process.

c) Map of concepts: in professional literature it is also often found under the name map of ideas and is used to figuratively represent concepts, ideas related to the object of study, as well as their connections and relationships.

Cartography begins as follows: first, the object of study is noted in the circle - a concept, idea or topic, for example, a "system of formulas." Next, around a separate concept (in our case, "formulas"), the accompanying words are written, say, "equation," "inequality," "solution," and so on. Next, words and ideas ("logical connection," "intersection of sets," and so on) related to other concepts (in our case, "system") are written in a similar way (see fig. 3):

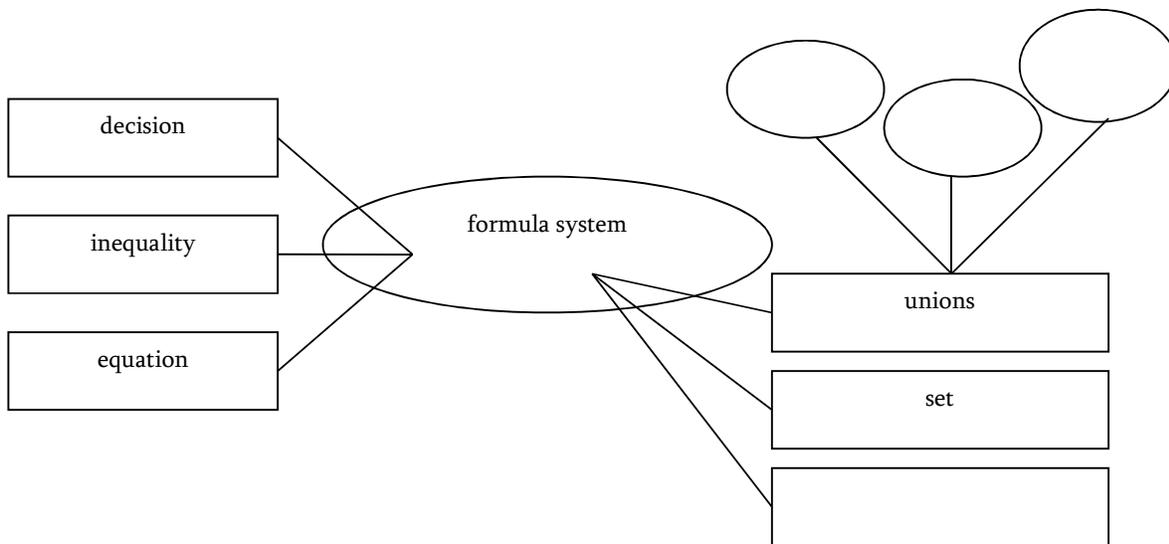


Fig. 14. Example of cartography

The "branches" of the map are also distributed based on each accompanying word, and the number and variety of branches depends on the goal, the depth of the study of the material, and the scope of the study. Each word with a dash is connected to the "birth word," and words having one "birth" are combined in one circle, creating an area of study (as in our example noted in the branch of "unions").

During cartography, having received a branched figure, as is customary, in cartography, conventions can be used, with the help of which they share the main and auxiliary, primary and secondary, completed and unfinished, as well as clear and uncertain, understandable and incomprehensible ideas. Using conventions, it is undoubtedly possible to apply a peculiar and creative approach, the main thing is that the result is a figure that would help to make the next steps of the study purposeful.

A peculiar and unique example of cartography is the presentation of classifications and evidence used in the educational literature in the form of trees [36], [62] (we conventionally call them logical trees). A significant feature of the latter is that they strictly preserve deductive order, that is, the corresponding laws of classification and evidence are consistently preserved. While in the case of cartography of concepts and ideas, there is no requirement for deductive order. When making a map, the process of choosing accompanying words for branches, although it runs along a certain logical chain, however, creative freedom is not impaired by a clear and unambiguous process. In this context, maps of concepts and ideas can be considered as means of representing the research search process, and logical trees can be considered as means of representing the results of the process. Indeed, during the study, in particular classification trees and evidence, are not

immediately created, they are formed as a result of research and search. And for a figurative and perceptive representation of this process, maps of concepts and ideas are effective tools.

In the methodological literature, other techniques are mentioned for figuratively representing the process of thinking, such as "Prism" (the main goal of which is to identify and fix the associative connections of the studied concepts and ideas in the subconscious field), "Cube" (the main goal of which is the direction of the process of discussing educational material according to the following guidelines written on the faces of the cube: describe (1), compare (2), combine (3), analyze (4), apply (5), argue (6)). Both these methods and those described above have wide application spectra and can be applied during teaching of different topics at different stages of the lesson [1], [4, 100-112]. In the methodological concept, their effectiveness is due to the fact that on the one hand they are suitable for applying topics related to elements of logic during training, and, on the other hand, by applying any other topic during training, they contribute to the development of logical thinking of students.

In order to be effective in teaching topics devoted to elements of logic, it is necessary to supplement the methodological system already known in the sense of application with such new methods that are more suitable for teaching these topics. In particular, topics related to statements, logical connections, judgments that include a variable that have the logical form "any," "exists," "he and only that" that have been included in the subject programs of mathematics in the last decade need to apply new methodological techniques. Next, we will present such a technique, which is based on the ideas of Lewis Carroll, the author of a number of famous literary and scientific works [6, 3-17], [8, 30-37], [2, 48-63]. And since the proposed technique directly relates to the training of elements of logic, we present it in detail, describing also the process of application.

3. EXPERIMENT

We have also conducted a pilot test of the effectiveness of the methodological recommendations proposed in this work. With the help of Carroll's Tray, students are offered a taken from life, at first glance not related to mathematics, one interesting task is about offering pies with a tray, then depicting the properties of pies with pictures, students are drawn into the sphere of identifying logical forms of expressions, while training is carried out through dialogue and discussions. During the scientific experiment, the following sequential steps were mainly performed, which are described in the works [6], [7], [8]. In the first step, we considered the question of the image of the presence or absence of pies in the tray, in the second step - how to depict a tray with pies to give information about some property (in our example, freshness) of pies, and in the third step the same question was discussed, however, in this case the question of the image of another property of pies (tasty - not tasty).

These questions stimulated the imagination of the students. Their activity was very high, without exception, everyone participated and offered different ways of image. Very favorable conditions were created for solving more serious educational problems. And this task, first of all, concerned the formulation of judgments corresponding to the images of the tray. We began with a discussion of the judgments regarding single-property patty trays. Students, first of all, realized that in the wording the meaning of the words is very important so that the judgment is exactly consistent with the content of this image. Here were specified the meaning of concepts of "a generality quantifier" (everything, everyone, any etc.) and "an existence quantifier" (some, is, exists etc.).

Then, when judgments relating to the tray of pies with two properties were considered, the range of logical questions expanded significantly. In this case, we have already dealt with complex judgments using logical unions. Moreover, it was very useful to consider direct and inverse problems: in the first cases, we presented a picture of a tray, and invited students to formulate a judgment corresponding to it, and in the other case, we presented a judgment and suggested depicting a picture of a tray corresponding to it. It should be noted that by creating connections between judgments (especially during the formulation of denials of complex judgments), the admissible errors of students were easily corrected or prevented when they showed them with the corresponding picture.

During a scientific experiment, students had a question about considering trays with pies with three properties. Therefore, after the first lesson, it was found advisable to devote one lesson also to discussing this case, when another property is added - the utility property of pies. Unlike cases with two properties, when the tray is divided into four parts (one for each property and its negation), in the circumstance of three properties, the number of divided parts of the tray becomes eight (the number of all possible combinations of three properties and their negations is eight). In comparison with the tray divided into four parts, the circle of consideration of complex judgments with logical connections has now expanded much more, and as a result of the lesson we became convinced of the great opportunities that Carroll's Tray creates in the development of linguistic, figurative and logical thinking [10-15].

As part of the scientific experiment, we conducted classes with students of the 7th and 10th grades of secondary schools of the Republic of Armenia and with students of the 10th grade of the ASPU school, a seminar was also held with students of the mathematics department of the ASPU. The effectiveness of the proposed methodology was tested using the sign of cognitive interest of manifestation by students in educational material - the higher the interest, the effective the training. The experiment was carried out according to the method of A. S. Cherepanov [5]. We summarized the information of the questionnaires, grouped, calculated the indicator of interest and obtained the following indicators (Table 5).

Table 5. Indicator of Interesting

Work type	Work Environment	Number of participants	Interest rate
Application of "Carroll's Tray"	Secondary schoo	54	0,91
Application of "Carroll's Tray"	High school	96	0,84

And the table shows that the indicators of applied interests in all work environments are significantly high from the average characteristic indicator "interesting" (note that on the scale of A. S. Cherepanov the average indicator is 0.5) [3]. During the application of Carroll's Tray, this indicator corresponds to the characteristic "very interesting" (on the scale of A. S. Cherepanov, the lower limit of the characteristic is "very interesting" - 0.83. Meanwhile, the highest rate is the use of Carroll's Tray in secondary school. In our view, this is due to the following two factors. The first relates to the method of using a tray, which is characterized by the fact that the learning process is accompanied by elements of game situations, which are more important for secondary school students. Another factor relates to the task under consideration, which reflects the situation in the content of which is directly related to everyday life, and this gives rise to a positive attitude towards the learning process.

Thus, the results of the experiment give enough reason to say that this methodological approach, which is aimed at teaching elements of logic, has high efficiency.

CONCLUSIONS

The solution of the key problem of the development of linguistic and logical thinking of students through the inclusion of elements of logic in the process of teaching mathematics is largely due to the effective use of modern teaching methods. Such effective methods can be Carol's tray, concept table, Venn diagrams, concept map. Thanks to the application of these methods, the general educational potential of mathematics in the system of educational spheres increases significantly, mathematics begins to turn from a subject "intended for the chosen" into a subject accessible to everyone. The interest of students in mathematics is increasing, the learning process is becoming more effective, educational material is becoming accessible, interesting and attractive.

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ANALYSIS OF TRENDS IN THE DEVELOPMENT OF INNOVATIVE ACTIVITY OF SMALL AND MEDIUM-SIZED ENTERPRISES

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ABSTRACT

This article examines the innovative activity of the domestic economy using the potential of small and medium-sized enterprises and the possibility of existing more developed foreign countries experience application. The purpose of this study is to explore the trends in innovative activity of small and medium-sized enterprises in Ukraine. Analysis of the literature on this issue has shown that the economic development of a country depends on many factors including the use of intellectual. The relevance of this issue is supported by the fact that most of developed countries are introducing the latest innovative inventions. The research of the development of innovation activity of small and medium-sized enterprises in the article is carried out in the following logical sequence: analysis of small and medium-sized enterprises in Ukraine, analysis of small and medium-sized enterprises of EU countries, evaluation and comparison of innovation activity of Ukraine and EU countries. The methodical tools of the study included methods of statistical analysis; the study period was 2010-2020. The object of analysis is the small and medium-sized enterprises innovation activity development process. Studies show that increasing the turnover and the production of small and medium-sized enterprises depends on the level of innovative development.

Key words: *innovation, scientific and technical activity, technological readiness, innovation development, innovation activity, small and medium-sized enterprises three, five, words.*

INTRODUCTION

The development of innovation activity of the domestic economy through the use of the potential of small and medium-sized enterprises is a pressing issue, which has to do with the possibility of application of the existing experience of the more developed foreign countries in order to achieve economic success. The economic development of a country depends on many factors, and the use of intellectual potential is quite a significant factor in modern society. The majority of developed countries, which have high levels of national income and are distinguished by the quality of life of the population, are introducing the latest innovative inventions and using them appropriately in production, agriculture, trade and other fields of activity. Increase in the turnover and the production of small and medium-sized enterprises directly depends on the level of innovative development. New and demanded goods and services are the main factor of existence and competitiveness of these enterprises.

The rapid changes in consumer needs, the updates of quality requirements, the small life cycles of goods or services and the increase in their diversity are all due to the fact that the production of small and medium-sized enterprises has to be modernized in the shortest possible time. Innovation is a key condition for the development of any enterprise and the economy of the country.

Studies of innovative development of the national economy have been reflected in the works of foreign and domestic scientists. The term and concept of “innovation” as a new economic category was introduced into scientific circulation by the Austrian (later American) scientist J. Schumpeter [1]. While examining models of economic growth, the Nobel Prize winner in Economics D. Hicks [2] came to the conclusion that it is innovation that creates the stability of a market economy. Also, the study of the role of innovative processes in the economy was discussed in their works by such prominent foreign scientists as M. Kondratyev [3], M. Porter [4], Yu. Iakovets [5] et al. Considering the works of domestic authors, we should highlight the works of V. Heits [6] et al. The state and development of the financial and economic component of the innovative infrastructure of the region are discussed in the works of P. Bubenko [7], O. Amoshi [8] et al.

The author proposes to review the general condition of small and medium-sized enterprises in Ukraine - to evaluate the component of small and medium-sized enterprises in the economy of the country, to determine the volume of sales of small and medium-sized enterprises and to identify the main types of economic activity of small and medium-sized enterprises.

The next step in analyzing the statistical information on innovation activity of small and medium-sized enterprises (SMEs) will be to analyze SMEs in the EU. First, the EU’s SMEs are evaluated, and then the innovation performance of EU countries is evaluated — the proportion of EU enterprises that have had innovative products, the innovative SMEs of the EU, the distribution of innovative SMEs by major types of innovation, the Summary Innovation Index (SII) of EU countries, SMEs with innovative products or processes, marketing or organizational innovations and SMEs’ innovations in their own businesses.

The last step is to conduct an assessment of Ukraine’s innovative activity — the main indicators of Ukraine’s innovation activity, the “Innovation” and “Technological Readiness” sub-indices of the GCI rating. After assessing the state of innovation, it is proposed to consider the intensity of innovation spending of Ukraine with other countries and to analyze the distribution of sources of financing the innovation activity of industrial enterprises.

1. ANALYSIS OF SMALL AND MEDIUM-SIZED ENTERPRISES IN UKRAINE

In 2017, the number of large enterprises in Ukraine amounted to 399 (0.02% of the total number of economic entities), the remaining 99.98%, including 15,524 medium-sized enterprises and business entities, 322,920 small enterprises (incl. micro-enterprises) and 1.4

million small and micro-sized business entities [9].

Consider the dynamics of changes in economic entities for 2010-2017. (Table 1.). We see a downward trend in the number of working enterprises, so compared to 2010, the number of large enterprises decreased by 32% and in 2017 amounted to 399. The number of medium-sized business entities also decreased by 28% in 2017 compared to 2010. The number of small business entities decreased by 23%, micro entities by 17%.

These changes may be due to the decrease in sales volume and devaluation of hryvnia, which occurred in 2014-2015. At present, the trend in 2017 is positive compared to 2016, and there is an increase in the number of large, medium, small business entities (4.18%, 0.93%, 6.14% respectively), but micro entities continue to decline. This is explained by the introduction of compulsory payment of a single social contribution by individual entrepreneurs, even if they are not profitable.

Analyzing the volume of sold products (goods, services) we can say that the ratio for 2010-2017 remains almost unchanged (Fig. 1.). In 2017, the share of large entities accounted for 35.2% of the total sales, the medium entities 39.9%, small and micro entities 12.2% and 12.7% respectively.

Table 1. Indicators of Structural Statistics by Economic Entities with Size Distribution[9]

	Total	Large Entities	Change,%	Medium-sized Entities	Change,%	Small (excl. Micro Entities)	Change,%	Micro Entities	Change,%
Number of Economic Entities									
2010	2,183,928	586	N/A	21,338	N/A	68,316	N/A	2,093,688	N/A
2011	1,701,620	659	+12.46	21,059	-1.31	71,083	4.05	1,608,819	-23.16
2012	1,600,127	698	+5.92	20,550	-2.42	68,103	-4.19	1,510,776	-6.09
2013	1,722,070	659	-5.59	19,210	-6.52	65,021	-4.53	1,637,180	+8.37
2014	1,932,161	497	-24.58	16,618	-13.49	55,159	-15.17	1,859,887	+13.60
2015	1,974,318	423	-14.89	15,510	-6.67	47,555	-13.79	1,910,830	+2.74
2016	1,865,530	383	-9.46	15,113	-2.56	49,298	+3.67	1,800,736	-5.76
2017	1,805,059	399	+4.18	15,254	+0.93	52,324	+6.14	1,737,082	-3.53

Source: [9]

Thus, the volume of sales of enterprises in modern conditions is the most important performance indicator of economic activity. The volume of sales of SMEs is 64%, which is the majority.

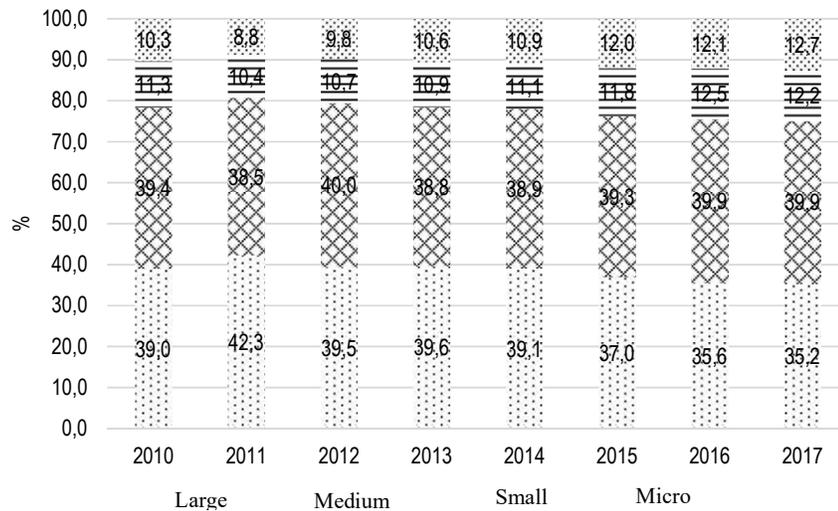


Fig. 1. Distribution of Sales of Enterprises by Size in 2010-2017, % of Total Sales (Compiled by the Author) [9]

The value of this indicator is affected by fluctuations in structure and physical sales volume and changes in product prices. To increase sales volumes, it is recommended that businesses:

- 1) Produce competitive and quality products (services);
- 2) Expand the range of goods or services;
- 3) Effectively use labor resources;
- 4) Carry out innovative activity.

Considering the number of enterprises by type of economic activity in 2017, the most popular types are industry, wholesale and retail trade, agriculture, forestry and fisheries [9].

The types of economic activity most often chosen by large enterprises are: industry (54%), wholesale and retail trade (32%) Medium-sized enterprises specialize in industry (32%), wholesale and retail trade (19%), agriculture (16%) and transport (7%). [9]

Small and micro enterprises specialize in wholesale and retail trade (27%), agriculture (15%), industry (11%) and real estate transactions (10%) (Figure 1.5).

Ukraine improved the following indicators influencing the easiness of starting a business in the year 2020 comparing to 2019. It streamlined the dealing with construction permits process by eliminating the requirement to hire an external supervisor and introducing an online notification system. Ukraine also made obtaining a construction permit less costly by reducing the contribution fee to the Kyiv City Council. Getting electricity in Ukraine became easier by streamlining the issuance of technical conditions and by implementing a geographic information system. Ukraine also improved the reliability of power supply by introducing an outage compensation mechanism and registering property easier by increasing the transparency of the land administration system and improved access

to credit information by establishing a new public credit registry in the National Bank of Ukraine. The country strengthened minority investor protections by requiring greater disclosure of transactions with interested parties and reduced the time to import by simplifying conformity certification requirements for auto parts [11].

The specifics of economic development in the present are such that large enterprises have maximum stability, and SMEs are easier to adapt to the situation and requirements of the consumer, so they are considered flexible. In 2017, the SME sector included 89,409 (27%) wholesale and retail enterprises, 50,097 (15%) agricultural, forest and fishing enterprises, and 41,811 (11%) industrial enterprises. Compared to 2010, the number of SMEs engaged in wholesale and retail trade decreased by 18.7%, industrial enterprises decreased by 11.94%, while in agriculture, forestry and fisheries the number remained almost unchanged (decrease by 1.09%) [9].

Industry is considered a leading type of economic activity, as it provides society with goods and services necessary for the normal functioning of the population. This type of economic activity is often chosen by large and medium-sized enterprises.

In 2017, enterprises of agriculture, forestry and fisheries had the highest level of profitability of operating activity in terms of enterprises by type of economic activity — 22.7% [9]. This type of economic activity was chosen by SMEs. The overall profitability of operating activities of enterprises by type of economic activity in 2017 was 8.9% [9].

Therefore, looking at the distribution of enterprises by type of activity, there is a tendency for SMEs to consistently choose wholesale and retail trade, agriculture, forestry and fisheries, or industry as their type of economic activity. For economic growth of the country's economy, businesses are encouraged to engage in new types of economic activity and focus on foreign experience.

2. ANALYSIS OF SMALL AND MEDIUM-SIZED ENTERPRISES OF EU COUNTRIES

Comparing the indicators of Ukrainian SMEs with EU countries, it can be argued that the number of SMEs in Ukraine is higher than in EU countries (Table 2).

Table 2 Number of Enterprises in the EU and Ukraine

	Number of Enterprises			
	EU	Germany	Poland	Ukraine
Micro	92.70%	82.50%	95.20%	96.23%
Small	6.10%	14.60%	3.70%	2.90%
Medium	1.00%	2.50%	1.00%	0.85%
SMEs	99.80%	99.50%	99.80%	99.98%
Large	0.20%	0.50%	0.20%	0.02%

Source: [10]

This can be explained by the crisis conditions due to which large enterprises were classified as medium-sized due to the fact that the sales volume was less than EUR 50 million. Also, the decline in consumer demand due to the inability of the population to pay contributed to the elimination of existing large enterprises. In Ukraine, the SME sector accounts for 80.83% of all employed workers in 2017 [9], which is higher than in Poland (62.7%) and Germany (67.8%) [10].

In the EU-28, more than a quarter (27.3%) of all enterprises reported organizational innovation in 2012-2014. The second most common type of innovation was innovative products (innovations that cover new or significantly improved products or services), which occurred in 23.9% of all enterprises, followed by marketing innovations (22.8%) and technological innovations (21.6%). It is important to note that individual enterprises can introduce more than one of these types of innovations.

Almost a quarter (23.9%) of enterprises within the EU-28 were product innovators during 2012-2014 [12] (Figure 2).

The largest shares of product innovators (in total enterprises) were registered in Ireland (35.7%), Finland (34.5%) and Germany (34.4%), while the Netherlands, Belgium, Sweden and Austria also registered an excess of 30.0%. Conversely, less than 10.0% were registered in Poland (9.5%), Latvia (8.5%) and Romania (3.6%).

Most EU countries (14 countries) have an overwhelming number of innovative businesses (more than 50%). The top five innovator countries by number of innovative enterprises include: Germany, Luxembourg, Ireland, Italy, Sweden [12].

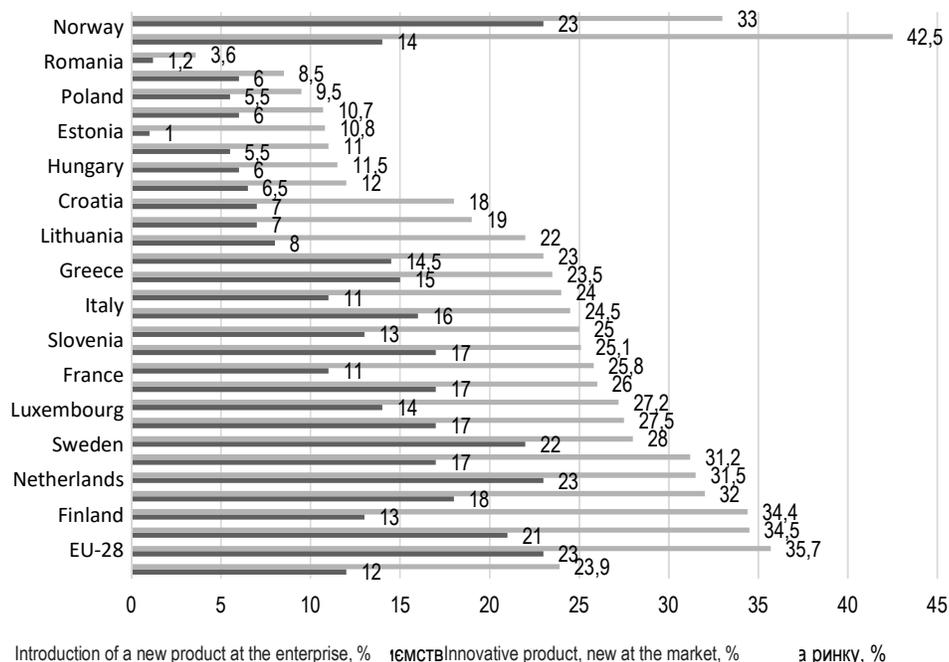


Fig. 2. Share of Enterprises that Introduced Innovative Products, (%) [12]

Among the innovation enterprises of the EU, innovative SMEs (ISMEs) make up the largest number — 756,887 (96.4%), the majority of which (79.5%) refer to enterprises with less than 50 employees, which indicates a high level of support for entrepreneurship in the EU. Most EU countries (15 countries) have over 10,000 innovative SMEs (Table 2.) [12].

The largest number of ISMEs is in Germany and Italy (32.0% of the total number of ISMEs in the EU), the largest percentage of ISMEs out of the total number of innovative enterprises is in Greece, Italy, Spain and Portugal.

Table 2 EU Innovative SMEs, 2012 [12]

Country	Total Number of Innovative Enterprises	10-49 Employees	50-250 Employees	SMEs	SMEs,%
EU-28	785,243	624,377	132,510	756,887	96.39
Germany	135,033	100,798	27,801	128,599	95.24
Italy	116,621	100,548	13,779	114,327	98.03
Turkey	81,078	66,254	12,379	78,633	96.98
Spain	71,801	60,817	9,264	70,081	97.60
France	70,962	55,761	12,151	67,912	95.70
Poland	54,365	41,267	10,868	52,135	95.90
Romania	28,866	22,400	5,270	27,670	95.86
Netherlands	25,242	19,844	4,595	24,439	96.82
Czech Republic	22,253	16,941	4,171	21,112	94.87
Sweden	17,954	14,380	2,929	17,309	96.41
Portugal	17,660	14,404	2,824	17,228	97.55
Austria	16,451	12,679	2,996	15,675	95.28
Hungary	15,160	11,894	2,674	14,568	96.09
Belgium	14,286	11,052	2,642	13,694	95.86
Bulgaria	14,296	11,057	2,724	13,781	96.40
Greece	14,987	13,016	1,701	14,717	98.20

Source: [9,10]

The analysis of the total number and percentage of ISMEs of the EU in terms of distribution by major types of innovation showed that: organizational innovations were implemented by 39.83% (94,748) of enterprises, product innovations by 32.51% (77,350) of enterprises, process innovations by 19.78% (47,054) of enterprises, and marketing innovations by 7.88% (18,745) of enterprises (Table 3) [12]. Noticeable numbers of innovative SMEs at the national level, which implement:

- organizational innovation: the highest in France (44.65%), the smallest in Poland (14.05%);
- product innovations: the highest in Slovenia (40.71%), the smallest in Spain (5.96%);
- process innovation: the highest in Poland (36.64%), the smallest in Norway (10.76%);
- marketing innovations: the highest in Turkey (41.69%), the smallest in Luxembourg (12.39%) [12].

Table 3 Distribution of Innovative SMEs by Main Types of Innovation

Countries	Number of ISMEs				Number of ISMEs (%)			
	Product	Process	Marketing	Organization	Product	Process	Marketing	Organization
EU-28	77,350	47,054	18,745	94,748	32.51	19.78	7.88	39.83
Austria	1,345	1,693	1,529	2,514	18.99	23.91	21.59	35.50
Belgium	1,678	1,617	1,186	2,120	25.42	24.50	17.97	32.12
Bulgaria	698	476	865	545	27.01	18.42	33.48	21.09
Greece	681	1,570	2,246	1,233	11.88	27.40	39.20	21.52
Denmark	904	781	721	886	27.46	23.72	21.90	26.91
Estonia	351	447	343	335	23.78	30.28	23.24	22.70
Ireland	745	595	563	952	26.09	20.84	19.72	33.35
Spain	1,008	6,150	2,842	6,915	5.96	36.36	16.80	40.88
Italy	10,220	11,723	13,630	16,075	19.79	22.70	26.39	31.12
Cyprus	25	140	153	99	6.00	33.57	36.69	23.74
Latvia	167	277	323	325	15.29	25.37	29.58	29.76
Lithuania	285	377	610	476	16.30	21.57	34.90	27.23
Luxembourg	171	221	101	322	20.98	27.12	12.39	39.51
Malta	54	70	76	161	14.96	19.39	21.05	44.60
Netherlands	3,739	2,256	2,078	2,981	33.82	20.41	18.80	26.97
Germany	23,869	10,150	19,580	16,528	34.04	14.47	27.92	23.57
Poland	844	2,571	2,615	986	12.03	36.64	37.27	14.05
Portugal	987	2,302	1,874	1,806	14.16	33.03	26.89	25.91
Romania	308	642	1,271	1,324	8.69	18.11	35.85	37.35
Slovakia	343	292	578	481	20.25	17.24	34.12	28.39
Slovenia	745	284	456	345	40.71	15.52	24.92	18.85
Hungary	836	460	1,475	891	22.83	12.56	40.28	24.33
Finland	985	881	716	936	28.00	25.04	20.35	26.61
France	2,137	6,485	5,402	11,312	8.43	25.60	21.32	44.65
Croatia	275	441	588	535	14.95	23.98	31.97	29.09
Czech Republic	1,826	1,532	2,375	1,810	24.21	20.31	31.49	24.00
Sweden	2,911	1,609	2,370	1,453	34.89	19.29	28.41	17.42
Norway	964	333	980	818	31.15	10.76	31.66	26.43
Serbia	575	399	677	683	24.64	17.10	29.01	29.26
Turkey	881	5,373	9,453	6,967	3.89	23.70	41.69	30.73

Source: [12]

One of the most important tools for assessing the innovative development of European countries is the European Innovation Scoreboard (EIS). Analyzing the 2018 Summary Innovation Index (SII) for each EU country, the highest rates are in Sweden (0.71), Finland (0.70) and Denmark (0.68) against 2010 Sweden (0.68), Denmark (0.66), Finland (0.63). The lowest rates are in Romania (0.16), Bulgaria (0.23), Poland (0.29) against Romania (0.22), Latvia (0.23), Bulgaria (0.24). According to this index, the leading countries have changed, in 2018 Finland was in second place compared to third in 2010, Denmark in 3rd place (against 2nd in 2010), the Netherlands in 4th place (+2 positions) [13]

Comparing EU innovation performance in 2010, we can say that in 2018 they increased by an average of 5.8%. In the last 8 years, innovation activity has grown in 18 EU countries and decreased in ten.

In some areas of innovation, EU leaders are as follows: Denmark — environment for human resources and innovation; Luxembourg — attractive research systems; France —

finance and support; Ireland — innovation in SMEs, and employment and sales impact; Belgium — innovative relations and cooperation [13].

Comparing SMEs with innovative products and processes, in 2018, Portugal (1), Finland (1) and the Netherlands (0.88) were the leaders. The lowest rates were in Romania (0), Poland (0.15), and Bulgaria (0.18). In 2010, Germany (0.99), Portugal (0.85), Belgium (0.76), and Estonia (0.75) were the leaders. The lowest results were recorded in Hungary (0.12), Latvia (0.13), and Poland (0.13) [13] (Figure 3).

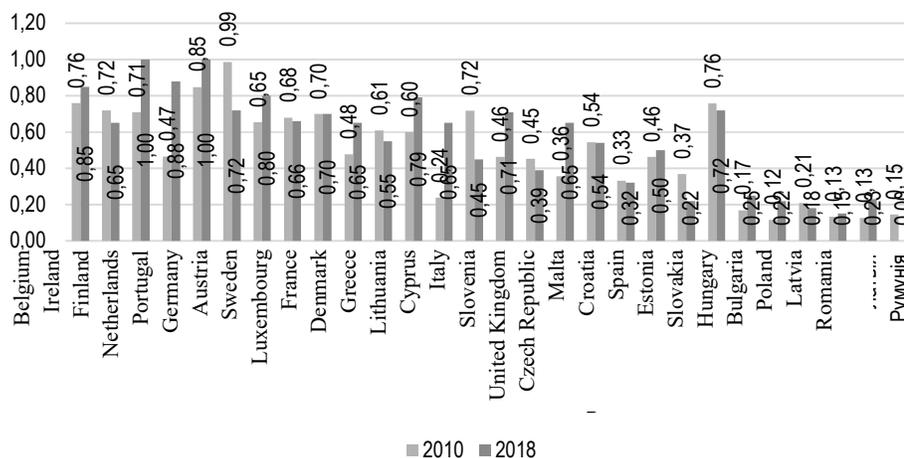


Fig. 3. SMEs with Innovative Products or Processes, 2010 and 2018 [12]

According to the number of SMEs with marketing or organizational innovation in 2018, Luxembourg (0.83), Austria (0.80), Ireland (0.76) and Portugal (0.74) were the leaders. The lowest rates were recorded in Romania (0), Poland (0.01), and Bulgaria (0.1). In 2010, the leaders were Germany (1), Luxembourg (0.85), Greece (0.81), Cyprus (0.74). The lowest results were recorded in Latvia (0.07), Bulgaria (0.14), Poland (0.16) [12] (Fig.4.).

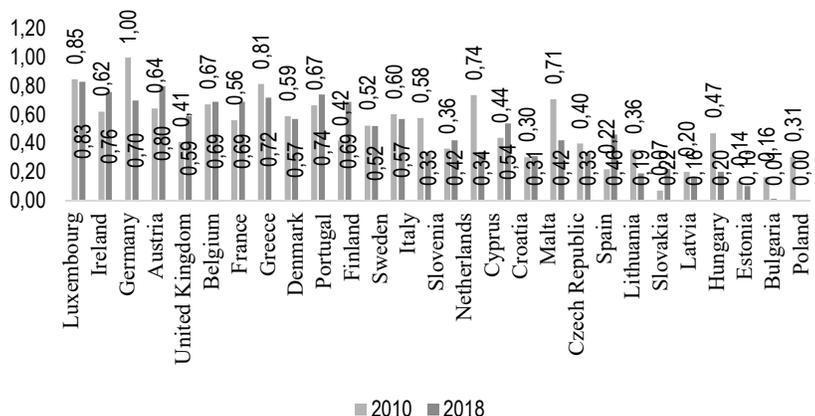


Fig. 4. SMEs with Marketing or Organizational Innovation 2010 and 2018 [13]

Considering SMEs’ innovations in their own enterprises in 2018, the highest rates were recorded in the following countries: Portugal (1), Finland (1), Belgium (0.83). The lowest rates were recorded in Romania (0), Poland (0.1), and Bulgaria (0.14). In 2010, the leaders were Germany (1), Cyprus (0.88), Belgium (0.85), Ireland (0.81). The lowest results were recorded in Hungary (0.11), Poland (0.14), Latvia (0.16) [13] (Fig. 5.).

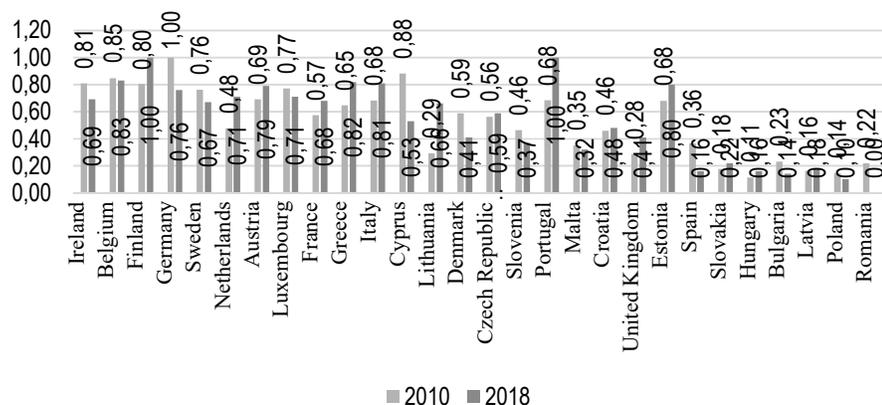


Fig. 5. SME Innovation in own Enterprises 2010 and 2018 [13]

European companies are prepared to invest in the potential of new technologies. Some 88% expect their innovation budgets to increase over the next two years. The other 12% expect it to remain the same. Across Europe 92% of businesses see advances in new technologies as the primary trigger behind innovation, with new consumer expectations (86%) as the second most important [14].

3. EVALUATION AND COMPARISON OF INNOVATION ACTIVITY OF UKRAINE AND EU COUNTRIES

Given the global trends of globalization, international comparative analysis of innovative trends is of particular importance to answer the question of Ukraine’s place in the global innovation process. Innovative capacity and technological readiness are integral components of the *competitiveness of the national economy*. According to the report of the World Economic Forum on Global Competitiveness, Ukraine’s rating under the “Innovation” sub-index increased to 61st place in 2016-2018 compared to 93rd in 2013-2014, climbing 32 positions in the rating. The growth in this rating (compared to 2013) was influenced by the improvement in almost all its components, in particular: innovative capacity (+49 positions), quality of research institutes (+9 positions), companies’ expenditures on research and development (+36 positions), university relations with

industry (+4 positions), government procurement of the latest technology and products (+22 positions). The quality of these components depends, first and foremost, on the efforts of the state to finance the costs of research and development, the acquisition of external knowledge, as well as machinery, equipment and software.

Activities of the enterprises themselves also directly influences these components, since they prefer using foreign technology to a greater extent through licensing over their own development and research. The rating of the “number of patents received in the United States” remained unchanged. Particular attention should be paid to the technological readiness sub-index, the rating for which is constantly increasing, which is associated with the rise in place for virtually all its components (see Table 1.1), except for the position of the “Broadband Mobile Coverage” index (-21 positions compared to 2013-2018), and the “availability of the latest technologies” index (-1 position).

The main reasons for the increase in technological readiness in Ukraine can be attributed to the following: Ukrainian economy mainly started utilizing new technological advances; innovation activity of enterprises (compared to EU countries) started to increase; improvement of legal instruments for protection of property rights.

In terms of “Technological Readiness” (Fig. 6.) in 2017-2018, Luxembourg, Switzerland, the Netherlands and the United Kingdom took the leading positions, confirming the correlation between the innovation level and the overall development of the country. These countries have not only maintained their position but also improved their results.

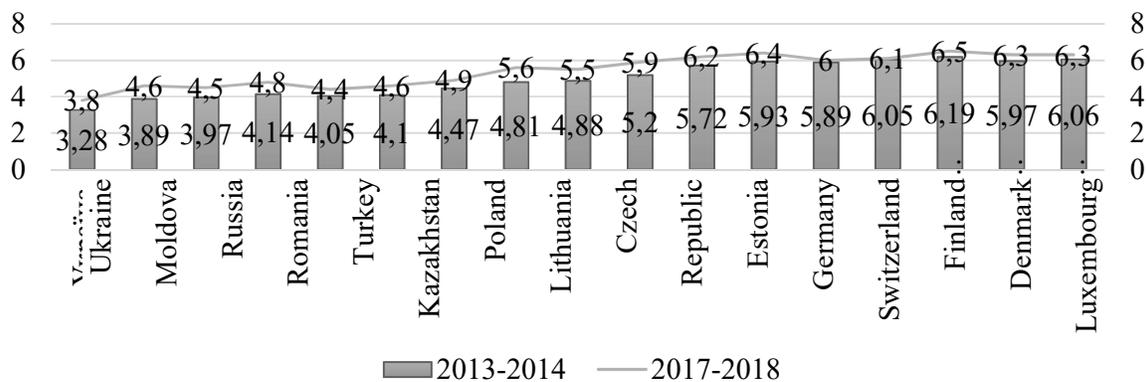


Fig. 6. Ratings of Ukraine and Other Countries under the “Technological Readiness” Index, Compiled from [14]

Ukraine had a positive trend and climbed 13 positions in the ranking (94th place in 2013, 81st place in 2018). This is due to the fact that the pace of technological growth in Ukraine is rising significantly. Countries of the former Soviet Union have also increased the value of their indices, which indicates a certain development in the fields of information,

mobilization, Internet distribution and more. The development of innovation activity in the regions of Ukraine is extremely uneven, which is largely related to the level of development of the innovation infrastructure. The analysis of the existing infrastructure of innovative activity in Ukraine, first of all, testifies to its underdevelopment, functional incompleteness, inability to reach all links of the innovation process.

Switzerland, USA, Israel, Finland, which in the period from 2013 to 2018 have improved their positions (Fig. 7.), also take the top places in the rating of innovation countries (sub-index “Innovation”).

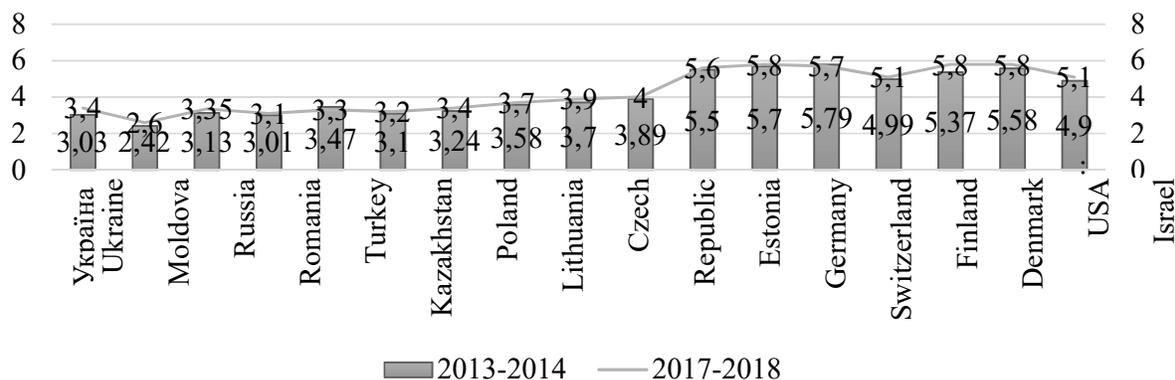


Fig. 7. Ratings of Ukraine and Other Countries under the “Innovation” Index, Compiled from [13]

There is a rising trend for the “Innovation” and “Technological Readiness” index for Ukraine, Romania, Russia, Moldova and the Czech Republic, which in particular improved Ukraine’s overall ranking (from 93rd place in 2013 to 61st in 2018). This is primarily due to well-balanced innovation policies of developing countries. Even in times of crisis, these countries have channeled significant financial resources for innovative development, which has led to such results. The general trends of global development, together with a real assessment of the level of scientific, technical and innovative activity in our country, testify to the threat of danger of being left out of the global processes of formation of a powerful innovation system.

The effectiveness of the innovation spending structure is the topical issue. In 2010-2018, innovative enterprises spent a significant portion of their costs on the purchase of machinery, equipment and software, which is the highest indicator among other types of costs (62.79% in 2010 versus 68.07% in 2018 year). In 2010, 10.1% of such expenditures, and 22.22% in 2018, were spend on internal R&D, although own R&D includes not only research staff salaries and associated costs but also capital expenditures for facilities and special equipment for their implementation. Much less funds were used to fulfill external R&D and acquire external R&D and other external knowledge. These figures range from

1.7% to 6.93%. The level of costs for the acquisition of new technologies — the lowest of the directions of expenses — shows that the domestic business does not accept the latest achievements of science and technology. Sweden's R&D expenditure accounts for 63.2%, the Netherlands 62.5%, Luxembourg 53.8%, Belgium 42%, Turkey 28.9%, Poland 8.3%, Romania 13.4 %, the Czech Republic — 23.2%, Russia — 15% of the total costs of innovation. Research and development costs exceed investment in equipment in Belgium, Iceland, upgrading fixed assets. Cost relations for research and equipment purchase are: in Bulgaria 1:19, Estonia 1:8, Poland and Slovakia 1:7, Russia 1:6 [9].

Analyzing the state of development of innovation activity of SMEs, we can say that Ukraine is significantly inferior to the world countries in terms of innovative development. Creating preconditions for stimulating innovative growth requires a comprehensive approach from the state and enterprises. It is the creation of interaction between the state and the SME sector that will promote the existence of healthy competition and stimulate SMEs to innovate. With the introduction of the innovative activity, businesses will be able to increase their profitability and not lose competitive advantage in the market. The state should also be guided by a long-term strategy for innovative development [15-16].

Luxembourg by 1.5-2 times. In Eastern Europe, investment is more focused on

Enterprises should set up separate units for innovative activities, which will be responsible for developing innovative projects to increase the efficiency of their performed activities. Funding is an integral component. Therefore, the independent attraction of investment funds into their business will contribute to the growth of innovative activity.

CONCLUSIONS

To summarize, the conducted analysis shows that the state of innovation activity in Ukraine requires significant changes. Comparison of innovative indicators made it possible to estimate the level of innovation activity as critical. This is due to the lack of comprehensive support from the state. Particular attention in the development of innovative activity is paid to the SME sector, which constitutes the majority (99.98%). This is because SMEs are focused on innovation, while large companies are engaged in the introduction, production and promotion of goods.

SMEs are the most important actors of innovation, because they are the basic condition for the functioning of the innovation economy, as well as the main source of innovation, and the generator of new ideas. There are a number of constraints on the development of SMEs in Ukraine, including the lack of funding sources.

A set of measures is proposed to improve the state of innovation of SMEs, which involves the interaction of the state with the latter.

In conclusion, it can be noted that improving the innovation activity of SMEs is a necessary direction for the effective development of the domestic economy.

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MEANINGFUL MATRIX OF THE NATIONAL IDEA AS A CONCEPTUAL LANGUAGE OF THE UNIVERSAL NATION BUILDING NORMS IN THE UKRAINIAN INFORMATION AND COMMUNICATION ENVIRONMENT

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ABSTRACT

The article explores the meaning of the idea of the nation as a conceptual language of the universal norms in the context of the Ukrainian grand narrative of the modern media sphere in the age of sovereignty. It is noted that today, in the mass consciousness of Ukrainians, the semantic field of the idea of the nation with a single interpretative matrix is not fixed, a unified symbolic, archetypal, evaluative space is not formed in the media sphere, i.e. there is no key factor that would lead to social consolidation. The authors have defined the factors ("vertices" of the cognitive model, digraphs), that influence the movement of meanings in the information space, and have examined the power of various factors interaction. As a result, owing to the application of the cognitive modeling method, a set of impulse process implementations ("development scenarios") has been obtained, and the scenarios for the formation of the meaningful matrix of the national idea as a conceptual language to express legitimate norms and rights, i.e. the basic matrix of the national strategic narrative in the context of state formation, have been outlined.

Key words: *communications, the idea of the nation, information space, cognitive-information society, cognitive modeling, the Ukrainian media sphere, linguo-cognitive safety, sovereignty, anti-sovereignism*

Introduction

The issue of independence of information and communication environment is topical for any state. However, for Ukraine, with its specific historical background, it becomes especially challenging, since permanent movement of different senses (both state-forming and antagonistic) in this sphere provokes inconsistency in the sphere of mental resources – from blurring of the national identity and history to their awakening. Those ideas, which should have become a solid foundation of state-building, are not always found in the mass consciousness or, if present there, are perceived in a different way. According to Pocheptsov (2017), this is due to “the phenomenon of selective perception, according to which a person sees around only what fits their worldview”. Today, in the mass consciousness of Ukrainians, the semantic field of the idea of a nation with a single interpretative matrix is not fixed, a unified symbolic, archetypal, evaluative space is not formed in the media sphere, i.e. there is no key factor that would lead to social consolidation.

The media sphere was defined as the “orderly participation of social institutions producing a number of discourses in the regular activation of socio-cultural meanings, which ensures complementarity (communication efficiency) of mass communication, ethno-cultural competence of Ukrainians and information security in the context of information and media war – the war of interpretations, the war of senses” (Kovpak, 2016: 4). Therefore, we find it necessary to distinguish the factors that need to be updated so that the Ukrainian grand narrative consists of a national basic matrix, a basic picture of the world, and an evaluative paradigm of values. Grounding on this, it is important to develop long-term strategic concepts of state-building that would focus on information-safe, geopolitical and geocultural (a concept introduced by Ye. Malaniuk (1993)), cognitive components.

This is significant at the stage of forming new national elites, since simultaneously a new thesaurus of the civil society and political establishment is formed. Its contents is extremely important, especially under the conditions of the information and cognitive war – the armed conflict in the East of Ukraine. For instance, during the last decade, the terms “cognitive weapon”, “cognitive safety”, “cognitive war” have been actively developed in the Russian military, scientific and strategic discourse. As stated by I. Rushchenko and N. Zubar, “according to the Russian sources, the term “linguo-cognitive safety” was first introduced and defined as preservation of mental resources of an individual or a group in the collective unconscious, and in the level of the rational comprehension of their own identity, history, values, etc. <...>, there is an emphasized necessity to have safe conditions and channels for obtaining true knowledge and its practical implementation” (Rushchenko, Zubar, 2017: 5). The notion of ‘sovereignism’ entered the meaningful agenda of the Russian Federation with the same ideological imposition. The authors of the article published in web-resource “EU vs. Disinfo” think that ‘this term has intermingled with the idea of the priority of the Russian ‘sovereign’ interests which neglect international cooperation, integration into the system of cooperative European security, etc. <...> later, the notion of sovereign democracy emerged – this type of democracy is determined not by the traditional democratic values, but by the traditions of the Russian national sovereignty (Disinformation as a Dialogue, 2019). In their opinion, the notion of sovereignism can be used as a vessel for disinformation, which enables the states that propagate it, “to nourish with the centuries-long disinformation dialogue aimed at doing harm to democracy” (Disinformation as a Dialogue, 2019).

Therefore, there is an urgent need to distinguish intellectual landmarks for society and the general civilizational idea of Ukraine, as well as to secure the “matrix of the idea of the nation” from destructive meaningful intervention by means of the formation of Ukrainian narratives through the use of strategic communications in the media sphere. In this research they have been designed with the help of cognitive modeling, the theoretical basis of which, in

terms of constructing a cognitive model and determining the relationships of its vertices, was loaned from the works by F. Roberts (Roberts, 1986) and A. Bakurova (Bakurova, 2010).

The purpose of the article is to find out the meaning of the idea of the nation in the context of the Ukrainian grand narrative of the modern media sphere, and to outline the scenarios of formation of the meaningful matrix of the idea of the nation as a conceptual language to express legitimate norms and rights, i.e. the basic matrix of the national strategic narrative in the context of state formation by means of cognitive modeling.

METHODS AND TECHNIQUES

The method of analysis of scientific literature was used for general study of the topic, to determine the level of theoretical study of such aspect as strategic communications.

The method of critical discourse-analysis allowed to integrate texts and narrative practices of information and communication activity of modern Ukrainian society with extralinguistic factors that mediate the interaction of participants in communication. Taking into account the results of the academic discussions, in our opinion, it should be clarified that the formation of the meaningful content of the idea of a nation, which is conditionally equal to a set of intermediate, auxiliary and key national goals, is made possible in the light of the identified strategies in the modern Ukrainian media society (the result of communication between social institutions as an integral sum of meanings) as a result of the application of the cognitive modeling method. It involves, first, the elucidation of the factors that influence the key sense – the ideas of the of the nation, which is equal to the set of national goals, and second, the definition of their mutual relations, that is, the construction of a matrix of the idea of the nation. The method is based on the construction of a cognitive map in the form of an oriented graph, where the vertices represent the factors, the concepts that affect the basic concept, the edges – the system of relationships between them. Static and dynamic analysis of the map enables to search for scenarios of formation of the semantic matrix of the idea of the nation.

1. THE COGNITIVE MODEL OF THE MEANING-FORMATION OF THE IDEA OF THE NATION AT THE PRESENT TRANSFORMATIONAL STAGE OF THE UKRAINIAN MEDIA SPHERE

In our opinion, strategic communications should become an important component of both state policy and geoculture, that is, of the formation of the Ukrainian grand narrative, because “the universality of the cultural tradition is secured by that its meanings are not tied to a specific situation and a specific person, that is, the cultural tradition is transcendental in respect of the person” (Fitio, 2012: 153). A cultural tradition cannot be non-national (according to Malaniuk (1993) (Malaniuk, 1993: 1107), the same is valid for a grand narrative whose most widespread form is national. In addition, it is this common meaning matrix of the national cultural tradition that gives rise to the phenomenon of ethnocultural

competence of Ukrainians in particular and of the global Ukrainian community as a whole, becoming a tool of communication effectiveness, which is equal to the concept of “complementarity” introduced by Doich (2010) (Doich, 2010: 317–332), who argued that “having a common communicative space leads to the internal unity of a community (nation, nationality, nation): people can belong to “non-national” communities (classes, professional groups, clans, etc.) and within these communities they are united by an appropriate type of complementarity (communicative efficiency) that includes a socially standardized system of symbols, codes, associations, and material means of preserving information” (Kovpak, 2016: 62).

To summarize the above, we specify that the tools of counteracting sense intervention and information attack should serve as optimally chosen stratagems. Among the Ukrainian researchers who have developed the problematic field of strategic communications, it is necessary to mention such scholars as O. Salnikova, I. Sivokha, A. Ivashchenko (Salnikova et al., 2019). In the context of global trends, according to the definitions given in the work “Strategic Communications and National Strategy”, strategy is seen as “a set of ideas, benefits and methods that explain the activity, give it a purpose, and unite to achieve the desired effect or goal” (Cornish et al., 2011).

In “Strategic Communications: Origins, Concepts, and Current Debates” by P. Christopher, strategic communications are interpreted as supporting a “national strategy, not as an element, component, that is, a set of coordinated actions, messages, images, and other forms of signaling or involvement intended to inform, influence, or persuade the selected audience to support national goals” (Christopher, 2011: 3), with the important clarification that the effectiveness of such engagement is possible only with clearly defined national goals, that in general determine the path to operational and tactical levels.

Therefore, the issue of whether strategic communications in the media sphere can form the Ukrainian narrative, or whether it can be reproduced exclusively in a natural way should be considered in the context of the application of cognitive modeling, since this approach enables to “identify possible options for the development of the situation (system), identify ways, mechanisms for influencing the situation in order to achieve the desired results, prevent unwanted consequences, that is, develop management strategies <... >” (Kadievsky, 2016: 49).

Grounding on the peculiarities of the period under consideration, we specify and update the vertices (concepts, factors) of the cognitive model of the matrix of the idea of the nation elaborated by the representatives of the Ukrainian post-war emigration, which were highlighted in the work (Kovpak, 2016: 73), in order to construct a modern cognitive map:

- 1) the meaning of the idea of the Ukrainian nation (hereinafter – the Meaning);

- 2) commercial Mass media advocating those values which are antagonistic to the Ukrainian state-creating paradigm – negative mass media (mass media –);
- 3) commercial Mass media advocating those values which support the Ukrainian state-creating paradigm – positive mass media (mass media +);
- 4) public administration (declarative regulatory initiatives) – the national regulations;
- 5) world view (social mythology) – myth;
- 6) ideology;
- 7) civil society (the phenomenon of civil society self-organization) – self-organization;
- 8) narrative of the global world Ukrainian community – Diaspora;
- 9) Mass media (public TV, documentaries, theater, literature, communication platforms – libraries, archives, co-working spaces, conferences, Internet resources) – public mass media;
- 10) public administration (joint initiatives of financial and industrial groups, i.e. oligarchs) – publ. oligarch admin.;
- 11) the Orthodox Church of Ukraine (OCU as a successor of the pro-Ukrainian Orthodox movement, initially focused on the requirements of collegial law, autonomy and Ukrainianization of the church life, and subsequently its autocephaly) – OCU;
- 12) Ukrainian Orthodox Church of the Moscow Patriarchate as opposition to the OCU (for convenience we consider it possible to use UOC MP abbreviation in the text and in the pictures, for the sake of convenience – UOC).

It is worth noting that the conceptual language of the universal norms of the meaningful matrix that forms the national idea of the Ukrainian community of the post-war period has globally demonstrated the phenomenon of the intellectual self-organization in the struggle for the idea of the national sovereignty in its own state as a universal civilization idea.

The sources of information for determining the vertices of the orgraph were the ideas of scholars in the subject area under study.

Thus, the choice of such vertices of the cognitive model as the church (vertices 11 and 12) is determined by the mutual influence of church, politics, media, civil society, as discussed by scholars of various fields of knowledge, in particular S. Onishchuk (Onishchuk, 2014), V. Voinalovych, V. Yelenskii, M. Kyriushko, N. Kochan and N. Rubleva (Voinalovych et al., 2012), I. Koval (Koval, 2007), M. Rybachuk (Rybachuk 2014), N. Khudoba (Khudoba 2009); as well as the role of the church in state-forming processes, as reported by M. Burdeina (Burdeina, 2017).

In the Ukrainian reality, since 2014, the phenomenon of volunteering and the activities of various public organizations have acquired special status, which is a manifestation of a rather high level of self-organization based on national values. Thus, the separation of such a vertex as civil society (vertex 7) is conditioned by the influence exerted, for example, by voluntary associations acting as mediators between the state and the public, providing assistance and public control over the actions of the state, and thus influencing certain managerial decisions (Matiash, 2017).

The basis for the selection of such a vertex as the state administration (vertices 4, 10) is the possibility of mutual influence of the state and other structural elements of the cognitive model, as evidenced by the views of scientists, journalists, religious leaders (church leaders), articulated in the information space.

Commercial mass media (vertices 2 and 3) are outlined for the reason that most commercial media manifest the struggle of different interests in the media field.

Information activity of a media creates new meanings and destroys the old ones, and thus shapes an ideology (vertex 6 in the model) that can represent both state-forming and antagonistic ideas, guidelines, slogans, program documents of parties, and philosophical concepts; the pressure of the media also shifts away regulatory initiatives (vertex 4 in the model). Vertex 9 marks mass media (public TV, documentary, theater, literature, communication platforms – libraries, archives, co-working spaces, conferences, Internet resources), which, especially during the period of state transformation, demonstrate a social mission, including public broadcasting as independent media. created by journalists through public support; documentaries and feature films that produce nation-constructing meanings, modern functional archivistics (Palienko, 2016: 139).

The choice of target vertex 1 is determined by the ideas of R. Kis, a researcher of meaning-making, who speculated on the real field of the Ukrainian community as a totality of “socio-cultural interactions mediated by the live speech activity and the processes of true self-reproduction of semantic networks. It is also a field of generating new – new Ukrainian – meanings <... > in the depths of discursive <... > practices... It is these last living discursive practices that are the generators of meaning, as well as the living interpretation and reinterpretation of culture, as an integral part of the socio-cultural processes themselves (Kis, 2013).

Vertex 5 “world view (archetypes, symbols, mythologemes, stereotypes, etc.) / social mythology (ideas, beliefs)” is closely intertwined with sense making: the world view enables to explain reality and “show” it as a world with meanings, to set a value vector and cognitive attitude to reality (Chernyakhovskaya, 1989). Such a defensive position on Ukrainian-centric meanings and values during the Revolution of Dignity was taken by the global Ukrainian community (vertex 8).

Having substantiated our proposed factors (concepts) as vertices of the cognitive map for analyzing scenarios of generating national socio-cultural meanings in the context of strategic communication between the institutions of the media sphere, it is necessary to analyze the information and conceptual interactions of the outlined vertices of the presented cognitive model (Table 1).

Table 1. A cognitive model of the meaning-formation of the idea of a nation in the general system of the media

Vertices	1	2	3	4	5	6	7	8	9	10	11	12
1	+1	0	+1	+1	+1	+1	+1	+1	+1	0	+1	-1
2	-1	-1	-1	0	-1	-1	-1	0	0	0	-1	+1
3	+1	-1	-1	0	+1	+1	+1	0	0	0	+1	-1
4	+1	+1	+1	+1	+1	+1	+1	0	+1	+1	+1	-1
5	+1	+1	+1	+1	-1	+1	+1	0	+1	0	+1	+1
6	+1	+1	+1	+1	+1	-1	+1	+1	+1	0	+1	+1
7	+1	0	0	+1	+1	+1	+1	+1	+1	-1	+1	+1
8	+1	0	0	+1	+1	+1	+1	+1	+1	0	+1	0
9	+1	0	0	+1	+1	+1	+1	+1	+1	-1	+1	+1
10	-1	+1	+1	-1	-1	-1	-1	0	0	+1	-1	+1
11	+1	0	0	0	+1	+1	+1	0	0	0	+1	-1
12	-1	0	0	0	-1	-1	-1	0	0	0	-1	+1

Source: prepared by the authors

Implementation of the formed orgraph requires the formation of an adjacency matrix $C = \|c_{ij}\|_{n \times n}$ according to the following condition:

$$sgn(u_j, u_i) = \begin{cases} 1, & \text{if the edge } (u_j, u_i) \text{ is positive,} \\ -1, & \text{if the edge } (u_j, u_i) \text{ is negative,} \\ 0, & \text{if the edge } (u_j, u_i) \text{ is absent.} \end{cases} \quad (1)$$

The constructed matrix of the idea of a nation has such graphic design that demonstrates the nature of the interconnections between the elements: “0” – no connection; “(+/-) 1” – there is a constructive / destructive link, the qualitative analysis of which is given below.

While determining the influences of such factors as the “world view (social mythology)” (vertex 5) and “ideology” (vertex 6), we have used their status as a common factor that *a priori* influences other institutes and institutions, although it may have a different vector of orientation and semantic content. At the same time, the influence of such vertices as “commercial Mass media advocating those values which are antagonistic to the Ukrainian state-creating paradigm” – vertex 2 and “commercial Mass media advocating those values which support the Ukrainian state-creating paradigm” – vertex 3, as well as

OCU (vertex 1) and UOC MP (vertex 12) was defined grounding on the narratives they already knew and the meanings they have produced.

In the dependencies “1–6”, “4–6”, “5–6”, “7–6”, “8–6”, “9–6”, “11–6”, we have noted positive (+1) interdependencies, since ideology as a reflection of the value paradigm of the state and the national society during the analyzed period (2014–2018 pp.) has worked out its meaningful forms in the national declarative initiatives (“4–6”): 1) decommunization; 2) ensuring the Functioning of the Ukrainian Language as the National Language (Act of Ukraine dated April 25, 2019, which came into operation on July 16, 2019). This undoubtedly produced state-forming and nation-forming meanings (“4–6”), enabling to fill the social mythology with new national myths, alongside with such myths as, for example, “rebirth”, “Cossacks” (“5–6”), “Heavenly Hundred”, “cyborgs”, “Maidan”, etc., which, in fact, gave rise to the phenomenon of self-organized protest of the Ukrainian people (“7–6”) – for instance, “Maidan”, in its turn, produced a new wave of civil society organizations (NGOs, non-governmental organizations, non-profit organizations, volunteer organizations) (Palivoda, 2016).

For example, in order to back “8–6” dependency, it should be noted that the World Congress of Ukrainians, as an international coordinating superstructure of the Ukrainian communities in the Diaspora representing the interests of over 20 million Ukrainians, declared the struggle for independence of Ukraine a priority.

The obvious are positive dependencies between the vertices “1–1”, “1–4”, “1–3”, “1–5”, “1–6”, “1–7”, “1–8”, “1–9”, “1–11”, negative ones with vertices “1–12”, and absent with vertices “1–2”, “1–10”, as the Ukrainian-centric meanings have to be intertwined, have to be reflected at the legislative level and in social mythology, i.e. to form the basis of the national world view, ideology, civil society, the global Ukrainian community, mass media, and national and religious platform.

From the dependencies forming vertices 2 and 3 – mass media (commercial) and 9 – mass media (public TV, documentaries, theater, literature, communication platforms – libraries, archives, co-working spaces, conferences, Internet resources), we will specify those where there is no reciprocal influence, either positive or negative. For example, “2–2” demonstrate destructive influence because they are in an information war (the same applies to “3–3”).

Due to the antagonism of meanings broadcast by the commercial mass media, there is a destructive influence in vertices “2–3” and “3–2”. The concordance of anti-Ukrainian sentiments on the some commercial media platforms (vertex 2) has often affected the editorial policies of TV channels in covering issues of pro-Ukrainian civil society initiatives, religious issues, that is why it has a negative score “-1” (“2–7”, “2–11”). Instead, the pro-Ukrainian sentiments of other commercial media (vertex 3) had a positive

influence “+1” (“3–7”, “3–11”), because they conveyed meanings that were adequate to national ideas (“Heavenly Hundred”, “The Revolution of Dignity”, “cyborgs”, “patriots”, “the Ukrainian Independent Church” and “the Ukrainian language”); however such media can change the meanings depending on the situation. The impact on the semantic matrix of the global Ukrainian community was virtually neutralized (“2–8”), since Ukrainians abroad are able to critically reflect on social and political transformations, relying on a large number of sources, and avoiding the pressure of manipulative statements. Let us note certain independence of vertex 8 from significant influences due to its autonomy, which also caused zero influence in “2–8”, “3–8”, “4–8”, “10–8”, “11–8”, “12–8”. To some extent, the movement of meanings in the Ukrainian information space has led to a positive influence in “1–8”, “6–8”, “7–8”, “8–8”, “9–8”. Moreover, the continuity of the Ukrainian-centered traditions, accumulated in vertex 8, has strengthened ties in “8–1”, “8–4”, “8–5”, “8–6”, “8–7”, “8–8”, “8–9”, “8–11”.

Independent communication platforms only covered religious discourse as a whole and public and governmental initiatives on tomos in particular (“9–11”, “9–12”). Obviously, there is some chaos in the media sphere, although, according to Kovalevskyi, “if there is a goal (for example, to build a country with European values or, more specifically, to preserve the country), the media should work as a single unit for achieving this goal” (Kovalevskyi, 2014: 238).

Scientists noted that such cultural and communicative phenomena of the information space as, say, the “heavenly hundred”, “cyborgs” or “betrayal and victory” have emerged and continue to exist successfully in the information space not only without public sector intervention, but also in many respects – despite such an intervention (or non-intervention). This undoubtedly confirms the positive nature of the influences in the dependencies: “4–1”, “4–4”, “4–5”, “4–6”, “4–7”, “4–9”, “4–10”, “4–11”. However, the history of Ukrainian journalism demonstrates that the influence in the dependencies “4–2” and “4–3” can be both constructive and destructive, depending, depending on the course chosen by the state.

The Church has no empirical influence on secular media (“11–2”, “11–3”, “11–9”, “12–2”, “12–3”, “12–9” = “0”), so it is possible to declare its absence in the so-called “pure form”; instead, such influence is evident in vertices “2–11” and “3–12” (“-1”); “2–12” and “3–11” (“+1”), depending on the views of the commercial media.

During the analyzed period the demonstration by UOC MP of alien meanings or disreputable statements causes negative indicators in the following dependencies: “12–1”, “12–5”, “12–6”, “12–7”, “12–11”. At the same time, at first, the Kyiv Patriarchate (and Catholic denominations), and then the OCU as its successor, transmitted Ukrainian-centric ideas and changed the value paradigm by strengthening ties in such vertices: “+1 – “11–1”, “11–5”, “11–6”, “11–7”.

Next step is performing a dynamic analysis of the cognitive model by the method of impulse processes. The basis of the method is the study of autonomous impulse processes according to the rule (Roberts, 1986):

$$v_i(t+1) = v_i(t) + \sum_{j=1}^n \text{sgn}(u_{j,i}, u_i) p_j(t), \quad (2)$$

The initial single impulse is applied to a certain leading vertex in the orgraph given by the adjacency matrix (see Fig. 1). Definitions (1) and (2) enable, on the basis of a constructed cognitive model of shaping of meaning of the idea of a nation, to obtain hypothetical scenarios for the development of communications in the general system of the media sphere.

The results of the cognitive model study by the impulse process method for the case where the target vertex is vertex 1-Meanings and the other vertices of the orgraph are sources of single impulses corresponding to certain influences on the system of meaning formation, are shown in Figure 1.

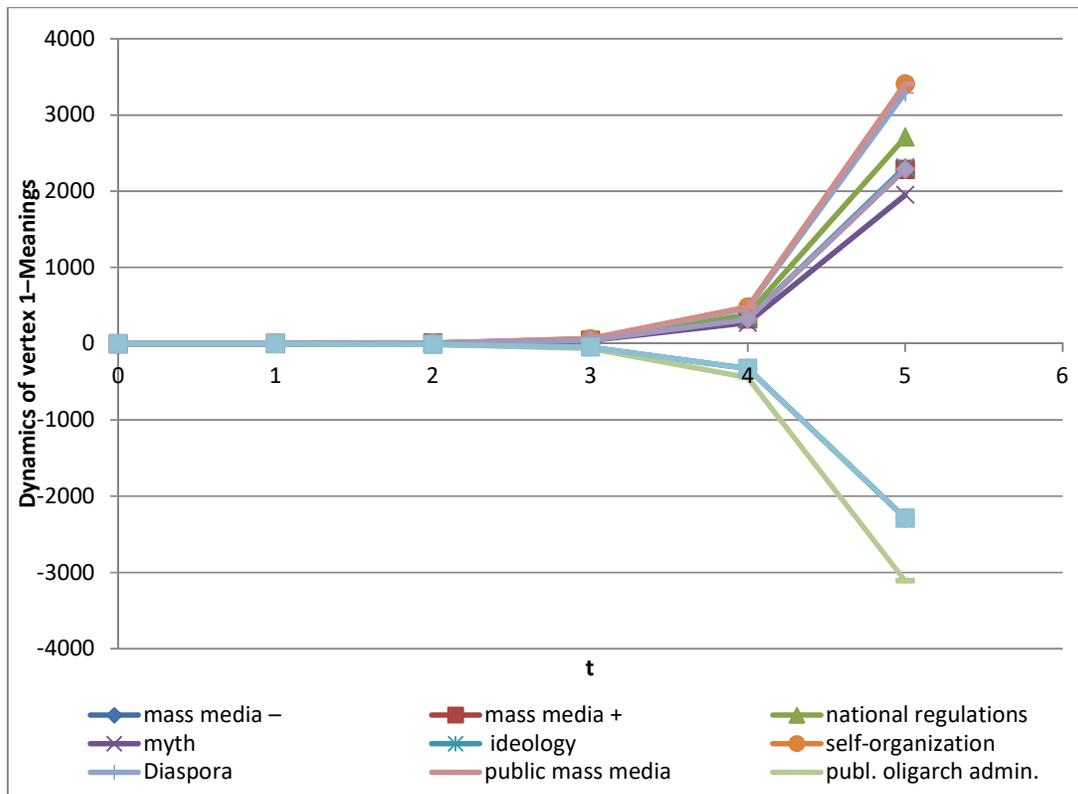


Fig. 1. Dynamics of vertex 1-Meanings under the influence of autonomous impulse processes starting at the corresponding vertices of the orgraph indicated in the legend

Source: prepared by the authors

Dynamics of vertex 1-Meanings under the influence of autonomous impulse processes, starting at the corresponding vertices of the orgraph indicated in the legend (Pict.

1), demonstrates its positive development under the influence of factors that can be rated according to the intensity of influence: 1) civil society (the phenomenon of self-organization of the civil society) – Self-organization; 2) ideology; 3) public administration (declarative regulatory initiatives) – National regulations; 4 = 5) commercial Mass media advocating those values which support the Ukrainian state-creating paradigm) – (mass media +) and the Orthodox Church of Ukraine (OCU – as the successor of the pro-Ukrainian Orthodox movement, initially focused on the requirements of collegial law, autonomy and ukrainianization of the church life, and later on its autocephaly); 6) world view (social mythology) – Myth. Correspondingly, the negative dynamics, the suppression of the activity of the vertex “meaning of the idea of the Ukrainian nation” is observed under the influence of three factors (rated according to the intensity of influence): Ukrainian Orthodox Church of the Moscow Patriarchate (for convenience we consider it possible to use the abbreviation UOC in the pictures), 2– negative mass media (mass media –) and public sector (joint initiatives of financial-industrial groups, i.e. oligarchs) – publ. admin. of oligarchs;

The dynamics of such antagonistic vertices, as 11-OCU and 12-UOC, is interesting, taking into account mutual influences in the form of corresponding autonomous impulse processes (Fig. 2–3).

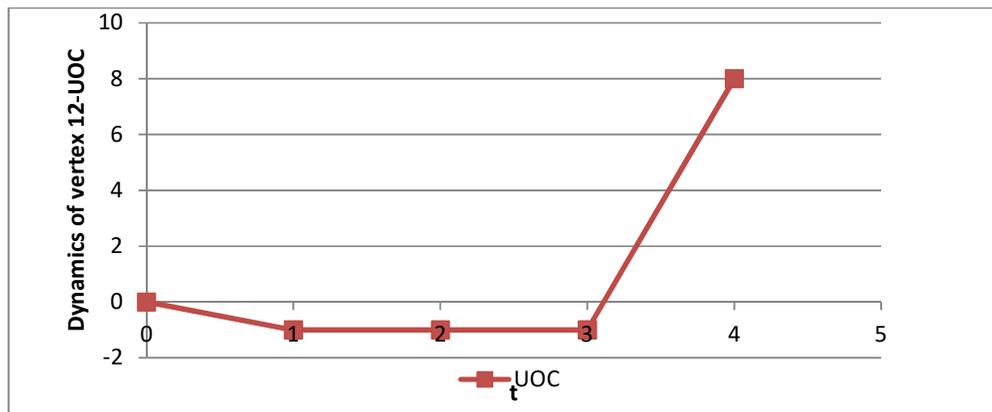


Fig 2. Dynamics of vertex 12-UOC under the influence of the impulse from the vertex 11-OCU

Source: prepared by the authors

Initially, the activity of vertex 12-UOC (negative attitude to vertex 11-OCU) declines during the first three periods of impulse propagation from vertex 11-OCU, but then increase of its activity is observed (turns to a positive attitude) to infinity. If we change the role of vertices, that is, vertex 11 is considered the target, then we have the opposite dynamics: the momentum of the impulse from vertex 12-UOC to vertex 11-OCU inhibition of activity (negative attitude to the vertex 12-UOC) is observed to infinity.

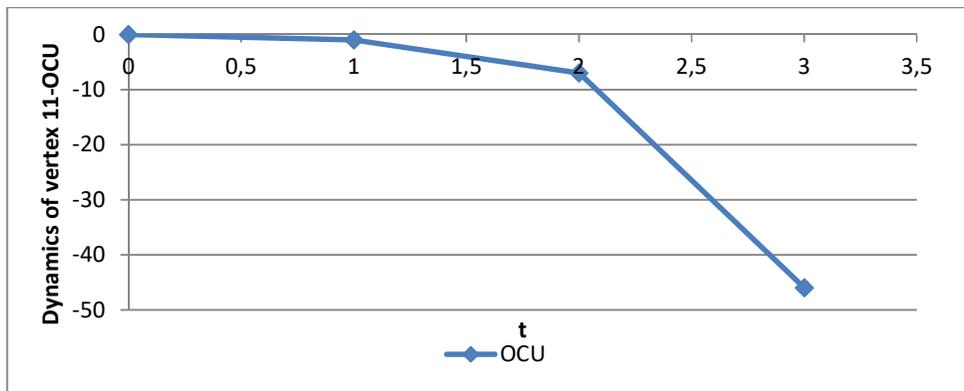


Fig 3. Dynamics of vertex 11-OCU under the influence of impulse from vertex 12-UOC

Source: prepared by the authors

Similar dynamics is observed for a pair of vertices of 2-mass media negative (mass media-) and 3-mass media positive (mass media +), which is shown in Figures 4–5.

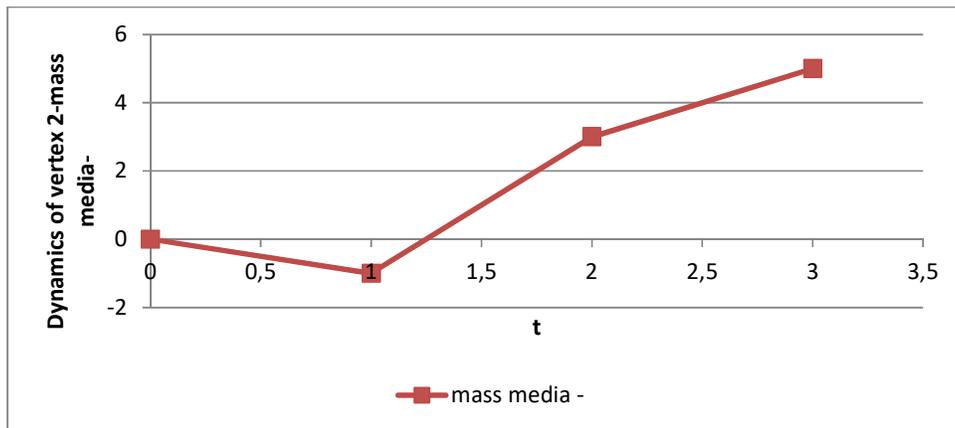


Fig 4. The dynamics of vertex 2-mass media negative (mass media-) under the influence of impulse from vertex 3-mass media positive (mass media +)

Source: prepared by the authors

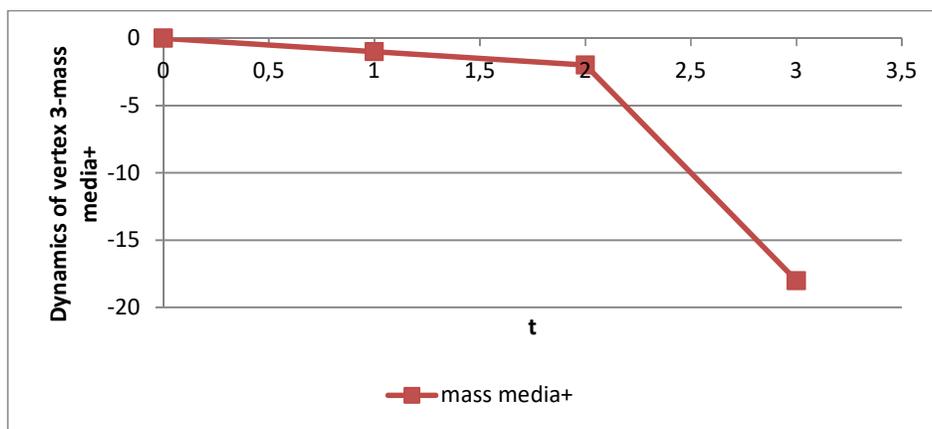


Fig 5. The dynamics of vertex 3-mass media positive (mass media+) under the influence of impulse from vertex 2-mass media negative (mass media-)

Source: prepared by the authors

The revealed dynamics is evidence of the latent risks of negative influences from vertices “2-mass media negative (mass media–)” and “12-UOC” in the general system of the media sphere, which leads to the change of sentiments to the opposite in vertices “3-mass media positive (mass media +)” and “11-OCU” within a short period of time (1–3 periods). That is, in the existing model of interconnections in the general system of the media sphere, only one influence (impulse) from vertices “2-mass media negative (mass media–)” and “12-UOC” is sufficient to change the attitude towards them from the vertices “3-mass media positive (mass media +)” positive and “11-OCU” from negative to positive. This means that in order to maintain the negative influence, the vertices need to constantly send the influential impulses.

CONCLUSIONS

Thus, having examined the power of interaction between various factors (“vertices” of the cognitive model, orgraphs), and having received a set of impulse process implementations (“development scenarios”), we can identify possible trends of situation development. In particular, the intensification of the vertex “Meaning of the idea of the Ukrainian nation” is implemented as a result of the active propagation of the impulse from such three basic vertices as: 1) the phenomenon of self-organization of civil society (the observation coincides with empirical assertion, since the powerful state of the public movement that has demonstrated the ability to self-regulation during political transformations, to maintaining control over authorities, to international cooperation, to activation of social practices and discourses in the context of the work of public organizations, etc., evidenced a high level of active participation of citizens in state formation, which has a historical continuity in the Ukrainian society, in particular in the phenomenon of self-organization of the global Ukrainian community), 2) ideology (Ukrainian-centricity with the traditional democratic values as unified system of intellectual and political space, which produces principles, rules of conduct, values, views, coordinate system, in which all social institutions are formed, began to be actively implemented owing to the initiatives of the civil society during the Revolution of Dignity, to the political will manifested in the legislative norms, in particular in the declared Euro-Atlantic course, to decommunization, to the language law, etc.), which is, in fact, confirmed by the revealed cognitive modeling by a third factor – public sector (declarative regulatory initiatives).

That is, the resourcefulness of these factors has the potential to create strategic communications between them in the general media sphere, to ensure the movement of meanings through integrated communication technologies aimed at providing interaction, to form long-lasting formal and informal links between governmental and non-governmental institutions, with the purpose of implementation of economic, cultural, social and

humanitarian initiatives and projects. At the same time, scenarios of suppression of the dynamics of “meanings of the idea of the Ukrainian nation” development at the increase of the impulses from the UOC MP and from the administrative sector of the state lobbying for the interests of the financial-industrial groups, as the basic principle of state governance, were identified empirically. Thus, a strategic narrative should circulate in the media sphere with coherent messages and images as a communicative component, which would allow the society to understand the status and prospects of such factors in the context of supporting national interests.

Correspondingly, the scenarios for generating sociocultural meanings as a national identification practice, as a conceptual language to express universal norms of the meaningful matrix of the national idea, which was illustrated by the cognitive model of the meaning-formation of the idea of the nation at the present transformational stage, and by information and conceptual interactions of the dominant vertices of such cognitive model for analysis of the scenarios of generating such sociocultural meanings, have to form the basis of the long-term strategy of cognitive safety of the Ukrainian media sphere.

Such a synergistic research methodology, combining the resources of critical discourse analysis and cognitive modeling, is promising for the analysis of long-term stratagems in the development of the national media sphere in the context of the modern challenges faced by the cognitive-information society for preservation of the traditional democratic norms and the formation of the national grand narrative, different from sovereignty.

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FUNCTIONAL ASPECTS OF ENTERPRISE MARKETING ACTIVITY MANAGEMENT

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ABSTRACT

The work reveals the functional aspects of the marketing activity management system of enterprises. Various approaches to definition of stages of process of formation of marketing activity of the enterprise are investigated. The algorithm of forming the functional structure of marketing activity management of an enterprise is offered. The main components of the algorithm are revealed: determining consumers' needs, purpose and sphere of functioning of the enterprise; carrying out preliminary researches of marketing environment (macro- and micro-environment); establishing mission, vision, values, principles of the enterprise; checking mission to the needs and possibilities of the enterprise; current marketing researches and compiling marketing information system; compiling a SWOT-analysis of the enterprise, identifying key factors for the success of the enterprise, creating stable over time excellent benefits; positioning of the enterprise and its assessment from the standpoint of consumers; developing options for market behavior; choosing a marketing strategy; checking the strategy for compliance with market conditions; developing a plan of marketing activities (strategic, tactical and operational) with details of communication activities of the enterprise; administrative measures to manage the marketing activities of the enterprise (determination of positions and functions of employees; determination of organizational and communication structure; distribution of powers and tasks; formation of a system of labor incentives and staff motivation; definition of control indicators, control over performance of duties); analyzing and auditing marketing activities; evaluating results and comparing with planned indicators; identifying problem areas and implementing corrective measures.

Key words: *algorithm, marketing activity, management system of enterprises.*

INTRODUCTION

Transformation processes in the global and national economies concern the economic activities of enterprises. The latter require the formation of such a system of marketing activity management, should have a market orientation and strategic focus on the result, and was able to respond to changes in the environment in a timely and adequate manner. The issues and many other tasks facing the management of enterprises have been defined; it is possible to solve them only if there is a reliable, qualitatively functioning system of marketing activity management, which will contribute to strengthening the competitiveness of business entities.

To the problem of formation and development of marketing of enterprises in the countries of the post-Soviet world are devoted works of such scientists, as: Balabanova (2011) on the fundamentals of marketing, Vlasenko (2011) - on modern features in

marketing, Datsenko (2014) - on the formation of marketing activities in enterprises, Zakharchenko (2005) - on strategic marketing, Karpenko (2011) - on the formation of a marketing management system in consumer cooperatives, Osnach (2011) - on industrial marketing, Seleznova (2015) - on functional system of marketing activity management, Skibitskyi (2011) - on business organization and others. Marketing activity of enterprises in developed countries was studied by such scientists as Armstrong (2007), Blyde (2004), Doyle (2002), Kartadzhayya (2012), Kotler (2007, 2012) and others. However, in most scientific studies little attention is paid to the functional aspects of marketing activities of enterprises, which indicates the relevance of the topic and led to the choice of research direction. The purpose of the study is to determine the functional aspects of marketing activity management of enterprises, the use of which will contribute to strengthening the competitiveness of business entities.

1. INVESTIGATION OF APPROACHES TO DETERMINE THE STAGES MARKETING ACTIVITY FORMATION PROCESS AT THE ENTERPRISE

Formation of marketing activity management of economic entities means the process of its formation and development at the enterprise.

Skibitskyi (2011) highlights the following stages of the formation of marketing activities at the enterprise:

- enterprise market research;
- analysis of the enterprise, clarification of the marketing organization concept;
- definition of goals and objectives of the marketing organizational structure;
- formation of marketing organizational structure;
- distribution of functions among employees;
- staff recruitment;
- development and implementation of a labor incentive system;
- control and corrective actions.

At the first stage, a marketing research of the market in which an enterprise exists is conducted. Marketing research is a study of the environment in which the enterprise operates, the definition of demand for market capacity and its segments, the state of potential competitors and consumer preferences.

The second stage is the analysis of your own enterprise, its strengths and weaknesses, threats and opportunities. The concept of marketing management of the enterprise is also clarified.

The third stage is definition of goals and objectives of the marketing organizational structure. On the basis of marketing concepts it is possible to establish its main objectives:

maximize profits through a variety of means; identify customer needs and maximize their satisfaction; expand the range of products; improve the quality of life.

The fourth stage includes the formation of the organizational marketing structure (marketing service): functional; market; commodity; commodity and market.

The fifth stage is the distribution of functions among the employees. For the clear distribution of functions between individual employees, you can use the matrix method, i.e. the construction of appropriate line maps with information about who participates in the solution of certain issues and to what extent.

The sixth stage is staff recruitment. Employees must meet the general requirements for managerial personnel: competence, punctuality, discipline, management skills, have certain knowledge in their profession and work with computers.

The last eighth stage is the control of activities. The control of marketing activity assumes: the control over realisation of production, definition of a share of the market of sale of the enterprise, the information on production costs on each goods sent on a warehouse of finished goods, an estimation of efficiency of marketing activity and so forth.

Karpenko (2011) in the process of establishing a marketing management system at the enterprise distinguishes the construction of such marketing management subsystems as:

- planning;
- organization and information support;
- implementation of marketing activities;
- control and correction of marketing activities.

Emphasis is placed on the methodological sequence of the marketing plan execution, management and stimulation of employees and control.

The stages of marketing planning are: marketing analysis, mission formation, hierarchy of goals, determining the levels of strategic planning, tasks and programs of action for their implementation, drawing up a plan and areas of control over its implementation. The marketing planning subsystem involves performing functions related to the analysis of the external environment, identifying its opportunities and threats, assessing the development potential of the enterprise, researching its strengths and weaknesses, forming a mission, developing a strategic plan of marketing activity and so on.

The subsystem of marketing activity organization is formed for the purpose of formation of the corresponding organizational structure of the marketing service, the activity of which should be directed on a choice, development of strategy for the enterprise and management of process of its introduction. This process consists of the following stages: determining the organizational structure of marketing management; selection and placement of personnel in accordance with the selected management structure; establishing the rights and responsibilities of participants of the marketing department; creation of

necessary conditions for performance by participants of the corresponding functions and necessary tasks; formation of the necessary interaction between the marketing department and other divisions of the enterprise or organization.

The main tasks of the subsystem of marketing plan implementation are those aimed at the tactical plan activities, namely to determine the deadlines for the tasks specified in the plan, and people that are responsible for their implementation. The recommended structure and sequence of operation of the marketing plan implementation subsystem includes two directions: process management (achievement of the strategy and implementation plan to participants, distribution of tasks between participants, assessment of the need in internal resources; information support for the participants; qualification training of the participants) and motivation of the participants (identification of specific participants, development of competencies and indicators of their evaluation, development of incentive system, identification of types and amount of penalties). Quite important significance in the implementation of marketing activities is given to the information support to all the participants involved in the process, as well as their constant interconnection in order to coordinate the planned actions. Implementing the marketing plan, considerable attention should be paid to stimulating its participants.

The subsystem of control and correction of marketing activities is aimed at measuring and evaluating the results of the plan to implement the selected strategy. During the control, problems and barriers to plan implementation are detected and corrective measures necessary to eliminate them are identified. Classically, the process of marketing control covers four stages: setting targets and standards (goals and norms); determining the real values of indicators; comparing and analyzing the results of comparison.

Kotler (2007) understands the marketing management process in an enterprise as the analysis, planning, implementation and control of activities that should establish, strengthen and maintain beneficial exchanges with target customers. The components of its formation are the following:

- analysis of market opportunities (marketing research systems and marketing information, marketing environment, markets);
- selection of target markets (demand measurement, segmentation, selection of target segments, positioning)
- development of a marketing complex (product development, price setting, distribution methods, sales promotion);
- implementation of marketing activities (strategy, planning, control).

Balabanova (2011) refers to marketing effort management (building organizational structure, culture, communications), marketing activity programming (strategic and tactical analysis, strategic and tactical planning), control (strategic, tactical, profitability control).

Zakharchenko and Kuznetsov (2005) to the process of marketing management based on goal setting include:

- setting marketing goals (defining strategic, tactical and operational goals of the enterprise, defining the tasks of the enterprise, defining the tasks of the marketing department, defining the tasks of each manager);

- development of plans to achieve marketing goals (determination of measures needed to solve problems, development of a schedule of activities, determining the nature of work and the time required for their implementation, establishing criteria for evaluating the results of managers, determining resources needed to perform work, checking plans, their confirmation and clarification, preparation of cost estimates, bringing plans to implementation);

- control, measurement and evaluation of the results of work (assessment of the degree of achievement of planned results, identification of problems and causes of their occurrence, identification of factors and the degree of their influence on the effectiveness of measures to remove deficiencies in the work);

- corrective actions to achieve the planned marketing results (specification of objectives, specification of plans and activities to achieve the objectives - improvement of organizational structure, training of managers, improvement of methodological support of work performed, etc.).

Thus, the methodology of forming the marketing activity management of enterprises is continuing its development in the works of scientists. The central place in this issue is occupied by administrative functions of management: planning, organization and control of marketing activity of economic entities.

Algorithm of forming the functional structure of the enterprise marketing activity management

Based on the conducted research, the authors propose the following algorithm of forming the functional structure of marketing activity management of enterprises - see Fig. 1.

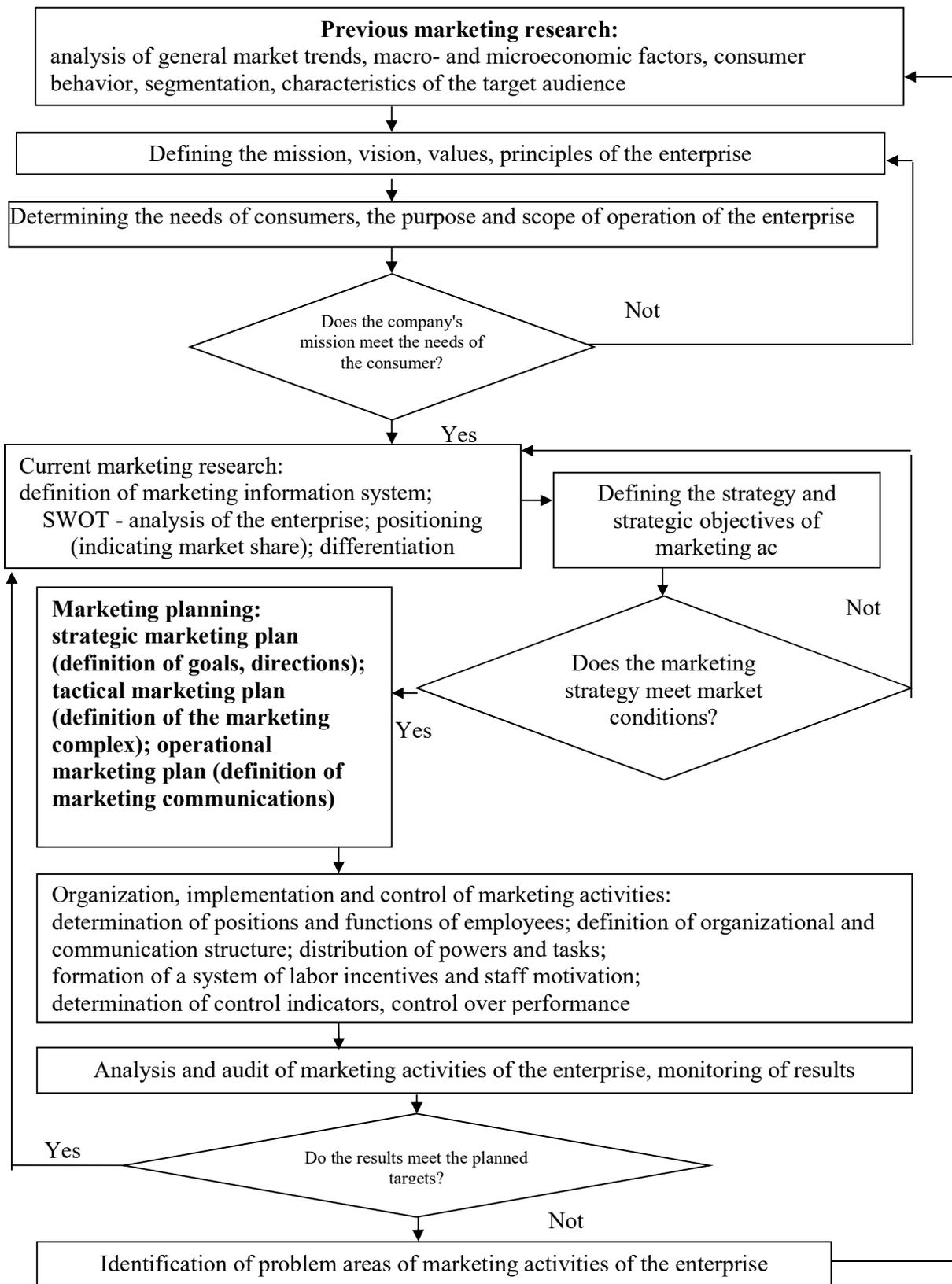


Fig. 1. Algorithm of forming the functional structure of the enterprise marketing activity management

From the given algorithm it is visible that formation of functional structure of marketing activity management begins with definition of consumers' needs and selection of the corresponding direction of functioning in the market. In other words, the first stage is determined by the top management of the enterprise and covers general prospects of the business entity activity development.

At the beginning of business activity, it is necessary to determine the purpose of existence of a business entity that will meet the needs of the target audience. For this purpose, preliminary studies are conducted on macro- and microeconomic environment, factors that influence consumer behavior. It is necessary to determine the market, where further effective functioning is planned.

According to the author's research, choosing the purpose of the company's existence is one of the most important stages in forming the marketing activity management system. Because the number of requests and requests for products, or efforts to attract and retain customers will depend on the right direction of the business entity functioning, which meets the needs of consumers.

The process of preliminary market research includes environmental analysis, namely:

- analysis of the state and prospects of the industry;
- technology and innovation analysis;
- analysis of competitive environment in the industry and possible actions of competitors;
- analysis of consumer behavior and expectations of potential customers;
- analysis of the political and economic situation and forecasts of financial fluctuations;
- analysis of international product requirements and standards;
- analysis of the demographic situation, ecological environment and other influential factors.

The defining characteristic of the analysis is consumer behavior, because it will determine the activity of clients in search of necessary products manufactured at the enterprise. Consumers are investigated on the basis of demography, geography, culture, psychology, status, income, age and marital status. Market segmentation is performed, target audience is selected and its needs, expectations and moods are determined. The most advantageous segments are those that are characterized by a high level of current sales, high growth rates, high profit margins, weak competition, simple distribution channels and the like. According to the strategy of target segment selection, the company is distinguished by: single-segment concentration, product specialization, segment specialization, selective specialization, strategy of full market coverage.

Preliminary marketing research also includes analysis of the immediate environment of the business entity: suppliers, contact audiences, internal capacity of available resources, etc. Understanding the possibilities of production activity, it is reasonable to specify the breadth of options for future functioning.

The overall objective reflects the mission, the formulation of which is a a very important task. Mission means not only what the company promises to produce. It permeates the work of the enterprise from the idea to the end result. This is a part of the corporate culture of a business entity, which is carried by all employees of the company without exception. Consumers have to believe the mission, for which the company is constantly coordinating its actions with it.

Formulating in one phrase the whole meaning of the company's existence is a task that requires an innovative and meaningful approach. Kotler (2012) proposes to follow three steps to make the right mission and implement it: first invent an original and innovative business idea (entrepreneurship as something unusual), then spread the story that excites people (to touch the emotions through a character, plot and metaphor), further empower consumers through their involvement in the life of the enterprise through communication and creation (rating, feedback on the Internet, suggestions, participation in loyalty programs).

The author believes that for the emergence of consumer confidence in the declared mission of the enterprise, it is necessary to define the basic values and rules of conduct for all employees of the enterprise. These elements of corporate culture help attract the best employees and keep their productivity at the required level. The marketing activity and commercial result of the enterprise will depend on the professionalism and responsibility of the staff in the future.

Verifying the compliance of the chosen purpose of existence with the needs of consumers is a mandatory task, because an error at the very beginning of production, such as, for example, a product with incorrect characteristics, can make the market activity of the enterprise uncompetitive in general.

Thus, having determined the purpose, mission, corporate values of the enterprise, employees of the marketing department must conduct current marketing research of the internal and external environment.

A significant element at the stage of marketing research is the compilation of the system of marketing information, i.e. a set of information needed to perform marketing activities. It reflects the ongoing relationship of human resources, computer technology, methodological approaches and is focused on identifying problems, collecting, summarizing, analyzing, evaluating, disseminating timely, accurate, complete and reliable information necessary for directorship to make decisions.

Marketing information is the basis for forming strategy and tactics of marketing activity of the enterprise. It is necessary to determine what data should be researched and analyzed in order to react to market changes in time and maintain competitive advantages.

According to author's research, the components of the marketing information system of the enterprise are:

- marketing research management system (task definition, research planning, results presentation);
- a system for collecting internal information (data that is collected and analyzed at the enterprise, department reports);
- a system for collecting external secondary and primary information (survey, observation, experiment, expert assessments, etc.);
- a system of analysis, processing and accumulation of marketing information.

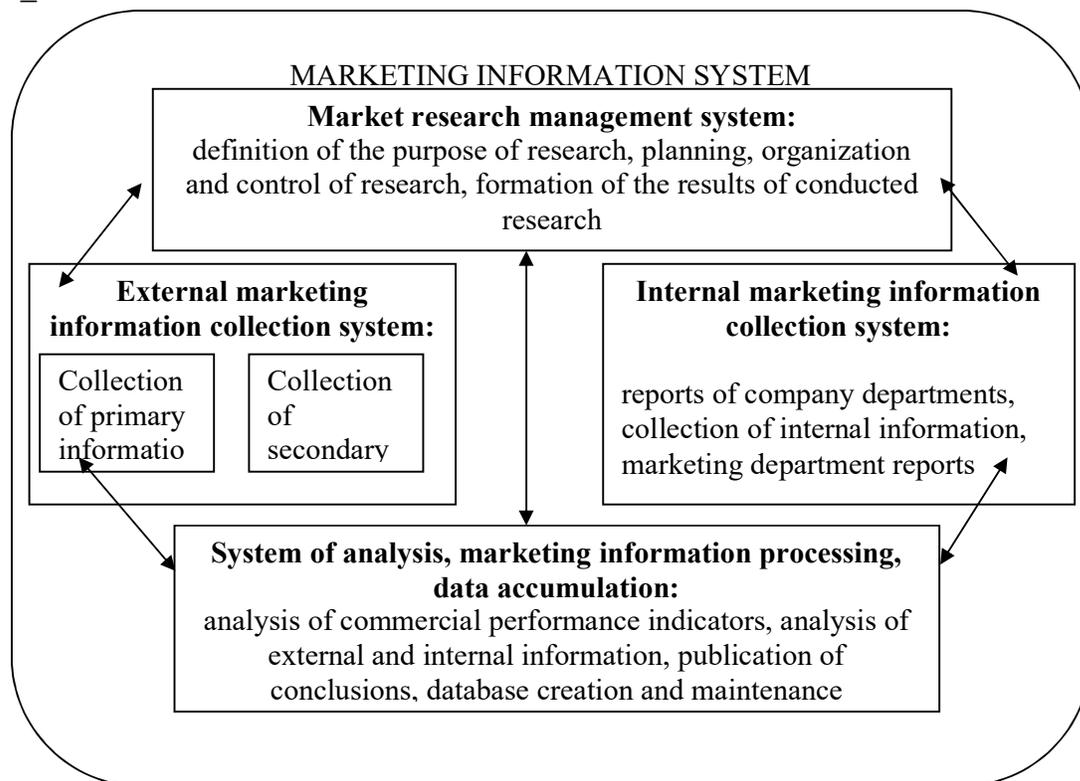


Fig. 2. Marketing information system of the enterprise

The sources of marketing information are enterprise services, market objects (consumers, products, competitors, markets, sales channels), environmental factors (demographic, environmental, economic, natural, political, cultural, scientific and technical).

At this stage of the marketing activity management system formation there is SWOT-analysis of the enterprise, assessment of the existing strategy in the enterprise, analysis of using the potential of the enterprise, comparative analysis of competitive advantages, identification of weaknesses and strengths, solution of strategic tasks.

Prediction of competitors' behavior is possible after investigation of their goals, motives, strategy and tactics of market activity. It is also necessary to take into account the emergence of new enterprises, the probability of which directly depends on the attractiveness of the chosen direction of functioning.

The author proposes to make up the key factors of the enterprise's success - to distinguish those characteristics that show the enterprise's advantages among other business entities of the chosen direction of functioning. It can be high-tech, scientific and technical support, availability of qualified specialists in marketing and management, well-worked team, financial reserves, well-established relations with government authorities, impeccable reputation of the trademark.

The enterprise also needs to differentiate itself from competitors - to create stable in time excellent advantages. This is achieved if the distinctive characteristics of the enterprise are unique, long-lasting, profitable and provide consumer benefits (value) for customers. Moreover, the value for buyers is calculated by subtracting the cost of purchase from consumer utility.

Differentiation is the basis for market positioning. The instruments of differentiation of the enterprise can be divided into:

- product differentiation tools (operational and additional characteristics, reliability, design compliance with specifications, durability, operating costs, comfort, aesthetics, credit, service);
- tools for staff differentiation (professionalism, courtesy, honesty, reliability, confidence, efficiency, initiative, communication, honesty);
- image differentiation tools (as a result of consumers' confidence in the value of the company's products).

Having defined the factors of success and created excellent market advantages, the marketing department starts positioning the company - a means of evaluating it from the position of consumers, the process of searching for a market position that will distinguish a business entity from its competitors. The basis for product positioning can be such characteristics as production technology, quality, environmental friendliness, prestige, price, reliability.

Definition of the current position of the enterprise includes such stages as: determination of competitors, characteristics of the corresponding goods, determination of the value of attributes of goods, determination of competitors' positions by the most

important attributes, identification of customers' needs, unification of trademarks in the map (matrix) of their perception by consumers.

Further, the author proposes to calculate the real and potential capacity of the market and the company's share in it. The competitive position of a business entity is determined, strategic tasks of marketing activity of the enterprise are formed, based on which the desired position will be chosen and a marketing strategy and plan will be developed to achieve the set goal.

Possible options for market behavior to achieve the desired position are such strategic alternatives:

- strengthening market positions (the current position of the company is satisfactory, supporting advertising activities are carried out);
- gradual repositioning (it is necessary to strengthen the image, enhance marketing activity of the enterprise with the reason of insufficient satisfaction of consumers);
- radical changes in the market position (unsatisfactory business results require changes in the characteristics of products or the definition of a new approach to their promotion, acquisition of other segments and niches);
- ousting competitors (the aim is to expand the market share through the share held by other companies).

The choice of marketing activity strategy depends on those strategic and obligatory tasks the enterprise has. Factors to be taken into account when choosing a strategy: risk, amount of financial investments, staff attitude towards possible changes, expected results after the strategy execution, position, market growth rate and others.

Before making a marketing plan, it is important to compare the strategy with market conditions. Therefore, the market is a dynamic structure where changes are constantly occurring. In order to operate effectively in the future in the current circumstances, ongoing marketing research is constantly supported.

According to the author's research, the planning of marketing activity of the enterprise in terms of content is divided into strategic, tactical and operational. The main tasks of marketing planning are definition of goals and objectives, structuring of marketing activity directions, determination of input data, determination of general process organization.

In general, the structure of the strategic plan of marketing activity of a business entity includes: general market trends, prospects of development of the industry and the selected segment, mission and marketing goals, content of the marketing strategy, ways of its implementation, efficiency assessment. As part of the strategic planning system it is recommended to analyze the prospects and competitive positions of the company for 5-10 years with the search for new opportunities and products.

Tactical planning is formed based on the goals of the enterprise and the objectives of marketing activities. It includes planning of financing and investments, sales, purchases, personnel and results to be obtained by the enterprise within the next 2-5 years. Marketing decisions, which should be taken into account in tactical level planning, relate to the main and additional components of the complex marketing of products; goods promotion; demand formation and sales stimulation; price policy, personnel, etc.

The main tasks of tactical planning of the enterprise marketing activity are:

- definition of goals that will contribute to the implementation of the marketing strategy;
- definition of the means that will help to achieve the set goals;
- budget development, cost planning for specific marketing programs (advertising, market research, creation of new products, distribution);
- stages of marketing programs implementation;
- control over the results of marketing activities and determine its effectiveness;
- correction of the marketing activity tactics.

Operational planning of marketing activities of the company is based on improving the position of individual products, achieving the desired level of sales in the current year, the distribution of functions among employees. Most often, operational plans are clarified strategic and tactical plans and have a certain structure:

- 1) Introduction - current situation;
- 2) Situation analysis - past period trends;
- 3) Objectives: consumer demand, volume and share of sales;
- 4) Marketing strategy: market segments, positioning, range and nomenclature, prices and discounts, strategy for specific markets;
- 5) Marketing program in accordance with the marketing mix;
- 6) Marketing control and correction - algorithm, structure, organizational structure, inflation;
- 7) Marketing budget - total amount and distribution by divisions;
- 8) Additional materials - tactics of actions, alternative strategies, results.

Operational plans include specific marketing programs aimed at solving specific complex problems, such as organizing the production of a new product, winning a new segment or the market as a whole. Marketing program is a logical result of scientific and practical research in the following main areas:

- marketing environment analysis;
- comprehensive study of consumers' needs and demands, motives for their behavior;
- study of market indicators;
- study of the pricing system, price dynamics and structure;

- study of competitors, counterparties and neutrals;
- study of forms and methods of sales;
- evaluating the production and sales capabilities of an enterprise and determining the level of its competitiveness in different markets and their segments, etc.

A significant share in operational planning is occupied by marketing communications. Elements of the communication system of the company are advertising, exhibitions and fairs, public relations, pricing policy, commodity policy, the system of turnover, organization of places of sale, service, business correspondence and direct mailing.

Participants in the marketing communication process can include a diverse contact audience that contributes to the success of the company or the promotion of its products. These are the company's employees, mass media, government agencies regulating commercial activities and the like.

Distribution of marketing appeals can be carried out both by means of a pre-designed program of marketing communications, and by means of unplanned use of elements of a marketing mix and other ways of establishing contact with the consumer. The main elements that are present in all marketing communications are the purpose, the persuasion of consumers, the place of contacts, the participants in the marketing process and the various types of marketing communications activities.

Osnach (2017) defines a communications marketing policy as a set of activities that a company uses to inform, persuade or remind consumers about its products. The process of choosing a product promotion complex consists of defining goals, evaluation of factors influencing the promotion complex, development of promotion strategy, budget preparation and distribution, evaluation of the promotion complex.

Organization of marketing activities at the enterprise is carried out in the relevant departments, the formation of which requires compliance with certain principles. The main rules of building the structure of the marketing department are:

- compliance with the company's goals (adherence to the policy and philosophy of the business entity, solving the tasks of marketing activity);
- clear specialization of divisions (complex solution of clearly defined problems);
- unity of management (subordination to a single management body);
- structuring of strategic, tactical and operational levels;
- flexibility (prompt response to external and internal changes).
- employee motivation (a system of incentives to encourage activity and creativity);
- coordination and coordination with other departments of the enterprise.

The scheme of marketing department organization reflects its communication structure, i.e. the directions of marketing information transfer between the company employees.

In the author's opinion, the support for the well-established work of employees is the corporate spirit, which is the result of relentless HR work of managers, and is one of the most effective tools of motivation. Productive unification of different people in order to achieve a common corporate goal with the identification of personal goals with the company is possible if there is a team spirit, creates a synergetic effect in commercial activities.

The formation of corporate spirit begins with the establishment of relationships between employees within the enterprise and depends on the cultural level of employees and their interests, the relationship of staff at different levels among themselves and with management, respect of supervisors to their subordinates, recognition by the enterprise of achievements and rewards for results (bonuses, sending abroad for training, promotion). Organizational ideology is an emotional state characterizing the level of employees' involvement, their loyalty and compliance with corporate standards, as well as the brand perception by external target audiences (for example, the image of the company as an employer).

Motivation is a set of objective and subjective factors that force an individual to behave in an appropriate or necessary way. The core content of motivation includes three key concepts: effort, organizational objectives and individual need.

The scheme of the motivational model's operation includes successive stages: human needs and stimuli are identified; tension is created as a result of not meeting an individual's needs; this tension is influenced by external circumstances, favourable opportunities and goals; efforts are spent to meet needs; efforts lead to a certain level of indicators based on weaknesses; and different types of rewards are provided for certain indicators that meet initial needs and stimuli. After all, as some needs are met, new ones will emerge, and new efforts will be needed to meet them again.

Motivation and control are the main engines of quality implementation of planned tasks. The company should constantly check the current work of the employees of the marketing department and labor stimulation to improve the efficiency of the process of implementation of planned marketing activities.

Control in the marketing activity management system is closely related to accounting and reporting. The main methods and techniques of control are: analysis of sales opportunities, analysis of market share, analysis of the ratio between marketing costs and sales, identification of consumer relations, evaluation of the profitability of activities by product, territory, segments, trade channels and volumes of orders, revision of marketing.

The task of the marketing audit is to establish which points of the marketing plan are not implemented and for what reasons, whether the marketing goals and objectives, its structure are correctly defined, to what extent the marketing plan strategy takes into account

changes in the market situation, the environment and the like. The audit is conducted according to a certain plan, the components of which depend on the purpose and scope of the audit of the marketing activity management system at the enterprise. When creating a system of control and audit, it is necessary to understand clearly the task, define the criteria for evaluating the system's performance, how quickly the results of audits can be used, identify responsible people and the cost of its implementation.

The author believes that situational control is an exceptionally effective method of controlling the competitive position of an enterprise on the market. The main areas of issues that cover the situational analysis related to markets, products, novelties, customers, internal and external environment, competitors, purpose, program and organization of marketing, prices, product movement, organization of sales, demand formation and sales promotion, quality service . The purpose of the situational analysis is to propose new goals, assess how to achieve them, develop appropriate strategies.

Audit of marketing activity is complex, systematic and regular research of the marketing environment of the enterprise, tasks, strategies and operational activities in order to identify problems and to improve marketing activity. The main objects of the audit are the volume of sales, the amount of profits and losses, the reaction of buyers to the company's products, compliance with planned and actual results of production and commercial activities.

The analysis of results includes studying of the market share occupied by the enterprise, use of possibilities of realization of production, ratio of expenses for carrying out of marketing actions on their return, establishment of level of satisfaction of consumers, performance of planned indicators of marketing activity.

Correspondence of the results to the planned indicators shows the efficiency of construction and functioning of the enterprise marketing activity management system and whether it reveals the need for corrective actions. Emerging problems are usually divided into urgent (require immediate intervention), important (can be solved in the next management cycle), non-urgent (not fully understood phenomena that require further research and analysis), insignificant (do not deserve further attention).

CONCLUSIONS

The following conclusions can be drawn from the conducted research.

The methodology of forming the marketing activity management of enterprises is continuing its development in the works of scientists, and the central place in this issue is occupied by administrative functions of management. The author offers an algorithm for the formation of a functional structure for the management of marketing activities of

enterprises, begins with the definition of consumer needs and the selection of the appropriate direction of functioning in the market.

The developed methodology proposes to conduct preliminary studies of the macro- and microeconomic environment, the factors that influence consumer behavior. An important element is the compilation of a marketing information system, the constituent elements of which are: marketing research management system; internal information collection system; system for collecting external secondary and primary information; system of analysis, processing and accumulation of marketing information.

Having identified the success factors and created excellent market advantages, it is proposed to position the company.

Before making a marketing plan it is necessary to compare the strategy with market conditions. The main tasks of marketing planning are definition of goals and objectives, structuring of marketing activity directions, determination of input data, determination of general process organization. The organization of marketing activities at the enterprise is carried out in the relevant departments, the formation of which requires compliance with certain principles.

Motivation and control are the main engines of quality implementation of planned tasks. Correspondence of the results to the planned indicators shows efficiency of construction and functioning of the enterprise marketing activity management system.

The use of these provisions will contribute to the qualitative construction of the functional structure of marketing activity management of enterprises, should strengthen the competitiveness of business entities.

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BUSINESS CONTINUITY PLAN TESTING METHODS IN AN INTERNATIONAL COMPANY

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ABSTRACT

Effective business contingency management is possible if the company regularly test the involved person's knowledge of emergency response, defined in business continuity plans, to apply business continuity, identify resources, thereby continuously improving the resources involved in the emergency response process and ensuring coordinated actions during crises, taking into consideration technological development and company specifics. It is complex and challenging to organize effective crisis management training in an international company due to various factors. It is important to assess different forms of emergency response testing methods although there are challenges to make emergency trainings effective and cost efficient. The aim of this chapter is to study the business continuity and emergency response training methods in an international environment and to provide recommendations to the company's management how to make emergency response in a modern and effective way and which of methods that are more appropriate for international environment. The research evaluates assessed theoretical, industry standards and commonly used contingency plan testing and training methods. Within the research for the chapter interviews with industry experts have been conducted. From the obtained results conclusions were drawn, and suggestions were made on the advantages and disadvantages of the tested methods when applied in an international company.

Key words: *Business contingency, Business continuity, Business continuity Plan testing methods, Emergency response training, Virtual training.*

INTRODUCTION

Business continuity and emergency response are most often associated with threats from various natural or man-made threats. In the World Economic Forum (WEF) Global Review 2020, extreme weather events and natural disasters are identified as the two most likely global risks, immediately followed by cyber-attacks and data theft. (World Economic Forum, 2020). Companies are now more often exposed to direct political risks, often affected by riots or terrorist attacks, which can cause huge disruption and downtime. The global pandemics we are experiencing during COVID-19 are linked to downtime, when workers are unable to return to work, there is a shortage of manpower to produce or provide a services, and this leads to production shutdowns that affect the entire supply chain (AGCS, 2020, p. 9).

In a survey conducted by Deloitte in 2018, which interviewed more than 500 crisis management managers about 80% of organisations worldwide have mobilized their crisis management teams at least once in the last two years (Deloitte, 2018, p. 3).

Companies, national organisations or non-governmental organisations, must be prepared to react quickly and effectively to emergency situations and to ensure continuity of business or service and to ensure the safety of their employees. Data shows that the total cost of business interruption is € 5.8 million per year. (AGCS, b.g.)

High downtime costs are a good motivation for Top management to prioritize the replacement of obsolete systems and security features and troubleshooting before incidents occur and, more importantly, to be sufficiently prepared to be able to respond to crisis situations and effectively manage the business continuity process. Traditionally, in many companies, crisis management is considered as a support function, with minimal ownership of the company's top management. (Carvell, 2017). During planning and developing business continuity plans (BCP) and ensuring business continuity (BC) in the company, it is important to have a common terminology and understanding of what business continuity is and that emergency management is part of business continuity management. Also, standardizing processes using industry standards and testing plans according to their goals is an integral part of business continuity management

Problem of the research. It is complex and challenging to organize effective crisis management training in an international company due to various factors - lack of top management support, unclear emergency response roles, different levels of experience and knowledge and costs are the most common reasons why one emergency training approach does not work.

The aim of the research is to study the business continuity and emergency response training methods in an international environment and to provide recommendations to the company's management how to make emergency response in a modern and effective way and which methods are more appropriate for international environment. The research evaluates assessed theoretical, industry standards and commonly used contingency plan testing and training methods, including interviewing industry experts and drawing conclusions, and made suggestions on the advantages and disadvantages of the tested methods when applied in an international company.

Research methods. In the first and second chapter mainly descriptive and comparative methods are used, in which scientific literature, industry standards, examples of good practice are analysed and compared. Using the analysis method, the obtained information is classified according to the tasks of the master's thesis and the possibilities of comparing the obtained data. In the third or practical chapter, practical trainings, questionnaires, expert interviews were conducted. The results are reflected by visual graphical method. The logically constructive method leads to conclusions and proposals.
Research was conducted from 2019 to 2020.

1. CHARACTERISTICS OF BUSINESS CONTINUITY MANAGEMENT

Emergency preparedness, business continuity, business contingency, crisis, emergency response, emergency management - these and other related terms are often discussed as they were synonymous which all refer to crisis response and mitigation. In fact, these are different emergency response functions, often involving the same people, but it is important for companies and organisations to understand the difference between emergency preparedness and business continuity to ensure not only that they are properly understood, but also accordingly tested and trained in practical training, simulations, etc., which rise the company's effective action in the event of a crisis. (Britton, 2020).

Business continuity management (BCM) is a holistic management process that identifies potential threats to the organisation and the business impact that these threats, if implemented, can have, and provides a framework for building organisational resilience with the ability to respond and protect effectively. the interests, reputation, brand and value creation activities of key stakeholders (ISO 22301: 2012).

Author Jamie Watters (Watters, 2014, p. 3) describes business continuity as: “Business Continuity Management (BCM) exists to avoid any disruption that can lead to either significant losses or failure to achieve the organisation’s core objectives. BCM is both a process and a discipline.” This definition proves that business continuity management is more than just drawing up a business continuity plan. Just by developing a plan, the organisation will not benefit from it. Benefiting from business continuity management requires organisation, planning, evaluation, training, testing and more. Business continuity management can be described as a “management system” that allows an organisation to improve security, resilience to various types of man-made or natural disasters or IT attacks, and to ensure that it can respond immediately and effectively to a major incident (Blyt, 2009, p. 18).

Another term used in the context of business continuity and appearing on the business continuity timeline is **Disaster recovery planning (DRP)**, which refers to the recovery of a damaged equipment / condition or the return of its components to normal business operations. (Snedaker, Rima 2014, p. 30). This term is not used in the context of ISO 22301. Disaster recovery is part of business continuity and is linked to post-event operations. This category includes recovery from, for example, server outages, security breaches, or natural cataclysms (Snedaker, Rima 2014, p. 30). The definition of ISO 22301 states that **Business Contingency (BC)** is defined as the ability of an organisation to continue to deliver products or services at an acceptable, predetermined level after a devastating accident (ISO 22301: 2012).

At its core, business continuity is good governance practices that define how companies identify their strategic vulnerabilities, priorities, and related key systems, processes, and data, and ensure that the organisation has plans in place to manage, maintain,

and recover from a crisis. the business could continue uninterrupted. Good practice also shows that cyber crisis management is usually integrated into the overall crisis management framework, policies and plans, especially in sectors where it is regulated by legislation, such as critical infrastructure, telecommunications, energy or the financial sector.

Today, organisations are increasingly aware of their vulnerability to cyber-attacks that can threaten a business or permanently destroy its IT systems. Business continuity plans should include not only scenarios of the consequences of natural or man-made threats, but also the adverse consequences of cyber-attacks. (Blyth M. 2009, p. 12). Strategic IT and information security is part of the business continuity planning and the business continuity plan is one of the strategic tools for senior management, but it is often not properly maintained (Lindström, Samuelsson, 2010).

A crisis is defined as an event that poses a major threat to the safety and well-being of an organisation's employees, reputation, financial condition, continuity and quality of services and (primary) business processes, and information integrity and confidentiality (Hiles, 2007, p. 12). In crisis management, threats are the potential harm that a crisis can cause to an organisation, its stakeholders and industry. The crisis can pose three related threats: public security, financial loss and reputational damage (Institute for pr.org., 2007).

In turn, an incident is defined as an event related to inadequate or failed processes, people, or systems, or due to external events that may result in financial loss, damage to reputation or other adverse consequences for the organisation or its stakeholders. These are often events with limited impact that can be overcome in one day (Hiles, 2007).

The broadest stage of crisis situations in the overall business continuity process is **Crisis management** in general, in the literature on general crisis management, crisis management is defined as making and executing complex decisions in difficult conditions (ENISA, p. 4). Admittedly, when studying these terms, the author found very different explanations for this term, but everyone had an important feature - they include a set of actions that are taken to resolve the crisis situation. Typically, a company determines these crisis situations based on a risk assessment.

Emergency response takes the form of procedures and actions that are taken immediately after a crisis has occurred or been detected. Emergency response is the phase of the disaster management cycle that often attracts the most resources. This phase mainly involves diverting people and resources from danger, such as evacuating buildings and working with first responders to ensure that all stakeholders do so safely and effectively during a crisis. This phase should also include regular training and exercises to ensure that those involved in the emergency are able to use their emergency response plans, contact lists and other relevant documents. Emergency management seeks to protect people, the environment and material resources from harm through certain procedures and actions that are taken immediately after a crisis has occurred (Estall H. 2012, p. 78).

To summarize - business continuity management focused on the continuity of key business operations and minimizing the impact on cash flow and increasing corporate resilience. Emergency response and Crisis management is the part of overall business contingency activities and that is illustrated in Figure 1.

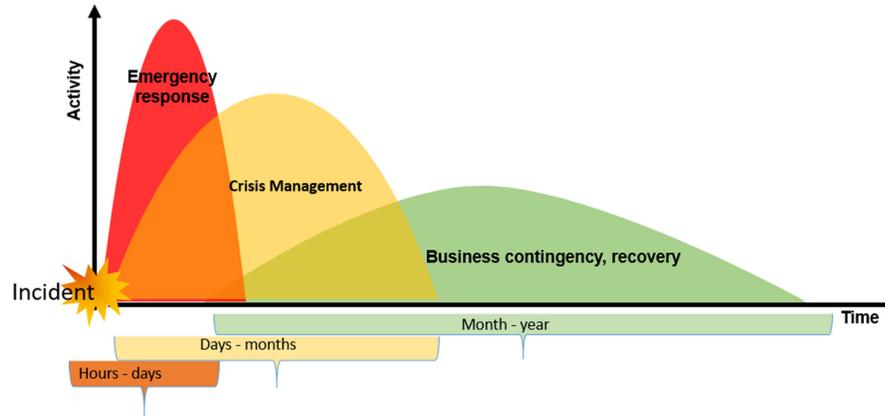


Fig. 1. The interaction of business continuity processes in relation to the time scale

Sources: Created by the author

Authors used ISO 22301 framework to illustrate how all those three processes collaborates and how it looks on timeline. In Figure 1-2 there is shown business continuity management framework according to ISO 22301. The business continuity life circle consists of 4 stages - business impact analysis, business continuity strategies, response, training and testing. The figure shows the business continuity framework with all the above stages marking all three phases of business continuity - Incident Management, which usually takes hours to days and is a Stabilize stage, business continuity, which usually takes days to months and is considered as a mitigation and control phase (Mitigate) and a business recovery that can take months or even years.

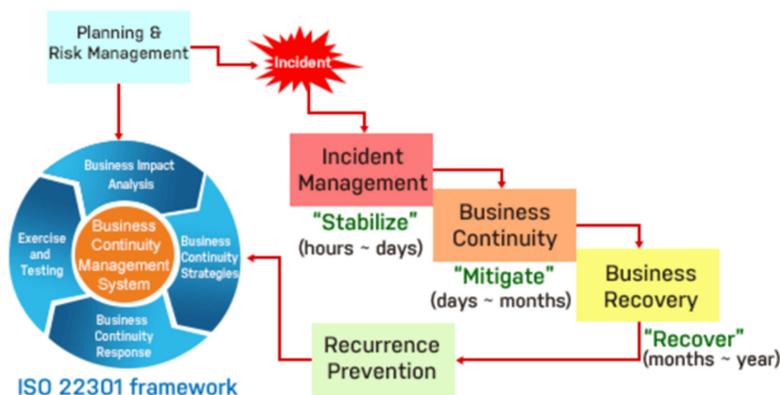


Fig. 2. Business continuity management system framework

Source: Umc.com (2020)

Evaluating these standards, the author concludes that ISO 22301 is an internationally recognized standard that is considered a reliable basis for effective business continuity management. ISO 22301 certification confirms a company's compliance with industry standardization by setting requirements to plan, establish, implement, monitor, review, maintain, and continuously improve a business continuity documentation management system to protect against, reduce, prepare for, respond to, and recover from unforeseen activities. disorders when they occur.

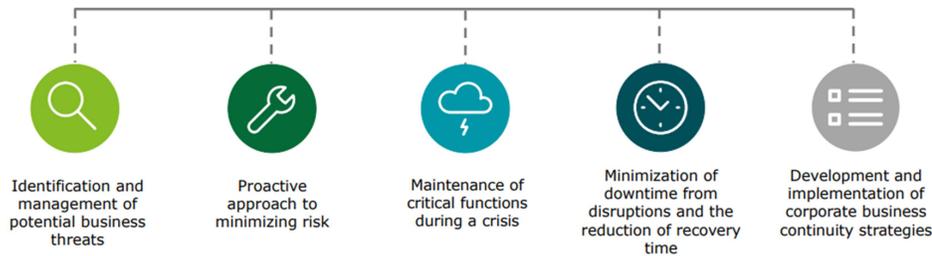


Fig. 3. Benefits of implementing ISO 22301

Source: Deloitte (2019)

The implementation of ISO 22301 standard provides several benefits that help implement and maintain the business continuity processes. 1.3. figure shows the key benefits of implementing ISO 22301. For example, the application of this standard involves the identification of critical business operations, key business processes and important interactions between processes. A proactive approach to risk analysis provides an understanding of the key recovery parameters for developing or updating plans. Timely identification of potential threats allows for the most accurate possible definition of potential risk scenarios and for minimizing disruption and downtime and reducing response time.

2. THE ROLE OF BUSINESS CONTINUITY PLAN TESTING IN THE CRISIS MANAGEMENT PROCESS

Within the framework of this chapter, preconditions for successful testing, management and improvement of a business continuity plan are summarized and business continuity plan testing methods that would be applicable in an international company are identified.

The fact that a company has developed business continuity does not provide effective action in an emergency. If crisis management in a company is not practically tested, plans are not tested and participants are not clear about their roles and resources in crisis management, even the best written plans will not work, and management may get the misconception that investing in business continuity is a waste of money.

When planning crisis management testing activities, it is important to plan, manage and monitor them in such a way as to maximize the benefits for all participants, reduce response times and enable the identification and correction of deficiencies in the plans (Payne, 1999, p. 85).

Effective preparation covers the whole life cycle of crisis preparedness, response and recovery. Although there is a wealth of information in the literature on the role of senior management in business continuity management, one of the most important stumbling blocks to effective emergency management is the low involvement of senior management in testing and regularly updating business continuity plans (Fischbacher-Smith, 2017, p. 90).

The HSEEP (Homeland Security Exercise and Evaluation Program) offers an exercise methodology commonly used to plan emergency exercises and training. Figure 4 shows the stages of the four-exercise cycle - which usually start with exercise planning, scenario design and development, conduct of exercise and evaluation with the aim to improve next training.



Fig. 4. The crisis training management program cycle used by HESSEP

Source: HSESSEP (2020)

As stated in the NIST 800-34r1 guidelines (NIST 800-34r1, 2010, p. 27) staff must be trained in the following elements of the plan:

- the purpose of the plan;
- coordination and communication between teams;
- reporting procedures;
- security requirements;
- team-specific processes (activation and notification, recovery and recovery phases);
- individual responsibilities.

Both the scientific literature and various standards describe different methods for testing. Each company must choose methods that are appropriate to the level of maturity of its business continuity and the size of its budget. It is very important to determine the purpose of testing the plan, because it determines the methods that will be used and the range of involved people.

Summarizing the above information, the author concludes that all training and testing methods can be divided into two large groups - discussion-based and practice-based exercises. As the third group - author highlighted the latest trends in the field of training.

Discussion-based exercises where participants are introduced to developed plans, policies, procedures, or can be used to develop or update new plans, policies, agreements, and procedures. These include the following types of training.

1. Theoretical exercises (Tabletop Exercises).
2. Theoretical exercises in a virtual environment (Virtual Tabletop Exercises).
3. Talk through approach.
4. Walk through approach.
5. Seminars and Workshops.

Practice-based exercises validate plans, policies, contracts, and procedures, clarify roles and responsibilities and identify resource gaps in practice.

1. Functional Exercises.
2. Role play scenario.
3. Full interruption or scale exercise.
4. Practical training by simulating anxiety (Drills).

The latest trends can be attributed to the following types of exercises.

1. Internet of Things (IoT) technologies.
2. Virtual reality.
3. Mobile application, Online training.
4. Video learning.

Figure 5 shows the tendencies of this study that in the literature the most frequently used and appropriate training methods are theoretical (TTX - Tabletop) exercises and discussion-based exercises (47% of selected sources are mentioned), full-cycle training (23% of selected sources) and practical training (13% of selected sources) are applied most often.

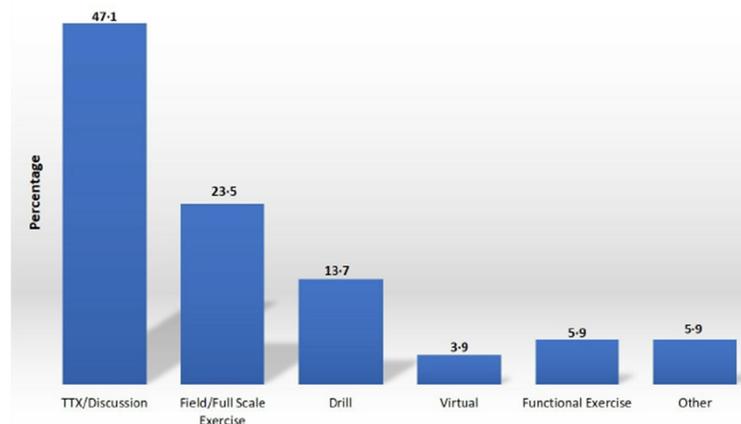


Fig. 5. Approaches in the conduct of Simulation Exercise (n=51).
Source: McDarby G., Reynolds L., Zibwowa Z. (2019)

A **Tabletop exercise (TTX)** is a disaster preparedness activity that takes participants through the process of dealing with a simulated disaster scenario. A TTX is discussion-based and not only helps participants familiarize themselves with the response process but enables facilitator to gauge the effectiveness of the organisation's emergency response practices. The facilitator introduces the simulated scenario and assigns tasks, considering all the necessary scenarios, starting with discussions between roles, responsibilities, coordination, and decision-making actors (NIST 800-34r1, 2010, p. 29). According to NIST's theoretical exercises, it consists of four phases.

1. Planning by setting goals and actors.
2. Scenario development, it has no guidelines for exercise managers and uses.
3. Exercise performance.
4. Exercise assessment identification exercises and weaknesses (Bartnes, 2016, p. 36).

The main advantages of this method are:

- ongoing evaluation;
- can be seen as operational communication, recording tools;
- can be seen as visible rules of the team, taking into account the issues of the idle phone, which is not related to the crisis management process, during the status meeting;
- good time management;
- you can very well see how roles are understood;
- facilitated group discussion on problematic areas (Bartnes, 2016, p. 43).

The disadvantages of this method are:

- if the task manager is not experienced, because an environment with a high level of stress is unexpectedly provided;
- costs if the exercises are in different countries;
- there may be a lack of sense of reality;
- not a real performance test;
- provides only a superficial overview of the organisation's preparedness plan (Bartnes, 2016, p. 42).

Functional Exercises allow staff to confirm their operational readiness for emergencies by performing their duties in a simulated operational environment. Functional exercises are designed to fulfil the roles and responsibilities of certain team members, procedures and resources involved in one or more aspects of the operation of the plan (e.g., communications, emergency announcements, system equipment setup). Functional exercises vary in complexity and scope, from the approval of specific aspects of a plan to full-scale exercises that cover all elements of the plan (NIST 800-34r1, 2010, p. 29). Functional exercises increase the intensity of training. They are delivered at a faster pace

than Tabletop exercises and require direct communication between a wider range of participants and competent participants, including external resources. In many cases, functional exercise can often result from Tabletop.

The main advantages of this method are:

- real-time, stress-tolerant environment;
- allows for the practice of prioritization skills;
- allows to evaluate several functions simultaneously (Bartnes, 2016, p. 43).

The disadvantages of this method are:

- does not allow you to actually check rarely used resources;
- it is often necessary to attract external resources, which increases the cost per man-hour, the costs of involving external service providers (Bartnes, 2016, p. 43).

Nowadays, the **Virtual Tabletop** form of training is gaining more and more popularity, which is essentially the same as training in the classroom, only using a virtual environment - Skype, Microsoft Teams, Zoom, etc. For example, on June 11, 2019, the US Federal Emergency Management Agency (FEMA) published a situation guide specifically for Tabletop Exercise (VTTX) in cybersecurity, which can serve as a good example of how to plan and design such instructions.

The main advantages of this method are:

- requires relatively small resources in terms of time, costs and communication resources;
- an effective method for reviewing plans, procedures and policies;
- a good way to introduce the staff involved to their roles and responsibilities;
- opportunity to build trust (team building);
- stimulates thought processes;
- opportunity for senior managers to practice their crisis management skills (Burton, 2015, p. 64).

The disadvantages of this method are:

- lack of realism and thus does not provide a true test of the capabilities of a crisis, emergency, security or business continuity management system;
- provides only superficial use of plans, procedures and team opportunities;
- provides a practical way to demonstrate system overload (Burton, 2015, p. 65).

Talk-through test method This method consists of “accurate testing of the operation of the plan” (Hiles, 2007). Questions are asked about what would happen in specific circumstances, expecting detailed answers from stakeholders on how the actions included in the plan will be implemented and the goal of the plan will be achieved. This testing method is rarely used by the plan developer or the BC team responsible for the plan.

The main advantages of this method are minimal costs, with minimal business interruptions and can be organized in a short time.

The main disadvantage of this method - low training value.

Walk through. This method differs from negotiation-based methods in that it uses exercises in that it is more physical. This may include activities such as “calling people to check that their contact lists are correct, going to the waiting area, entering the control room, and physically inspecting the inventory of continuity there” (Flynn, 2008).

The main advantages of this method:

- relatively low costs with minimal business interruption.
- it can be organized in a short time and is more rigorous than a conversation because it involves physical activity (Flynn, 2008, p. 12).

The main disadvantage is that it has little training value, although it is more than a conversation.

Role play scenario. This exercise is performed according to a specific scenario and is planned in great detail in order to make the exercise scenario as realistic as possible. The scenario can start with the actual accident, which could develop into a disturbance. This could include the actual operation of the "accident response structure" and the use of an "accident management plan". This method can be very complicated.

The main advantages of this method:

- it has excellent training value;
- during the training, its participants can be so challenging and can be made extremely rigorous;
- Simulated examples can be used to test a business continuity plan or related documents for seemingly impossible risks (Flynn, 2008, p. 12).

Its main disadvantages:

- it is much more expensive than talking and reviewing the plan;
- Testing may involve the closure of the business.
- Detailed planning and preparation is needed to conduct such training, especially if external resources are also involved, public authorities (Flynn, 2008, p. 12).

Full interruption or scale exercise. This exercise method “activates all components of a business continuity plan and assumes that the entire critical business process is disrupted” (Syed, 2004). Full-scale exercises include company-wide operations and communication functions. External resources, such as first responders, vendors, public authorities, etc., may also be involved in these exercises. They also test alternative resource options, service providers, and more. Unlike the role-play scenario, this exercise is broader and includes real operations and plan actions. Full-scale exercises are closest to the real event, which increases the challenges for exercise participants (Alberto, 2016, p. 48).

The main advantages of this method are:

- it has a huge training value;
- It really challenges a complete business continuity plan.

It has the following disadvantages:

- it is expensive and can interrupt normal operations;
- To reduce costs and impact on normal business, it requires careful planning and planning of exercises (Alberto, 2016, p. 48).

Practical training simulating an alarm situation (drills). The exercises examine certain aspects of the emergency response plan and are less complex than other types of exercises (PreparedEx, 2020). The best known are fire evacuation drills, training that result from various physical risks, such as to prevent or reduce the risk of violence or physical attack. Such workouts are very useful as a first step in creating larger scale exercises.

The introduction of new technologies in our daily lives is also changing crisis management. The crisis caused by the coronavirus (MERS-CoV) is changing many habits around the world and has shown that technology is playing an increasingly important role not only in day-to-day communication but also in process management, and in emergency management.

A **seminar** is an informal discussion aimed at orienting participants to new or updated plans, policies or procedures (workshop to review a new standard of escape) or involving partners to promote a common understanding of accident reporting procedures, notification procedures and coordinated action in emergencies (Emergency Preparedness, 2011).

The Internet of Things (IoT) has become one of the most potential segments of technology that has already found application in many systems, such as industry, commerce, or the military. This resource is potentially being used more and more by rescue services, for example, IoT devices can provide early warning of hazards wherever they occur - giving emergency services a significant idea of reducing response time - or connected devices can even act on their own, such as turning off power. (Lumbreras, 2019). Lumbreras: "All of these emergency applications have strict requirements for all the technologies they can use. To ensure safe operation, all devices must have excellent reliability and secure data transmission, as well as agree on runtime standards and the potential risk of failure and risks" (Lumbreras, 2019).

Another great way to help emergency response teams is automated disaster detection. New technology is able to respond unequivocally to threats and work on a possible assistance strategy much faster than a human resource could do. It would also be able to track where people need help, such as earthquake-affected areas, and lead rescue teams to locations (Fink, 2019). These technologies will clearly increase the ability to respond to

crisis situations, but a very important factor to keep in mind here is: “To avoid any failures that could jeopardize security, they must contact the emergency services. Currently, IoT standardization is highly fragmented because different standards apply to different applications and device types. Standards can play an important role in ensuring that best practice is applied worldwide and that systems are accountable for the work expected of them” (Lumbreras, 2019).

Video learning (video learning) - video learning as one of the modern ways of learning, as well as a new way of implementing PowerPoint. Audience can be easily involved through video content. Videos give the essential components of training strategy, and influence dynamism that videos shows. In addition, accessibility is another feature that has led trainers to adopt video training. Instructors and trainers can create videos, both informative and demonstrative, and can reach audiences from anywhere in the world as soon as the video is published on dedicated platforms.

Finances online has analysed the benefits of using virtual reality in the trainings shown in Figure 6. These benefits are such as the provision of real-time information, the ability to conduct exercises and reflect reality experiences, to perform these exercises more creatively.

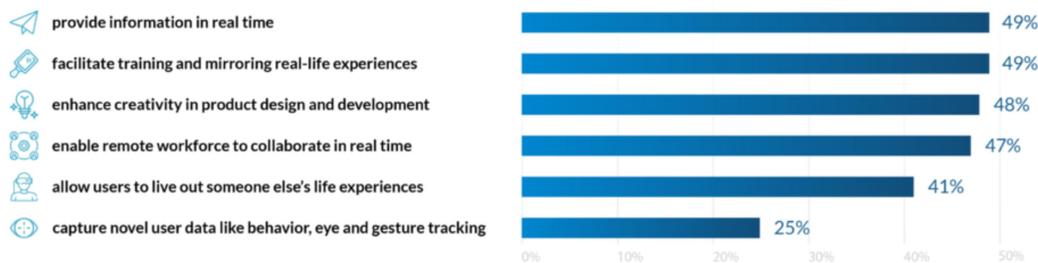


Fig. 6. Benefits of using virtual reality in the trainings

Source: Financesonline.com (2020)

In the study, the author analysed statistical data that show the industries in which virtual reality is used most often, because it allows the author to come to the conclusion whether these new features are applicable in emergency team training. As shown in Figure 7 according to information gathered in Financesonline.com - this method plays a stable role in the training process, both in educational institutions and in employee education.

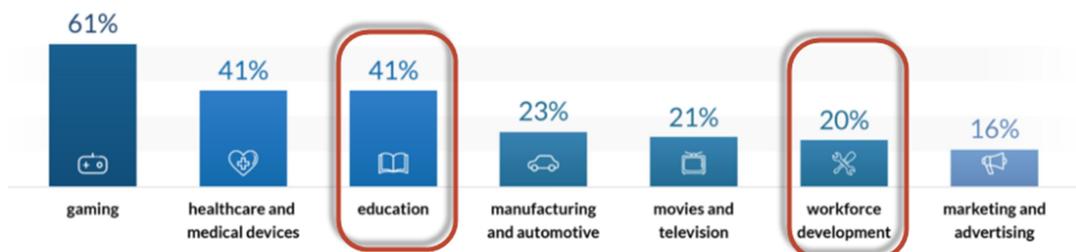


Fig. 7. Industries where VR is used more often

Source: Financesonline.com (2020)

There is no doubt that e-learning and virtual reality will play an increasingly important role in the companies training process, as this type of training is more flexible, cheaper, time-saving and appropriate for mobile century. It is no less important that the content presented in this way is better to remembered. This is also confirmed by the information gathered by *Finances online* on the benefits of e-learning in the article on new e-learning trends for 2020-2021, shown in Figure 8 based on the results of various international studies conducted around the world.



Fig. 8. Benefits of e-learning

Source: Financesonline.com (2020)

Use of mobile phones, mobile applications (applications). The mobile smartphone has changed not only the convenience of everyone's communication, but also the way organisations operate, communicate, interact and collaborate. The introduction of mobile learning solutions is another trend that has unfortunately not yet been fully mastered. According to one recent study, only 10 % of organizations and their training and development teams use mobile-based learning strategies. Only 8 % use mobile learning apps, 5% use mobile performance websites and only 8 % use mobile learning apps (Yourtrainingedge.com, 2019). An important step in reviewing any training or simulation elements performed is performance evaluation. It allows the team and participants involved in emergency management to comment on what they thought was the training, discuss whether it is achieving its goals, make recommendations for the next training steps and make specific recommendations for improving the ER plans or resources, communication platform etc. International companies often use the **Kirkpatrick Model** to evaluate the effectiveness of training. This model measures four levels of involvement:

1. **Response:** Did the learner find the training appropriate and useful?
2. **Training:** Did the training achieve the set learning objectives?
3. **Behavior:** Were employees able to use the knowledge gained in the training effectively in their work?
4. **Results:** Did the training achieve the desired business results (improved efficiency, reduced costs, increased revenue, etc.) (Mendonca, 2019, p. 56).

This model was first published in 1959 and has evolved significantly over time, adapting to the relevant features of the era. Interestingly, each level defined by Kirkpatrick offers a more accurate indication of training effectiveness. Modern coaches use the Kirkpatrick model in reverse order.

The author Alberto G. in his article provides an overview of different BCM exercise methods and offers a methodology for planning and conducting exercises in the context of business continuity management. **Recommendations for efficiency gains.**

1. Define the scope of training, time schedule and requirements.
2. Identify the training needs of each group of participants.
3. Develop a training approach (training, exercise methods).
4. Develop training goals.
5. Develop the duration and costs of exercise.
6. Develop training scenarios.
7. Develop training or exercise evaluation criteria.
8. Identify participants that should participate in training or exercises.
9. Identify the necessary training or testing resources.
10. Provide brief prior training, especially for scenario mock exercises.
11. Evaluate training based on evaluation criteria.
12. Summarize and analyse the learned, feedback on areas for improvement (Alberto, 2016).

Senior management support and understanding of the importance of ER training is a key how effectively these emergency response trainings can be conducted, as they provide resources and decide how much company should invest in cybersecurity and overall crisis management including cybersecurity training and IT systems testing, (Ryttare, 2019, p. 29).

3. DIRECTIONS FOR IMPLEMENTING BUSINESS CONTINUITY PLAN TESTING METHODS IN AN INTERNATIONAL COMPANY

In this chapter, the author provides an assessment of how the previously studied methods can be applied in an international environment. The chapter provides an insight into the training planning methodology, summarizes the results of questionnaires, about the significant advantages and disadvantages of the methods used in practice, including a practically tested feedback on the virtual training exercise. A matrix used in risk assessment to classify the risks that have the greatest negative impact and / or the highest probability of occurrence, as well as the risks that have the negative impact on corporate reputation, as shown in Figure 9.

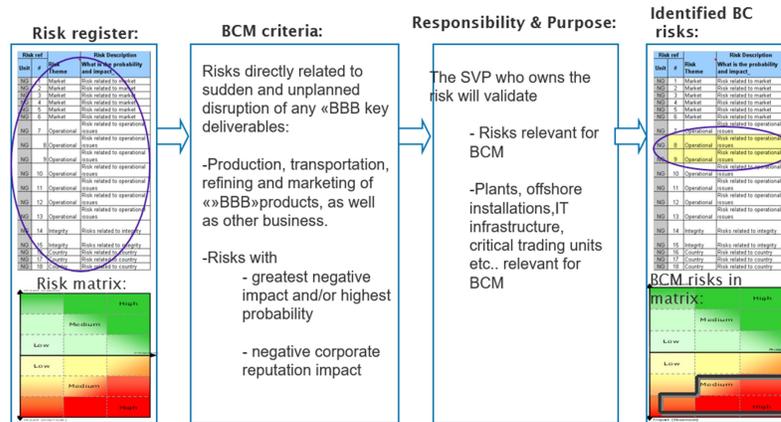


Fig. 9. Insight into the company's business continuity risk assessment process

Source: Created by the author

Company “BBB” has an effective reporting system that allows for more accurate forecasting and risk assessment according to company statistics. This reporting system provides reporting starting from all near-miss, incidents, accidents, and robberies of the company. In particular, lessons from company-defined Serious Incidents and Lost time injuries are analysed and lessons learned are carried out, although by practicing those scenarios in emergency response trainings.

During the Covid-19 pandemic, additional reporting procedures were introduced to monitor the development of the crisis situation and employee health rates in all business units, as shown in Figure 10. This reporting culture is one of the success factors that allows company “BBB” successfully implement a single reporting framework within the defined three levels of crisis management.

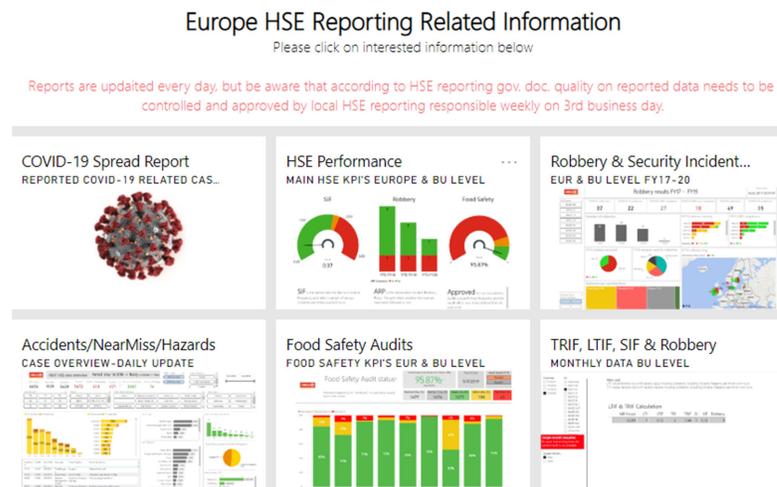


Fig. 10. Example companies reporting system

Source: "Screenshot" from the company's “BBB” reporting database (2020)

Each unit performs a risk assessment of its operations. Risk assessments identify potential incidents as specific hazard and accident situations (DSHAs) that require an

emergency response. The unit risk assessment is performed considering BU locations, IT units and offices. Based on DSHA's preventive actions, specific plans are also prepared describing the actions to be taken in the event of an accident. The DSHA format provides a description of the possible consequences of the accident, the action, the response, and the preparedness for emergencies. The emergency response must be such as to reduce the consequences of the accident. Each unit uses a general DSHA.

Emergency Response Plan shall ensure appropriate emergency response execution for the DSHA's defined in the emergency preparedness risk assessment. For example, fire, explosion in certain structural units, robbery, kidnapping, hostage-taking, payment card fraud, security breaches, including IT security, extensive demonstration focusing on company property, food poisoning due to food prepared by the company etc.

Company "BBB" has a crisis management structure divided into three lines, each with its own role and responsibilities in crisis management, defined in these lines' crisis management plans or other documentation, such as instructions, reporting procedures, civil protection plan. Business continuity training takes place at all these levels in accordance with the company's training policy. ER plans and exercises shall be performed at all levels. The interaction of these three lines is shown in Figure 11. These lines are divided into operational or 1st line, tactical and technical support, or 2nd line, and strategic or 3rd line.

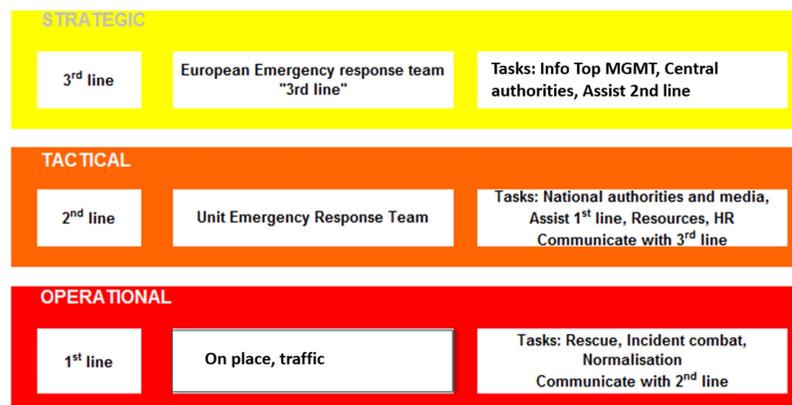


Fig. 11. Company's "BBB" emergency response model

Source: Created by the author

Emergency response principles in company "BBB":

1. Emergency response (ER) is a line responsibility.
2. ER will be resolved and executed at the lowest possible level in the organisation and as close to the incident as possible.
3. Tasks in normal operations which are carried out by an emergency organisation should preferably be executed by the same personnel.
4. The organisational units have a shared responsibility for effective cooperation across borders.

The business continuity training process has evolved significantly over time. In the Figure 12 shows how during the last 4 years the company has developed in performed training and exercises in business continuity processes by defining the achievable criteria and focus groups. This does not mean that the training process started only in 2017, the author chose this reference point, because in 2017 the company changed the brand from "AAA" to "BBB".

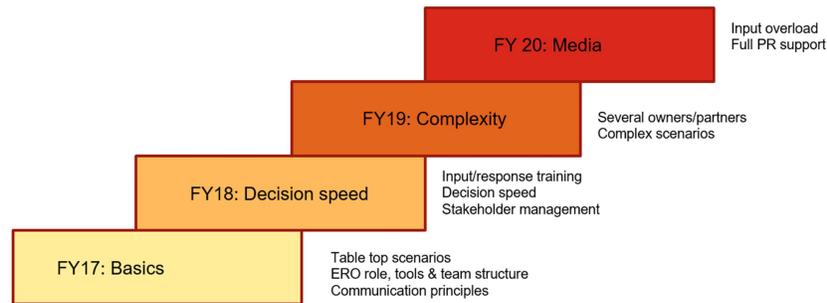


Fig. 12. European emergency response roadshow 2017-2020

Source: Created by the author

Progressive experience of several years allows to make training programs more and more complex, building on exercises based on previous experience. This model of an integrated approach includes the identification of threats, hazards and risks that are essential to be able to successfully prepare for the training. This also applies to sufficient preparation for the use of a virtual training environment.

Every year, the company draws up a plan that describes when the emergency training will take place in each line and each business unit. What the training methods will be, the process to be tested, the purpose. Each year, each unit shall have at least one emergency response theoretical exercise in combination with a Tabletop situation game to ensure that the emergency response team and its participants are trained, and the plan is tested. It is the responsibility of each business unit to ensure that, all employees involved in the crisis management process, have a sufficient level of training and understanding of ER process.

In the practical part of the research 4 experienced emergency training managers within an international retail company were interviewed. The experience of all experts in the field of crisis management training can be assessed as very high, as their experience in the company exceeds 10 years, some even 18 years and participation in business continuity training has been throughout the work experience, mainly directly organizing, managing, and improving business continuity. It is important that one of the interviewed experts is the company's global communications manager, who has excellent knowledge of aspects of retail communications in crisis situations and is an experienced emergency response trainer outside the company. The expert interviews were organized in the form of a video call using the Microsoft Teams platform, preceded by the submission of the interview questions prepared by the author.

The author also conducted a survey of the company's Environment, Health and Safety (HSE) managers in all business units of the company in Europe (Norway, Sweden, Denmark, Ireland, Latvia, Lithuania, Estonia and Poland) and also in Russia. The aim of the survey is to find out the experience and views of different HSE leaders on Level 2 crisis management exercises, for example to find out their assessment of the current training format, what they consider to be a success story and what areas for improvement. Also, the author aims to gather information on which of the offered new forms of training, these managers would like to integrate into their second level crisis management training.

The author, during the internship, participated in a virtual Tabletop exercise (VTTX), which was focused on testing, planning, managing and evaluating an IT emergency response plan. This section includes an evaluation of this exercise, as it allows the author to compare the process of classical theoretical crisis management exercises experienced in practice with an exercise conducted in a virtual environment. Following this exercise, the author conducted a survey of the IT staff involved, which was mainly based on determining the effectiveness of the exercise, and the survey questions are included in Appendix 3. The author's proposal is to include the questions of this survey in the further evaluation of the effectiveness of the training, adapting them to the purpose and tasks of the training.

Analysing the answers to the questionnaire shows that respondents still believe that crisis management training should identify areas for improvement and identify areas where knowledge is lacking (figure 13). This training should also enhance the effectiveness of the crisis management team and its ability to take decisions in the shortest possible time. These goals are immediately followed by an assessment of competencies and the goal of improving mutual communication.

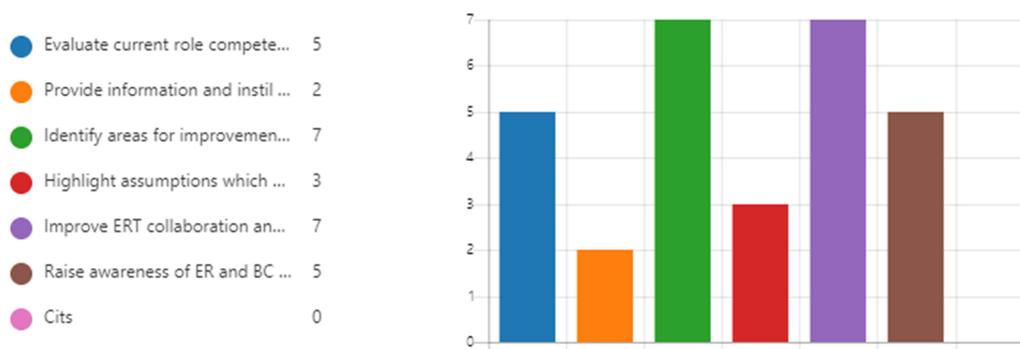


Fig. 13. Questionnaire data on priority goals in crisis management training

Source: Created by the author

These data were to some extent in line with what was said in the expert interviews, namely that the Communications Manager emphasized the leader's role and knowledge of the process in his answers, because coordinated action, structural approach, focus on the

worst-case scenario make both training and crisis management processes effective. The surveys show that national SES leaders have indicated that areas of knowledge need to be identified during training. By asking experts about what they think are the biggest challenges currently related to emergency response training in our company, the author received similar opinions and summarizing them, **the following most common challenges can be defined:**

1. Knowledge and experience of crisis management.
2. Leadership skills.
3. Ability to take the scenario seriously and identify possible worst effects, according to company-defined guidelines.
4. Cultural differences.
5. Language barriers.

Summarizing the views on crisis management processes that should be given more attention in future training, the results of the questionnaire highlight four processes from the options offered by the author, which are summarized in Figure 14.

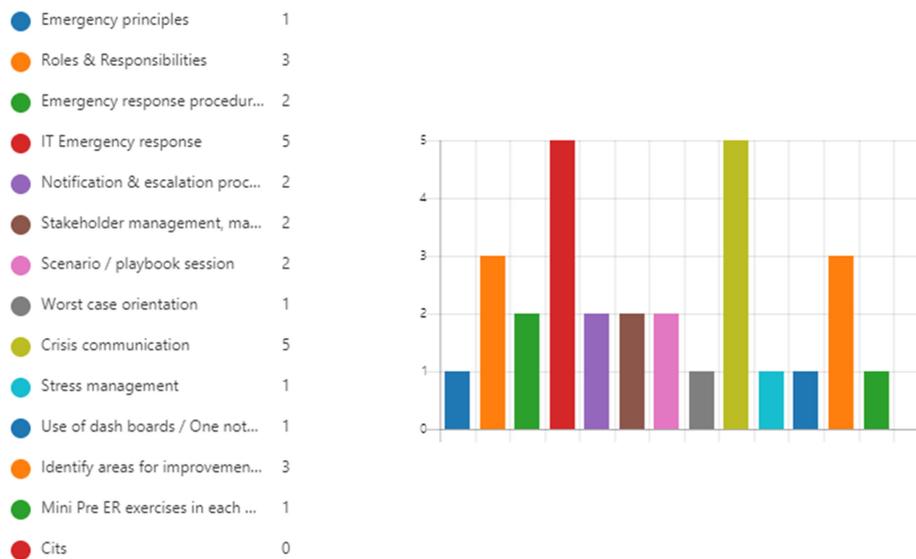


Fig. 14. Questionnaire data on ER process that need to be tested in future trainings

Source: Created by the author

These responses indicate that respondents more often noted that when planning training in the future, the crisis management team should focus on the following process in addition to training:

- IT emergency management;
- Crisis communication;
- Roles and responsibilities;
- Identify areas for improvement where information is lacking.

Experts emphasized in interviews that crisis management communication needs to be developed to additional training resources, by leveraging resources from outside the company to play media training or similar training, which is very important especially nowadays when information flows very fast. The company already practise scenario play including scenarios with media challenges.

The involvement of IT in the overall business continuity plays an important role. The security expert acknowledged that the biggest challenge is to reach a common understanding of the classification of incidents and when to initiate a crisis management team, as well as common terms, principles and roles. Asked about the biggest opportunities or success stories and areas where the company has **achieved good results in crisis management, experts point out the following:**

- emergency management documentation, procedures;
- notation tools, such as One note;
- a systematic approach to crisis management, where everyone knows their roles and responsibilities;
- experienced and competent training organizers and facilitators;
- create a realistic and relevant exercise scenario;
- unified training structure;
- periodicity and consistency;
- knowledge sharing, fast and dynamic situation solving (Arsawan et al., 2020).

The experts also acknowledged that the virtual crisis management OneNote tool is the best improvement after the harmonized structures and methods for the whole company. OneNote is not a definitive system and the experts acknowledge the need for a more effective tool, such as a mobile application or a local system adapted to crisis management principles and requirements, but its timely implementation and testing allowed the company to manage crisis very effectively during the COVID-19 pandemic.

During the interview, the experts also shared their findings on the training methods that are most often used in training and that can be assessed as the most effective in their experience. **Basically, 4 methods are used in testing the company's crisis management plans.**

1. Theoretical exercises in combination with scenario simulation, which also takes place in a virtual environment.
2. Seminars and class trainings.
3. Exercises rolled on practical activities.
4. Full cycle exercises.

Experts admit that one-day theoretical Tabletop exercises, where the beginning part is dedicated to theory in combination with scenario are the most effective to achieve the

training goals. When asked whether conducting this type of exercise in a virtual environment is just as effective as classroom Tabletop - experts acknowledged that virtual training is easier to conduct and costs are significantly lower, but there are still several advantages over face-to-face training, that allows you to feel the mood of the participants, see whether the scenario is taken seriously, management style, see the body language.

Experts point out that after several years of intensive work and support from the company's top management, all 2nd lines have mastered the basic principles of crisis management, communication, know their roles and the reporting structure. On the improvement side, there is still the discipline that is expected of business unit managers to ensure that the crisis management process is properly initiated.

Figure 15 shows HSE managers interest in new training methods they would like to try in the future.

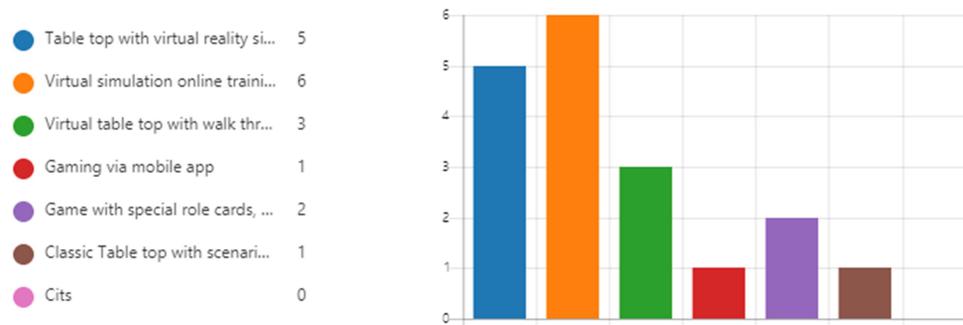


Fig. 15. Questionnaire data about alternative training method for 2nd line

Source: Created by the author

In IT expert interviews carried out after Virtual Tabletop exercise, virtual environment was recognized as good, and yet, each of them points out that at least once a year emergency response training should take place in physical presence. **Criteria that increase the effectiveness of training resulting from expert interviews, are following:**

- the scenario is easy to understand, realistic and adaptable to the relevant unit;
- the tools and documents should be easy to understand and apply to the involved personnel;
- ability to create a sense of reality;
- cooperation between the training facilitator and participants;
- training facilitator experience;
- careful preparation work;
- implementation of the obtained feedback in future trainings.

The HSE and IT experts surveyed mention the following as areas **for improvement in emergency response training:**

- cooperation between departments and structural units, including cooperation partners;
- time planning and monitoring to be able to complete the exercise, give feedback;
- increase the frequency of training;
- introduce more modern tools and systems for crisis management;
- additional training on how to develop crisis management plans;
- variety of scenarios;
- database of examples of different scenarios to be used in short local-scale ER trainings.

CONCLUSIONS

ENISA survey (2012) shows that international companies mostly apply ISO 22301 in the implementation of business continuity management. Regarding Business contingency plan testing methods most precisely guidelines are defined in the NIST guidelines, NFPA 1600 and the ISF Standard of good practice for Information Security.

Operational level or 1st line crisis management training is an integral part of the health, safety and environment strategy and regular instruction process, hands-on trainings, classroom trainings and ongoing awareness have improved response to non-standard situations and emergency response. Experts indicates in their interviews that there is a need for separate training on crisis communication for 2nd line and 3rd line emergency response teams, such as media trainings involving media professionals or a scenario with a communication challenge in accessing information on social media in a crisis situation.

Respondents align with literature and statistical data, suggesting that the most effective business continuity plan testing method, applicable in an international environment, is Tabletop exercises combined with short theoretical trainings as an introduction part and scenario play at the end.

Face-to-face training methods are rated higher than virtual tabletop training among the surveyed experts. Attendance allows training to be conducted more effectively, such as feel the mood of participants, adjust crisis management style, see body, and sign language.

New learning trends highlight important role of virtual reality training types with different scenarios to create the greatest possible presence effect. Providing real-time information, the ability to conduct exercises and reflect reality experiences, to perform these exercises more creatively what can make important benefits of crisis management training.

International companies choose to use the *Kirkpatrick* four-level model to assess the effectiveness of training, by assessing participant's reaction, learning, impact and results. The most important in this assessment is to get understanding whether the audience getting enough out of training, and most importantly, does training have a positive impact on their roles in emergency response situations.

The virtual crisis management OneNote tool is the best improvement that has been implemented in corporate environment the process of continuous improvement and has proven itself in COVID-19 pandemic crisis management, however, the experts acknowledge the need for a more effective tool such as mobile application or a local system adapted to the principles and requirements of emergency response.

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REFORMING THE NEW UKRAINIAN SCHOOL UNDER CONDITIONS OF PROFESSIONAL COMPETITIVENESS ON THE LABOUR MARKET

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ABSTRACT

The standards for the development of primary education in Ukraine are presented in the article. The system of reforming the New Ukrainian School is revealed. Regulatory documents on reforming education in Ukraine are analyzed. The content of primary education is revealed and the state documents in which it is disclosed are analyzed. In particular, the analysis of standard educational programs for primary education institutions. The implementation of the New Ukrainian School in primary education institutions is justified. It was noted that complete comprehensive secondary education in Ukraine is compulsory and is acquired in individual forms defined by law, usually in educational institutions. The purpose of complete comprehensive secondary education is the full development, upbringing and socialization of the individual, who is capable of living in society and of civilized interaction with nature, has the desire for self-improvement and lifelong learning, and is ready for conscious life choices and self-realization, responsibility, work and civic engagement. Freedom, independence, meeting one's own learning needs, free expression, play, interest, activity, creativity, research, projects, modelling – the main thing that accompanies the educational process in the New Ukrainian School. The new school is aimed at developing key competencies in young schoolchildren, and the school itself is focused on: volunteerism, mathematical competence, information and sociocultural skills, natural science, social science, ecology, innovation, technology and culture.

Key words: *New Ukrainian school, content of primary education, normative documents, typical educational programs.*

INTRODUCTION

The progressive development of society today requires specialists in various fields who have formed professional competencies, are able to learn throughout life, set goals and achieve them, make independent decisions, think creatively and critically, work in a team, resolve conflicts, communicate in a multicultural environment, own and use information and communication technologies, orientate themselves in the labour market and so forth (Koval, Polyezhayev, Bezkhlibna, 2018). This is why the quality of education today is receiving special attention in the modern world (Anna, Slavomíra, 2017). The Ukrainian society has fully understood the importance of receiving quality education, which will be aimed at the process of forming highly qualified specialists, as well as integration into the European educational space. This has led to significant changes in the field of education.

One of the ways of renewing the content of education and aligning it with modern needs, integration into the European and world educational space is the introduction of the

New Ukrainian School (2018), which aims to form a comprehensively developed personality capable of critical thinking; the formation of a patriot with an active position, who will act in accordance with moral and ethical principles and will be able to take responsible decisions, respect human dignity and rights; the formation of an innovator who is capable of changing the world around us, developing the economy on the principles of sustainable development, competing in the labour market, and learning throughout life.

1. REGULATORY AND LEGAL SUPPORT FOR EDUCATION REFORM IN UKRAINE

It should be noted that the first steps of education reform in Ukraine began in 2016, when the New Ukrainian School Concept was developed and approved. In this Concept, *the changes were justified* (radical reform, which will stop negative trends, turn the Ukrainian school into a lever of social equality and cohesion, economic development and competitiveness of Ukraine) and *the goals of the New Ukrainian School were defined* (diverse development, upbringing and socialization of the individual, who is aware of himself as a citizen of Ukraine, is able to live in society and civilized interaction with nature, has the desire for self-improvement and lifelong learning, is ready for conscious life choices and self-realization).

The developed formula of the New Ukrainian School was approved, which is presented in the Concept and consisted of the following components:

- new educational content based on the development of competencies necessary for successful self-realisation in society;
- pedagogy based on partnership between a student, a teacher and parents;
- a motivated teacher who has the freedom to create and develop professionally;
- focus on the needs of the pupil in the educational process, child-centrism;
- an integrated educational process that shapes values;
- a new structure of the school, which makes it possible to assimilate new content well and acquire competences for life;
- decentralisation and effective management, which will enable the school to have real autonomy;
- fair distribution of public funds that ensure equal access to quality education for all children;
- modern educational environment, will provide the necessary conditions, facilities and technologies for the education of students, teachers and parents not only in the premises of the school (New Ukrainian School, 2016).

We will give a brief description of each component.

The new content is based on the formation of competencies and requires an understanding of the definition of competence itself. In the Concept, this concept is revealed as a dynamic combination of knowledge, ways of thinking, views, values, skills, abilities and other personal qualities, determines the ability of a person to successfully perform professional and / or further educational activities (New Ukrainian School, 2016). The following key competencies have been identified: communication in the state language, competence in natural sciences and technology, information and digital, ability to learn throughout life, communication in foreign languages, mathematical, social and civic, innovation and entrepreneurship, cultural understanding and self-expression, environmental literacy and healthy living. All these competences are equally important and interrelated. Each of them is acquired by children in different subjects at all stages of education. Skills are common to all these competences. It was assumed that key competencies and cross-cutting skills would form the basis for successful self-realisation of the student as a person and citizen.

Partnership. The Concept noted that one of the main missions of the Ukrainian school was to help develop the abilities, talents and capabilities of each child through a partnership between a teacher, a pupil and parents. The following basic principles of "partnership pedagogy" are highlighted: respect for the individual, friendliness and positive attitude, trust and relationships, dialogue, interaction, mutual respect, leadership distribution, social partnership (New Ukrainian School, 2016). It was also noted that the "partnership pedagogy" and competency-based approach will require a new educational environment, namely the introduction of the latest information and communication technologies, which will increase the efficiency of teachers' work, the efficiency of educational process management and at the same time make an individual approach to learning. The new Ukrainian school must be supported by an electronic platform for creating and distributing electronic textbooks and training courses for schoolchildren and teachers.

Motivated teacher. Attention was also paid to the new teacher. The Concept notes that a new school requires a new teacher who can become an agent of change. The teacher will be able to prepare his own author's curriculum, choose his own textbooks, methods, strategies, ways and means of teaching, and actively express his own professional opinion. In this connection, a new role for the teacher has been defined - not as a single mentor and source of knowledge, but as a coach, facilitator, tutor and moderator in a child's individual educational trajectory. The reform also provides for a number of incentives for personal and professional growth in order to attract the best to the profession (New Ukrainian School, 2016).

Child centrism. The new school takes into account the abilities, needs and interests of each child; it ensures impartial and fair treatment of each student. Life in the school should be organised according to the model of respect for human rights, democracy and the maintenance of good ideas.

According to the *structure of the New School*, the Concept states that the total length of general secondary education will increase to 12 years. Education will generally begin at six years of age. Children with special needs will be able to enter the school at the age of physical readiness. Training will be organised to a common standard without introducing subjects with an advanced level. This will also avoid social stratification and the selection of children at younger school age.

The concept provides for three levels of comprehensive secondary education:

- primary education (duration – four years);
- basic secondary education, which will be provided in a gymnasium (duration – five years);
- specialized secondary education, which will be provided in lyceums or vocational education institutions (duration – three years) (New Ukrainian School, 2016).

We will dwell on primary education in detail. The new school is divided into two cycles: the first – the adaptation-game (grades 1 – 2), the second – the basic (grades 3 – 4). The first cycle of primary education will help the pupil to adapt to school life. Specifically: learning tasks and time will be determined according to the (individual) characteristics of the students; learning material can be integrated into related subjects or introduced into subjects in the form of modules; the amount of homework will be limited; learning will be organised through activities, play methods both in and out of the classroom; the teacher will have the freedom to choose (create) the curriculum within the educational standard; descriptive formative assessment will be introduced, traditional assessments will not exist; the most important task of the teacher is to maintain confidence and motivation for learning in each student (New Ukrainian School, 2016).

In the second cycle of primary education, students will develop a sense of responsibility and independence. The learning process will use methods that teach students to make independent choices, link what they have learned to their practical life, take into account their individuality; subject training will be introduced; some subjects will include assessment.

The autonomy of the school and the quality of education implies the independence of teachers in the development of educational programs, the drawing up of curricula and programs for academic subjects in accordance with the standards of secondary education and the achievements of modern science, the free selection of textbooks, teaching and educational methods, and the development of the teaching and methodological basis.

Fair financing – introduction of equal access to budget financing of educational institutions of all forms of ownership. At the New Ukrainian School, public funding will be distributed transparently. The state and society must see how funds are spent and will monitor the results of educational investments. The principle of free choice in education will also be ensured. If parents wish to give their child to a private institution on the basis of their own world view and religious beliefs, the state will direct the funds allocated for the education of this child there.

The concept of the New Ukrainian School also included the *renewal of the educational environment*, which should be creative. The physical space and subject environment, programs and teaching tools would be the subject of change. The New School will increase the share of project, team and group activities in the teaching process. Accordingly, there will be various options for organising the learning space in the classroom. In addition to the classic options, the newest ones will be used, such as mobile workstations, which can be easily transformed for group work. Separate rooms with open educational space will be allocated. The layout and design of the school's educational space will be aimed at the development and motivation of children to study. The organisation of a new educational environment requires the widespread use of new information and communication technologies, new multimedia learning tools, and the updating of the laboratory base for studying natural and mathematical cycle subjects (Tambovceva, Dimante, Atstāja, 2018).

Consequently, it can be said that the Concept of the New Ukrainian School developed and approved was the beginning of the reform of the education system in Ukraine (Nychkalo, 2017).

The next regulatory document that took into account all the requirements for reforming and improving education was the Law of Ukraine "On Education" approved in 2017. The Law clearly defines the purpose of education, which provides for the comprehensive development of a man as a personality and the highest value of society, his talents, intellectual, creative and physical abilities, the formation of values necessary for the successful self-fulfillment of competencies, education of responsible citizens capable of conscious public choice and direction of their activities for the benefit of other people and society, enrichment on this basis of intellectual, economic, creative, cultural potential of the Ukrainian people, raising the educational level of citizens to ensure sustainable development of Ukraine (Law of Ukraine, 2017) and its European choice (Atstaja, 2017).

It was noted that complete comprehensive secondary education in Ukraine is compulsory and is acquired in individual forms defined by law, usually in educational institutions. The purpose of complete comprehensive secondary education is the full development, upbringing and socialization of the individual, who is capable of living in society and of civilized interaction with nature, has the desire for self-improvement and

lifelong learning, and is ready for conscious life choices and self-realization, responsibility, work and civic engagement (Law of Ukraine, 2017).

To further reform and implementation of the New Ukrainian School, the State Standard for Primary Education was approved in 2018. This regulatory document defined the requirements for mandatory training results and competencies of applicants for education, the total volume of their study load in the basic curriculum of primary education and the form of state certification (State Standard, 2018). The goal of primary education specified in the standard provides for the comprehensive development of the child, his or her talents, abilities, competencies and cross-cutting skills in accordance with age and individual psychophysiological characteristics and needs, value formation, development of independence, creativity and curiosity. The requirements for mandatory learning outcomes are determined by a competency-based approach to learning based on key competencies.

The following key competencies are defined and detailed in the State Standard:

1) fluent knowledge of the state language, which implies the ability to express thoughts and feelings orally and in writing, to explain facts clearly and argumentatively, as well as love of reading, feeling the beauty of words, understanding the role of language for effective communication and cultural self-expression, readiness to accept Ukrainian as a native language in various life situations;

2) ability to communicate in the mother tongue (if different from the state language) and foreign languages, implies active use of the mother tongue in various two communicative situations, particularly in everyday life, educational process, cultural life of the society, ability to understand simple statements in a foreign language, to communicate in it in appropriate situations, mastering intercultural skills;

3) mathematical competence, which involves identifying simple mathematical dependencies in the surrounding world, modelling processes and situations using mathematical relationships and measurements, and understanding the role of mathematical knowledge and skills in a person's personal and social life;

4) competence in natural sciences, techniques and technology, which includes the formation of curiosity, the desire to seek out and propose new ideas, to observe and explore, to make assumptions and draw conclusions from experience, to know oneself and the world around us through observation and research;

5) innovativeness, which implies openness to new ideas, initiation of changes in the close environment (class, school, society, etc.), formation of knowledge, skills, relationships, which is the basis of a competency-based approach that ensures further ability to learn successfully, conduct professional activities, feel part of the community and participate in the affairs of society;

6) environmental competence, which implies awareness of the basics of environmental management, compliance with environmental regulations and the economical

use of natural resources, understanding the importance of nature conservation for the sustainable development of society;

7) information and communication competence, which includes acquiring the basis of digital literacy for development and communication, the ability to use information and communication competence tools safely and ethically in learning and other life situations;

8) lifelong learning, provides for the acquisition of skills necessary for further learning, the organisation of one's own learning environment, the acquisition of new information in order to apply it to assess learning needs, define one's own learning goals and ways of achieving them, and training to work independently and in groups;

9) civil and social competence related to the ideas of democracy, justice, equality, human rights, welfare and a healthy lifestyle, awareness of equal rights and opportunities, providing for cooperation with other persons to achieve a common goal, activity in the life of the class and school, respect for the rights of others, ability to act in conflict situations involving various manifestations of discrimination, value cultural diversity of different peoples and identification of oneself as a citizen of Ukraine, careful treatment of one's own health and the health of others, respect for a healthy lifestyle;

10) cultural competence, which provides for involvement in various types of artistic creation (visual, musical and other arts) by revealing and developing natural abilities and creative expression of personality;

11) entrepreneurship and financial literacy, which provide for initiative, willingness to take responsibility for one's own decisions, ability to organise one's own activities in order to achieve goals, awareness of the ethical values of effective cooperation, readiness to implement initiated ideas, readiness to make one's own decisions (National Standard, 2018).

The National Standard also states that the basis for the formation of key competencies will be the experience of education seekers, their needs motivating learning, knowledge and skills, which are formed in different educational environments (school, family), different social situations and cause the formation of attitudes towards them.

2. CONTENT OF PRIMARY EDUCATION IN THE NEW UKRAINIAN SCHOOL

The content of education is one of the main components of the learning process. It reflects the social experience accumulated by mankind: knowledge about nature and society, technology, thinking and ways of activity, ability and skills in various activities (Luchaninova et al., 2019); experience of creative work to solve new problems faced by society; spiritual experience of value attitude to other people, nature, to the consequences of human activity.

By the content of education we mean a system of scientific knowledge, skills and abilities, the mastering of which ensures the diverse development of mental, physical and creative abilities, the formation of a worldview, moral and ethical views and beliefs, and the preparation of younger generations for life and work (Opanasenko, 2019; Opanasenko, Chernenko, 2020).

The content of education involves defining the system and scope of knowledge, its educational and development potential, as well as the skills and abilities to learn and apply this knowledge in practice. The content of primary education is being improved in accordance with the requirements of the New Ukrainian School, taking into account a competent approach. The content of education is specified in regulatory documents: curricula, programs, textbooks and study guides. All these documents are subordinated to the subject of study. The subject of study contains information (basis) for a particular discipline studied at school.

Since 2018, the new Ukrainian school has two typical educational programs at the initial stage under the leadership of Savchenko O.Y. and Shyian R.B. (Typical educational programs, 2019). They are based on the principle of integration of academic subjects and competence approach. The explanatory note of the Typical Educational Program of Savchenko O.Y. specifies the goal of primary education, which provides for the comprehensive development of a child's personality in accordance with his/her age and individual psychophysiological characteristics and cognitive needs, the formation of general cultural and moral-ethical values, mastering key and subject competencies and cross-cutting skills, necessary life and social skills, which ensure his/her readiness to live in a democratic and informational environment, continuation of studies in primary school (Typical education programs, 2019). Also, according to the potential of the program content, the explanatory note highlights the key competencies and cross-cutting skills to be developed among the students: the ability to communicate in the mother tongue and one of the foreign languages; mathematics; competence in natural sciences, techniques and technology; innovation; ecology; information and communication; the ability to learn throughout life; civil and social competence; cultural competence; entrepreneurship and financial literacy; reading with understanding, the ability to express one's own opinion orally and in writing, critical and systematic thinking, the ability to substantiate one's position logically, creativity, initiative, and constructive skills; the ability to constructively manage emotions, assess risks, make decisions, solve problems and cooperate with other people.

In Typical educational programs of Savchenko O.Y., Shyian R.B. the following educational areas are highlighted: cultural and literary (implemented through the subjects "The Ukrainian language", "Literary reading", languages and literature of national minorities), mathematical (implemented through the subject "Mathematics"), natural, social and healthcare, civil and historical (implemented through the subject "I explore the world"),

technological (implemented through the subject "Design and Technology"), information (implemented through the subject "Mathematics and Technology", etc.): cultural and literary (implemented through the subjects "The Ukrainian language", "Literary Reading", languages and literature of national minorities), mathematical (implemented through the subject "Mathematics"), natural, social and healthcare, civil and historical (implemented through the subject "I explore the world"), technological (implemented through the subject Design and Technology), information (implemented through the subject Computer Science), art (implemented through the subjects Musical Art, Fine Arts or integrated subjects), physical education (implemented through the subject Physical Culture).

Each educational area in the Typical educational programs contains content lines. Thus, the following lines of content are highlighted in the *cultural and literary* area:

1) "Interacting orally". This content line aims to develop young schoolchildren's ability to perceive, analyse, interpret and evaluate oral information and to use it in various communication situations, to communicate orally with other people in dialogue and monological forms in order to achieve certain life goals.

2) "Reading". The content line aims to develop children's motivation to read, involve them in reading activities based on student initiative and independence in selecting texts to read and interpret what they have read.

3) "Interaction in writing". The content line aims to provide primary school students with a complete writing skill, the ability to express their thoughts, feelings, relationships and interact with other people in writing, and to express themselves in various speech and creative activities.

4) "Investigate media". This content line introduces younger pupils to the basics of media literacy. Pupils form an idea of the boundary between the real world and the media world. They learn how to interpret, analyse, evaluate media texts and create simple media products.

5) "Researching linguistic phenomena". The content line is aimed at researching language units and phenomena by students in order to master initial linguistic knowledge, literary pronunciation norms and rules of Ukrainian spelling, formation of abilities of younger students to use the Ukrainian language in all spheres of life.

6) "Theatreising". This informative line is highlighted in the Typical educational program of Shyian R.B. It serves to develop students' communicative skills, including the ability to model various communication situations, choose appropriate communication strategies and explore non-verbal means of communication. This content line is related to developing students' understanding of theatre as a place where they gain experience of compassion and empathy.

All content lines, as specified in the Typical educational program of Savchenko O.Y., are implemented through the integrated course "Literacy Learning" (1st grade), the subjects

"The Ukrainian Language", "Reading" or their integrated course (2nd grade), "The Ukrainian Language", "Literary Reading "(3 – 4 grades).

The following lines of content are highlighted in the *mathematical* area of education:

1) "Account", "Numbers, Actions with Numbers", "Measurement of Values" (under the program of Shyian R.B.), "Numbers, Actions with Numbers. Values "(according to the program of O.Y. Savchenko). Within the framework of these content lines, the concept of numbers and ways of performing actions with these numbers are formed - comparison, addition, subtraction, multiplication and division, practical introduction to ordinary fractions, measurement of quantities, operation with quantities.

2) "Spatial relations. Geometric figures" (under the program of Shyian R.B.), "geometric figures" (under the program of Savchenko O.Y.). The content lines are aimed at developing students' spatial representations, forming their ability to distinguish geometrical figures by their essential features, and forming practical skills to build, draw, model and construct geometrical figures by hand and with the help of simple drawing tools.

3) "Data handling". The content line introduces students at a practical level to the simplest ways of selecting and organising data according to a particular characteristic.

4) "Mathematical tasks and research". This informative line is highlighted in O.Y. Savchenko's program. It is aimed at forming plot, geometric and practical tasks in the material, as well as in the process of performing simple educational research to recognise practical problems that are solved using mathematical methods. In Shyian R.B.'s program, this informative line is not singled out separately, but can be traced through all the content lines in the mathematical educational sphere.

The *information* education area is presented by such content lines:

1) "I am in the world of information" (under the program of Shyian R.B.), "Information. Actions with information "(under the program of Savchenko O.Y.). These content lines provide for the development of students' initial skills to recognise, find, consciously select, save and process simple information with and without digital devices, to recognise true and false information in all its manifestations, which helps to form critical thinking in primary schoolchildren.

2) "My Digital Creativity" (under the program of Shyian R.B.), "Computer Devices for Actions with Information", "Object. Object Properties" (under the program of Savchenko O.Y.). These content lines are disclosed through practical activities to create simple information products with the help of digital devices and programs for creative self-expression, presentation of oneself and products of one's activity.

3) "Me and Digital Devices" (under the program of Shyian R.B.), "Computer Programmes. Menu and tools", "Creation of information models. Modification of finished models. Using", "Linear algorithms "(under the program of Savchenko O.Y.). These

meaningful lines are implemented through the awareness and recognition of the tasks that can be solved with digital devices, based on their functionality.

4) "Communication and cooperation". This content line is traced back to the program of Shyian R.B. and provides for familiarisation with the digital and direct communication means available to the student for playing, communicating, learning, receiving new information, using safe online or offline environment.

5) "Responsibility and security in the information society". This content line is highlighted within the information educational sphere in the Typical educational program of Shyian R.B. It is aimed at creating safe conditions for students when working with digital devices and networks, which includes the protection of personal information, the formation of principles of ethical, friendly and responsible communication through networks, skills and opportunities to protect their own information space, physical and psychological health.

As noted in the Typical educational program of Shyian R.B., the informatics educational sphere can be integrated with other educational areas precisely because of the dedicated semantic lines. This integration can be realised through the solution of research tasks, the formation of cross-cutting skills of students, information literacy and culture.

The *technological* educational sphere is represented by such content lines:

1) "Information and Communication Environment" (under the program of Savchenko O.Y.), "Technical Creativity and Technology" (under the program of Shyian R.B.). The content lines cover the study of issues of harmonious combination of functionality and aesthetics in products, search and processing of thematic information in cooperation with others, research of different types of materials. They are aimed at involving students in creative work in the process of designing and modelling when working with the designer.

2) "Design environment" (under the program of Savchenko O.Y.), "World of technologies" (under the program of Shyian R.B.). The content lines are aimed at realizing the creative potential of students, creating conditions for the development of ideas, the selection of personally attractive objects of work, and design engineering. An important condition for students to assimilate these content lines is the ability to understand and comply with the sequence in the manufacture of products and to justify the selected sequence of work.

3) "The environment of techniques and technology" (under the program of O.Y. Savchenko), World of Technology, World of Crafts (under the program of R.B. Shyian). The content lines provide for the development of work place organisation skills, safety at work with hand tools and devices, step-by-step manufacturing of products using traditional and modern technologies, and rational use of materials. The content line "The World of Crafts" provides for students to form an attitude towards works of decorative and applied arts and crafts as the cultural heritage of the Ukrainian people, as well as the ability to create

and decorate simple products on the model or its own design, using traditional crafts or techniques of decorative and applied art.

4) "Environment for socialisation" (under the program of O.Y. Savchenko), "Domestic Life" (under the program of R.B. Shyian). The content lines are aimed at forming the ability to evaluate and present the results of design and technological activities, discuss them with others, effectively use the created products, plan and implement the simplest labour activities (repair of books, toys, care of plants, pets, etc.).

The *art educational* sphere has the following content lines:

1) "Artistic and practical activity" (under the program of R.B. Shyian), "Artistic and creative activity" (under the program of O.Y. Savchenko). These content lines are aimed at developing creativity and artistic abilities of students through practical mastering of the basics of artistic language of different types of art and ways of artistic and creative expression.

2) "Perception and interpretation of art". This content line aims at learning values that reflect works of art. Its implementation involves developing the emotional sphere of students, enriching their aesthetic experience and developing their skills to perceive, analyse, interpret and evaluate art.

3) "Communication through art". The content line aims to socialise students through the arts, making them aware of their artistic achievements and opportunities. It provides students with the skills to present themselves and their achievements, critically assess them, and interact with others through the arts in their environment.

The *physical* education area is represented by such content lines:

1) "Basic Motor Activity" (under the program of R.B. Shyian), "Motor activity" (under the program of O.Y. Savchenko). The content lines provide for the formation of the younger schoolchildren's idea of physical culture as a set of various physical exercises, methods of motor and play activity aimed at physical development, health promotion and the formation of the younger schoolchildren's skills and abilities to master various methods of motor activity.

2) "Playing and competitive activities of students (mobile games and relay races)". The content line involves educating younger pupils about activity and responsibility in the process of mobile and competitive games, developing the ability to fight, to gain a fair victory and to perceive defeat with dignity, to control their emotions, to organise their time and mobilise resources, to assess their own capabilities in the process of playing and competitive activities, to perform various roles in game situations and to be responsible for their own decisions.

3) "Care for health and safety". This content line is highlighted in R.B. Shyian's program and is aimed at forming a conscious attitude to one's own health and skills for safe behaviour in the course of physical activity. O.Y. Savchenko's program reveals these criteria in the content line "Motor activity".

Civil and historical, social and health protection and natural educational areas are presented in the Typical educational programs in different ways. O. Y. Savchenko presents these educational areas in the Typical educational program in an integrated manner and is implemented through the integrated educational subject "I explore the world". Thematic basis of the subject is formed by the content lines, which are defined by the State standard of primary education and cover the components of educational areas in their integrated nature (Typical educational programs, 2019).

The subject "I explore the world" contains the following content lines:

1) "The Man": learning about oneself, one's capabilities, healthy and safe behaviour.

2) "The man among people": standards of behaviour in the family, in society, moral norms, dormitory and cooperation skills.

3) "The man in society": civil rights and duties of a member of society; knowledge of his region, history, symbols of the state; Ukrainian contribution to the world achievements.

4) "The man and the world": a tolerant attitude towards the diversity of the world of people, cultures and customs.

5) "Man and Nature: the knowledge of nature, the relationship between objects and phenomena of nature; the man-made world of man; responsible human activity in nature; the role of natural knowledge and technology in human life; the relationship between human activity and the environment (Typical educational programs, 2019).

The Typical educational program led by R.B. Shyian presents the natural, social and health, civic and historical education areas separately. Each of them is divided into content lines. As stated in the Typical educational program of R.B. Shyian, "the purpose of the natural education sphere is to form scientific thinking and culture of research, to develop systematic ideas about the integrity and diversity of nature, to assert the principles of sustainable development and effective, safe environmental behaviour in the environment" (Typical educational programs, 2019).

The *natural* educational industry consists of the following content lines:

1) "I explore nature": developing the research skills of primary school children by supporting curiosity and interest in observations, experiments and modelling to find answers to questions about the world around them.

2) "I'm in nature": developing younger schoolchildren's ideas about objects and phenomena of nature, establishing links between inanimate and living nature, forming a caring attitude towards nature.

3) "I am in a man-made world": forming a common view of the world created by the man, concepts about the relationship between the man and nature.

These content lines in the natural educational sphere are associated with the content lines "The Man" and "Man and Nature", which are highlighted in O.Y. Savchenko's program. As stated in R.B. Shyian's program, "the leading role in the study of the natural educational sphere belongs to research (observations, experiments), excursions, environmental and design activities of schoolchildren" (Typical educational programs, 2019).

The aim of the social and healthcare educational sphere under the program of Shyian R.B. is to develop students' independence, social involvement and activity through the formation of a healthy lifestyle, the development of entrepreneurship, the ability to cooperate in different environments, self-confidence and virtue for safety, well-being and sustainable development (Typical educational programs, 2019).

The social and health care educational sphere includes such content lines:

1) "Safety": developing skills for safe behaviour at home, at school and in the environment, forecasting the consequences of dangerous actions, determining the impact on the choice of safe behaviour, compliance with the rules and responsible attitude towards personal safety and the safety of others.

2) "Health: developing health care competence and behaviour through the acquisition of healthy lifestyle skills, the development of positive self-esteem, critical thinking, the ability to make informed decisions, to take responsibility for one's own health and of those around us, and to counteract negative social factors.

3) "Well-being": development of ethical behaviour in society, ability to learn and develop a positive attitude towards learning, awareness of the importance of a healthy lifestyle for wellbeing, development of entrepreneurship and consumer culture for optimal use of resources and welfare, orientation of students towards responsible attitude towards safety and health as the most important life values (Typical educational programs, 2019). These content lines of education are connected with the content lines "The Man among People", "The Man in Society" under the program of Savchenko O.Y.

The aim of the civic and historical education sphere under R.B. Shyian's programme is to create conditions for primary school students to develop their own identity and readiness for change through awareness of their rights and freedoms, understanding the links between history and real life, creating an active citizenship based on democracy and respect for human rights, and gaining experience of living together on a democratic basis (Typical educational programs, 2019).

The civic and historical educational sphere includes such content lines:

1) "I am a man": involving students in the development and use of elementary information about the human being as a unique creature in the universe for self-identification, creating oneself as an individual, shaping one's character and developing valuable qualities in the process of cognitive and working activities.

2) "I am among people": awareness of the role of connections that exist between people, the importance of family, friends, buddies, communities with whom a child identifies himself.

3) "My Cultural Heritage": awareness of national culture, history and the relationship with European civilisation.

4) "My School and Local Communities: students' understanding of the basic norms of school and local social life, knowledge of school and local traditions, acquaintance with civil acts of fellow countrymen, activities of school administration, local authorities and voluntary associations focused on public affairs, helps students acquire initial experience of civic action, democratic behaviour and constructive interaction, influences the formation of an emotional and value component of a student's civic culture.

5) "We are citizens of Ukraine. We are Europeans": students' ideas about national symbols and state attributes of Ukraine, nation, state, politics, government, key events in the history of Ukraine, adoption of democratic values and ideas of Euro-Atlantic integration of Ukraine (Typical educational programs), 2019. These content lines of education are connected with the content lines "The Man in Society", "The Man and the World" under the program of Savchenko O.Y.

Therefore, it can be seen from the analysis of typical educational programs by Savchenko O.Y. and Shyian R.B. that while they may be built on the principle of integration, they have certain differences. The authors have different views on integration. For example, O.Y. Savchenko's program integrates four educational areas – civil, historical, natural and health care, while R.B. Shyian's program includes seven areas – literary, mathematical, natural, technological, information, social and health care, civil and historical. Apart from integration, the creators of the programs have not found a compromise on the expected learning outcomes. In O.Y. Savchenko's program, the expected results are defined for each year. R.B. Shyian's program is based on the State Standard of Primary Education, in which compulsory learning outcomes are prescribed in cycles – after the second and fourth grades.

New textbooks have been compiled for the Typical educational programs: 11 ABC books, 10 mathbooks and 13 textbooks "I Explore the World". Therefore, the teachers of the New Ukrainian School had a wide choice of educational literature, which was envisaged in the Concept of the New Ukrainian School.

CONCLUSIONS

The above material allows us to state that Ukraine is currently in the process of reforming and improving education at all levels. The developed and approved regulatory and legal documents (the Concept of the New Ukrainian School, the Law of Ukraine "On Education", the State Standard of Primary Education, Typical educational programs for general secondary education institutions 1 – 2 and 3 – 4 classes), which are aimed at the progressive development of education, have come into effect.

It is worth noting that the introduction of the New Ukrainian School is already underway in primary schools. Teachers, who today play the role of coach, facilitator, tutor and moderator, for the first time introduce two typical educational programs developed under the guidance of Savchenko O.Y. and Shyian R.B. It is positive that teachers have a free choice of programmes to implement the educational process and are able to show their creativity, imagination and originality in their professional activities. Younger pupils today are learning in a new way. Freedom, independence, meeting one's own learning needs, free expression, play, interest, activity, creativity, research, projects, modelling – the main thing that accompanies the educational process in the New Ukrainian School. The new school is aimed at developing key competencies in young schoolchildren, and the school itself is focused on: volunteerism, mathematical competence, information and sociocultural skills, natural science, social science, ecology, innovation, technology and culture.

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INTER-SUBJECTS INTERACTIONS WITH ADULTS AS A DETERMINANT OF PERSONAL DEVELOPMENT

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ABSTRACT

The authors substantiate that the structural-levelled structure of communicative activities can be represented as functioning of four components: *motivational, inter-subjects, semantic and reflective*. The inter-subjects component is revealed during informational and, partially, meaning communications with the Other in society; this component is activated at inter-subjects interactions and relationships with adults and peers. The article reveals theoretically and experimentally the psychological characteristics of mentally retarded preschoolers' inter-subjects interactions with adults. We have determined that inter-subjects interactions appears as subjects' symbolic and value-semantic penetration of into each other, as conscious and meaningful communicative activities on the plane of I-the Other (I-Other I). We have revealed the content of children's inter-subjects interactions with adults and reviewed researches on their genesis at preschool children with typical and delayed mental development. The peculiarities of the inter-subjects component of communicative activities with adults are revealed. The leading communicative form for the vast majority of children with developmental delay (DD) was situational, matter-of-fact; this form is typical for younger children with typical psychological development (TPD). DD preschoolers' contacts were mainly matter-of-fact. Such children were characterized by seeking help and support. At the same time, these children were satisfied with an adult's undifferentiated assessment. As for the indicator of attitudes to an educator, we saw mainly contradictory and positive attitudes of middle and senior DD preschoolers. In contrast, middle and senior TPD preschoolers had mainly positive or balanced attitudes to their educator. These data and high percentage of DD children with conflicting attitudes to their educator compared to TPD children demonstrated that, probably, relations in DD children's families were influenced by insufficient professional competence of the educator - special-needs expert who worked with preschoolers' families.

Key words: *inter-subjects interaction, preschoolers with developmental delay, adult, conscious communicative activity.*

INTRODUCTION

The structural-levelled structure of communicative activities can be represented as functioning of four components: *motivational, inter-subjects, semantic and reflective*. The inter-subjects component is revealed during informational and, partially, meaning communications with *the Other* in society; this component is activated at inter-subjects interactions and relationships with adults and peers. At the level of information communication, a subject cognizes and forms attitude towards *the Other*, and, consequently, cognizes self and forms attitude to self.

The above encourages us to analyze the concepts that, on the one hand, are psychological equivalents of informational communications, and, on the other hand, correlate with the structure of communicative activities. In this context, we should note that communicative activities and such their level as informational communication in the era of

social networks must be examined on the basis of inter-subjectivity. Inter-subjectivity correlates with such concepts as cooperation, co-existence, external and internal dialogues, presentation of one's own conscious position. In our opinion, communicative activities on the *I-Other* plane (*I-Other Self*) should be studied via opportunities to address someone, meet another individual's position, accept or reject it, which becomes the basis for constructive interactions and adequate understanding of *the Other* .

Zhuravlev's ideas (2005) on the essence of the "activity" concept in commonality, due to which interactions and relationships are transformed into joint activities with adults and peers, into external communicative activities, were fundamental for us in explaining the informational level of communications. Thus, the concepts of "interaction" and "relationships" (attitudes) should be analysed terminologically and their place in conscious communicative activities should be defined by bearing in mind that communicative activities are embodied in *inter-subjects (I-Other in society)* interactions.

1. INTER-SUBJECTS INTERACTIONS

The encyclopaedic dictionary edited by Bodalov (2011) defines the concept of "inter-subjects (inter-subjective, between subjects) interaction" as the level and form of communications existing due to subjectively significant motives of their participants. During an inter-subjects interaction, we can see mutual activation (excitation) and actualization (change, development) of the communicative participants' subjectivity, mutual revealing and intersection of their internal subjective spaces, symbolic penetration of into each other's subjectivity, associated with deep levels of the psyche.

We agree with Kagan's idea on inter-subjects interactions (1988), who developed it from the nature of joint activities. He considered inter-subjects interactions as participants' material-and-practical mutual actions in one, collective process, when the participants became initiative, self-regulatory actors. The used category of "mutual actions" can explain effectively the relation between activity and communication, which, accordingly, are structural components of communicative activities. According to Kagan's systemic approach of (1988), an interacting subject is poly-modal.

Rommetveit (1971), a Norwegian psycholinguist, argued that inter-subjectivity is a structure appearing as a result of interactions. It is not imbedded in the knowledge, with which the individual enters into a communicative relationship, and is not encoded explicitly in language. Foreign scholars operate with the concept of "a communicative agreement", which implies that mutual understanding is newly constructed each time in a social communicative situation. Thus, the interlocutors, entering into an interaction, agree implicitly on the principles and rules of joint actions.

Thus, inter-subjects interactions appears as subjects' symbolic and value-semantic penetration of into each other, as a model of conscious and meaningful communicative activities on the plane of *I-the Other (I-Other I)*.

Mead, an American psychologist representing interactionism, postulated the source of inter-subjective interactions in cooperation. The essence of such cooperation is an imaginary transformation of one person into another; such transformation helps to explain the meaning of *the Other's* behaviour and predict possible reactions. According to the scientist, acceptance of *the Other's* role is not a mechanical transfer of "my own self" to *the Other*, but in fact is a clarification of interlocutors' positions.

Thus, inter-subjects interaction involves the recognition that another subject has the same rights and opportunities that one has oneself. In our opinion, the recognition of the Other's values is possible through the function of awareness (de-centration).

Wolf & Latane (1985) and Sushkov (2008) were consistent in their views on *the Other's* (real or imaginary) transformational potential for changes in social interactions. In particular, Wolf & Latane explained changes under social influence by the need to implement human relationships.

Interactions lead to changes of psychological states and subjective feelings, motives and emotions, knowledge and beliefs, values and behaviour, appearing as a result of the real, expected or imaginary presence of other subjects. So, I. Sushkov noted that an individual's object-matter activities included implicitly, if not the real, then imaginary *Other*, with whom the individual reciprocated, and thus changed the social-psychological structure of their relationships, turning an impact into social interactions.

The subject-subject relationships within communicative activities presuppose the existence of the *Other* (a partner). During preschool childhood, adults and peers are central partners for inter-subjects interactions with *the Other in society*. Adults include family members and significant *Others* (educators or other people) (Abramenkova, 2000; Bayer, 2008; Moroz, 2011; Ruzska, 1988; Smirnova, 1980; Khokhlachova, 2010 etc.), who are important for children's socialization and development of their external communication activities. In addition, peers are also important, especially for children's experience in individualization and development of their abilities to internal communicative activities (Abramenkova, 2000; Bayer, 2008; Kalyagina, 1998; Kabachek, 2006; Karaseva, 2008 ; Lapchenko, 2006; Moroz, 2011; Pasichnichenko, 2003; Prykhodko, 1996; Ruzska, 1988; Repina, 1988; Smirnova & Kholmogorova, 2003; Utrobina, 1995, etc.).

2. THE GENESIS OF INTER-SUBJECTS INTERACTIONS WITH ADULTS CHARACTERISTIC FOR PRESCHOOLERS WITH NORMAL DEVELOPMENT AND DEVELOPMENTAL DELAY

Inter-subjects relationships with *the Other* inevitably includes two determinants – object-matter and personal. According to this approach, the object-matter determinant reflects important socially desirable qualities of other individuals: their knowledge, skills and abilities. Object-matter relations stimulate children’s assessment of these qualities and encourage their comparison with other people. The personal determinant means the holistic perception of another person as a source of activities, will, experiences.

Such an attitude is invaluable and creates internal links, as well as various forms of co-involvement (compassion, empathy, co-happiness).

Khokhlachova (2010) proved that parent’s attitudes to their children were a key factor for conscious communicative activity formation at the preschool age and determined communications between preschoolers and peers; at the same time, the dominance of object-matter determinants in relations to oneself and to the Other could be a source of certain communicative difficulties. Children could experience communicative difficulties because of their self-attitudes. If the object-matter component is dominant in self-attitude, it provokes difficulties in relationships with other people: children focus on their own values, so, ignore peers, which inevitably creates difficulties in communicating with them. Parents of preschoolers with communicative difficulties are characterized by the dominance of normative principles over personal attitudes in their relationships; such parents focus on the education of virtues and formal moral qualities; their style of education are austere. Parent’s focus on normative principles forms at their children a fixation on their own values, so that children see themselves as an object of evaluation, which prevents co-existence in relationships or cooperation with other children. The predominant objective attitude over personal one is a characteristic feature of modern parents’ relationships with their preschoolers. Thus, we can say that such inter-subjects relationships forms the predominant role attitude to *others*, and disregard the personal component in relationships with adults and peers. However, only the actualized personal component leads to reflective-meaningful and reflective-value communications, when *the Other* is understood and co-understanding takes place.

Special attention should be paid to research on the formation of inter-subjects relationships of preschoolers with developmental delay (hereinafter – DD preschoolers) with adults during family and societal education (Dudko, 2009; Zakharova, 2008; Krushna, 2010; Sagidova, 2003; Ulybina, 2005, etc.).

The social context of DD preschoolers’ inter-subjects relationships is presented by their interactions with educators at preschool educational institutions; such interactions are

determined by educators communicative styles, outlined in Ulybina's work (2005). Thus, the authoritarian communicative style affects the formation of such personal qualities at DD children as inadequate perception of adults, the desire for dominance and communications in large groups, alienation, increased hostility to group members, anxiety, experienced fear, etc. Conversely, the democratic communicative style contributes to DD children's positive attitude to their educator; striving for dominance in large groups, the expressed desire to communicate, medium social adequacy of their behaviour, favourable positions in their group; low anxiety, low proneness to conflicts with group members, weak feeling of inferiority, sense of confidence.

Zakharova (2008) determined poor mastery of communicative means at 80% of DD orphans and at 60% of DD children having families. DD orphans used nonverbal means more often than speech ones; their detailed speech was absent; such orphans used often emotional exclamations and expressive gestures. The particular characteristics of inter-subjects interactions in families were presented in the works of Dudko (2009), Krushna (2010). Dudko (2009) systematized the obtained data and identified the types of parents' interactions with DD preschoolers: depressing, formal and organizational. The depressive and formal types of interaction prevailed because parents misunderstood their children's psychophysical characteristics, were unable to communicate in correspondence with their children's, to achieve effective inter-subjects interactions.

Some works claimed that DD preschoolers did not have a holistic view of relationships in society, because they did not perceive parents as a parental couple, compared to children with typical psychophysical development (hereinafter TPD children) (Krushna, 2010), who had such perception. Similar results on the epistemological-affective function of communicative relationships with adults in families were obtained by Sagidova (2003): DD children developed an emotional attitude towards parents, close relatives, teachers and friends later than TPD children. In particular, an emotional acceptance of parents as a family appeared later; it was found that children with somatic DD had deeper need to communicate with friends, but children with psychopath-like DD had clear negative emotional attitudes towards their fathers and hypertrophied attachment to siblings, due to impaired social-psychological adaptation, their socialization at whole was shifted toward aggression and alienation from society.

3. THE EXAMINATION OF DD PRESCHOOLERS' INTER-SUBJECTS INTERACTIONS WITH ADULT AND RESEARCH RESULTS

The research on communicative activities involves the study on inter-subjects interaction with adults as a source of coexistence "here and now", which include attitudes toward a social adult in our study. Inter-subjects interactions with peers are studied as the

ability to recognize diversity of the Other’s values and meanings, including psychological mechanisms of cooperation: mutual understanding, coordination, external dialogues.

In accordance with the existential-subjective scientific approach (Becker-Weidman, 2016; Lyons-Ruth, 2006; Tomasello, 2008; Meltzoff, 1990; Stern, 1985 etc.), the inter-subjects component of communicative activities can be examined by combined cognitive and hermeneutic traditions of psychological research. This approach is relevant because of the fact that cognition and emotional attitudes are interrelated in inter-subjects interactions, and meaning processes are involved into interactions in addition to cognitive ones.

As for research methodology, the inter-subjects component of communicative activities can be described with operationalized parameters and indicators. Inter-subjects interactions with adults can be studied via attitudes toward a social adult (predominant needs and motives for interaction, emotional involvement in interactions, efficiency of communication, attitudes toward an educator).

The research sample consisted of 291 preschool children, 173 of them had developmental delay (85 middle-age preschool children and 88 senior preschoolers) and 118 preschoolers with typical psychophysical development (TPD) (58 middle-age preschool children and 60 senior preschoolers). Preschoolers were formed into four experimental groups: group 1 included middle-age preschoolers having developmental delay; group 3 included middle-age preschoolers with typical psychophysical development; group 3 included senior preschoolers with developmental delay; group 4 included senior preschoolers with typical psychophysical development.

The structural-level scheme of our empirical research on DD preschoolers’ communicative activities on the plane I - *the Other (I-Other Self)* is presented in Table 1.

Table 1. The structural-level scheme of our empirical research on DD preschoolers’ communicative activities on the plane I - *the Other (I-Other Self)*

Level (component) of communication activities	Functional parameters	Functional indicators (psychological mechanisms)	Examining methods
1	2	3	4
<i>Level of informational communication (inter-subjects component)</i>	Epistemological-affective	<i>Inter-subjects interactions with the Other in society (with adults)</i> Attitudes to a social adult (predominant needs and motives for interaction, emotional involvement in interactions, efficiency of communication, attitude toward an educator).	Lisina’s method studying children’s motives for interactions with adults; N.Semago & M. Semago’s methods for subjective assessment of children’s interpersonal relations (the questions concerning an educator’s role).

Attitudes to a social adult.

The ascertaining experiment studied a leading form and children’s predominant needs and motives for communications with adults. The obtains results are presented in table 2.

The first indicator - *attitudes to a social adult* (playing, listening of a fairy tale, conversation with an adult) - is the most important for qualitative analysis of the inter-subjects component of communicative activities.

Table 2. Data obtained with Lisina’s method studying children’s motives for interactions with adults (%)

Number of children, in % the total sample	Indicators											
	Attitudes towards a social adult			Emotional involvement into interactions			Ability to support effective communication			Duration of communicative activity		
	With SMF	With NSCF	With NSPF	High	Medium	Low	High	Medium	Low	High	Medium	Low
group 1	87,1	12,9	0	0	17,6	82,4	0	12,9	87,1	0	16,5	83,5
group 2	34,5	55,2	10,3	17,2	51,7	31,1	10,3	55,2	34,5	20,7	51,7	27,6
group 3	68,2	29,5	2,3	1,1	37,5	61,4	2,3	29,5	68,2	2,3	38,6	59,1
group 4	10	23,3	66,7	70	23,3	6,7	66,7	23,3	10	73,3	23,3	3,3
Significance of differences for U-criterion between group 1& group 2	<i>U_{emp} 1136,000 p =,000</i>			<i>U_{emp} 1125,000 p =,000</i>			<i>U_{emp} 1136,000 p =,000</i>			<i>U_{emp} 1002,000 P =,000</i>		
Significance of differences for U-criterion group 3& group 4	<i>U_{emp} 598,000 p =,000</i>			<i>U_{emp} 510,000 p =,000</i>			<i>U_{emp} 598,000 p =,000</i>			<i>U_{emp} 434,000 P =,000</i>		

Note: Significant differences are marked in italics.

We have determined that the leading form is playing with an adult, which correlates with situational, matter-of-fact communicative activities.

Thus, the leading communicative form for the vast majority of DD children was situational, matter-of-fact; this form is typical for younger TPD children. This indicates that DD preschoolers lag behind the age developmental norms for communicative activities with adults, as a result, their inter-subjects component is underdeveloped.

Emotional involvement into interactions. The obtained data showed that none of middle-age DD preschoolers behaved freely, showing interest in the study, none of them showed emotional involvement.

However, the vast majority of senior TPD preschoolers showed high emotional involvement in the study, their behaviour was free, they showed interest, unindifference to the study.

The *ability to support effective communication* was important for the analysis of the inter-subjects component. According to this indicator, situational, non-social statements of ascertaining character prevailed in speech expressions of 4-7 year-old DD children, who were characterised mainly by the situational, matter-of-fact- form of communicative activities. Such children mainly asked adults for help. At the modelled experimental situation, DD children did not show any desire for cooperation, the experimenter constantly activated forcedly children's attention. Middle-age DD preschoolers' contacts were mainly matter-of-fact. Such children were characterized by seeking help and support. At the same time, these children were satisfied with an adult's undifferentiated assessment; this fact indicates that they are needed only in an adult's attention as a communicative act. These children made cubes with special pleasure, addressing to the adult for the approval of their actions by nonverbal means (facial expressions, gestures).

DD children with situational, matter of fact form of communicative activities (hereinafter and in table 2 - SMF) demonstrated low development of communicative means. Their vocabulary was limited by everyday words, they had some speech disorders. These children preferred non-verbal expressive and mimic means of communication.

Cognitive contacts are revealed with questions about the qualities, properties and purpose of objects described in stories, presented by an adult. DD children had specific, original cognitive motives of communication; they did not show a steady interest in the phenomena of the surrounding world. The children mainly attracted adults' attention because they perceived the communicative situation as evaluative. DD children with non-situational-cognitive form of communicative activities (hereinafter and in table 2 - NSCF) used more often, in comparison with TPD children, expressive facial means, but their facial expressions did not reflect their desires. Thus, the majority of DD children with NSCF had situational personal contacts and used non-verbal communicative means.

The middle-age DD preschoolers did not show any *personal contacts*, and only 2.3% of the senior DD preschoolers had such contacts. Personal contacts were observed in situations of cooperation with an adult and were marked by diversity, children asked for assessment of their from peers, and assessed peers. In situations of cognitive and personal communications, DD children tended to describe illustrations from books offered for consideration, while trying to evoke adults' positive attitude to them. DD children used expressive facial communicative means (smile at an adult, laugh out loud for no reason) for personal contacts. By analysing moral situations, DD children with *non-situational-personal form of communicative activities* (hereinafter and in table 2 - NSPF) showed that they

understood ethical terms narrowly, it was difficult for them to actuate necessary knowledge. DD preschoolers, who chose personal conversations, showed negative personality traits (isolation, conflict, egocentrism). They showed willingness to analyze their knowledge of the world around them, they had personal motive to communicate and the need to understand each other with an adult, but they could not develop a communicative process, they only actively responded to the experimenter's suggestion to communicate.

For comparison, TPD preschoolers with SMF spoke speech expressions differentiated by topics, functions, content. TPD children's cognitive contacts were variable: a request to read, stories about what they saw, questions. These variable questions indicated broader and deeper cognitive interests. The contacts were mainly extra-situational, activated by personal motives.

Personal contacts were observed at 10.3% of middle-age TPD preschoolers and 66.7% of senior TPD preschoolers. These children demonstrated steady interest in moral issues, in the adult with whom they interacted, and the desire to evaluate and reconcile their attitudes toward the issues being discussed with the adult.

The next indicator of the inter-subjects component is the *duration of communicative activity*. This indicator is significant, because it indicates a stable need in communication with an adult. In addition, this indicator helps us to observe clearly the increased exhaustion of DD children's mental processes, expressed in lowered efficiency and increased fatigue during a communicative activity. Longer communication with an adult indicates a child's stable social interests, which stimulate their need for the most efficient, meaningful and long-term communication with an adult, who acts as a helper, friend.

Thus, the analysis of middle- and senior-age DD preschooler's indicator of communication duration showed that such children had small duration of communication with an adult. This is evidence that DD children did not need in communications with an adult; and in a communicative situation, where a DD child was a subject, and an adult was an object, the latter was an initiator of communications, constantly trying to interest the child.

The following indicator of inter-subjects component formation in interactions with an adult is *children's attitude to an educator*. This indicator allowed us to find out what setting determine DD children's attitude to their educators. According to the study, DD children showed some differences in attitudes toward the educator compared to TPD children.

In general, DD children were distributed as follows by this indicator: 24.7% of the middle-age preschoolers showed their commitment and positive attitude to the educator, they directly expressed a desire to be with her all the time at nursery school; 18.9% of the children showed a balanced attitude; 32.9% had contradictory attitudes toward her, and 23.5% of the children expressed their sympathies to a lesser extent, showed an alienated-

distant attitude. The senior DD preschoolers demonstrated some differences for this indicator, namely, 27.3% showed a positive attitude; 13.6% of the preschoolers expressed a balanced attitude, 34.1% of children had contradictory feelings, and 25% of children were characterized by an alienated-distant attitude to the educator.

At the same time, the middle-age TPD preschoolers had mainly a positive attitude to their educator (51.7%), as well as the senior TPD preschoolers (55%). A balanced attitude was characteristic for 39.7% of the middle-age TPD preschoolers and 33.3% of the senior TPD preschoolers. Contradictory attitudes were demonstrated by 3.4% of the middle-age TPD preschoolers and 5% of the senior TPD preschoolers. An alienated-distance attitude was demonstrated by 5.2% of the middle-age TPD preschoolers and 6.7% of the senior TPD preschoolers. Significant differences were found between the groups 1 and 2 as for their attitudes to the educator ($U_{emp} 1309,000$ at $p =,000$) and between groups 3 and 4 ($U_{emp} 1457,000$ at $p =,000$).

Thus, as for *the indicator of attitudes to an educator*, we saw mainly contradictory and positive attitudes of the middle and senior DD preschoolers. In contrast, the middle and senior TPD preschoolers had mainly positive or balanced attitudes to their educator. These data and high percentage of DD children with conflicting attitudes to their educator compared to TPD children demonstrated that, probably, relations in DD children's families were influenced by insufficient professional competence of the educator - special-needs expert who worked with preschoolers' families. The professional competence of such educators in the field of interaction with DD preschoolers' families can be improved under the condition of: mastered practical skills of the use of techniques for psychological and pedagogical family examination and counselling, for interview planning and interaction with families; developed professionally significant qualities of an educator: reflection, flexibility, empathy, emotional attractiveness and communicative skills (Dudko, 2009). Children's emotional attitudes to their educators mainly depend on their learning motivation and developed curiosity (Sagidova, 2003). Inadequate perception of other people by DD children and their negative attitudes toward subjectively significant adults have specific features depending their deficiency and the styles of pedagogical communication used with them. Inadequate perception of a significant adult slows down their interpersonal and communicative development, which, in turn, negatively affects their personal qualities (Ulybina, 2004).

CONCLUSIONS

1. We have examined the inter-subjects component of communicative activities in interaction with adults. The leading communicative form for the vast majority of DD children was situational, matter-of-fact; this form is typical for younger TPD children. DD preschoolers' contacts were mainly matter-of-fact. Such children were characterized by

seeking help and support. At the same time, these children were satisfied with an adult's undifferentiated assessment; this fact indicates that they are needed only in an adult's attention as a communicative act. These children made cubes with special pleasure, addressing to the adult for the approval of their actions by nonverbal means (facial expressions, gestures). This indicates that DD preschoolers lag behind the age developmental norms for communicative activities with adults, as a result, their inter-subjects component is underdeveloped.

This is an evidence that DD children did not need in communications with an adult; and in a communicative situation, where a DD child was a subject, and an adult was an object, the latter was an initiator of communications, constantly trying to interest the child.

2. As for the indicator of attitudes to an educator, we saw mainly contradictory and positive attitudes of middle and senior DD preschoolers. In contrast, middle and senior TPD preschoolers had mainly positive or balanced attitudes to their educator. These data and high percentage of DD children with conflicting attitudes to their educator compared to TPD children demonstrated that, probably, relations in DD children's families were influenced by insufficient professional competence of the educator - special-needs expert who worked with preschoolers' families.

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A NEW READING OF THE CLASSIC: MODERN METHODS OF KNOWLEDGE MANAGEMENT IN THE FIELD OF LITERARY THEORY

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ABSTRACT

We present our work as a continuation of the development of the theory of traditional plots and images. In our segment, the theory of TTPI is interpreted as a part of intertextuality, the personosphere, the narrative and their postmodernity specifics which are considered as modern methods of knowledge management in the field of literary theory. The transitivity of the plot in the aspect of the reception theory examined the phenomenon of culturological transit, cover the receptive segment of literary science and helps the professional development in the reading of generative models of classical literary plot. We aimed at the analyze of the modern literature in comparison with the legendary and mythological material that in the process of literary progress do not lose cognizance. The problematic of “Bulgakov’s tradition”, the development of which can be clearly perceived in the literature, necessitates a vigilant reflection. This would permit to comprehend the influence of the work on the literary progression. The impact of Bulgakov’s heritage on many writers with a global repute is irrefutable. His artistic novelty is appreciatively approved by outstanding writers – from Gabriel Garcia Marquez to Chingiz Aytmatov.

Key words: *knowledge management, professional development, the transit of tradition, classical plot, sequel.*

INTRODUCTION

Even Aristotle, in his “Poetics” practices the notion of the character defining the drama as a form of mimetic arrangement “viewing the protagonists as active people”. Aristotle (1983). Consequently, his declaration emphasizes the anthropocentric nature of the work of art. That is, the individual (protagonist) an integral part of the “sacred nucleus of culture” (the term E. Taylor). In addition to the convivial needs, spiritual values that complete the phenomenon of the gospel and the cultural sphere, the characters who have become traditional incarnate in the acknowledgement of new variants determining the personosphere. In the light of new tendencies, literary critics are looking for new, alternate ways of studying the gallery of traditional literary (general cultural) images that would be corresponding to the traditional tactic. Fruitful in this case and in the context of the set goals could be scientific achievements and the development of cognitive literary criticism, cognitive poetics, cognitive cultural studies, cultural anthropology. These methods may be suitable for the modernization of images of a certain era. Literature is thinking in images, while an image can be an income of semantic communiqué within a given culture or genetically related cultures; therefore, the study of literature is interesting in the imological

aspect as a system of cultural and cultural-specific images. The entirety of cultural connotations gives rise to images of a particular historical period or national literature, and these images form the personosphere – “the sphere of personalities, images, the sphere of literary, historical, folk, religious characters” Khazagerov (2002). The consensus of the spiritual continent has a spiral character. Some images are born, others come out of use and certain gaps in the spirituality of the era – the recipient comes to life dead characters.

The personosphere of a certain national culture is categorized by national-specific, foreign and transnational images (antique and religious) characters. The national vision of the world usually determines the character of the personosphere, while the personosphere itself is characterized by transformational flexibility. The reconsidering of the personosphere occurs first and foremost thanks and everywhere in the prism of the reception of the author and the reader, since the person / character is placed at the center of the national picture of the world and of culture as a whole, forming the sacred nucleus of culture. In view of the development of the personosphere of a particular culture, literature, country, we take into account its nominative aspect (the presence of one or another method in the national personosphere), and psychological and behavioral (national standards and ideals in the form of behavioral patterns, standards, stereotypes). To better understand the personosphere’s reception in the modern literature we should return to the question of the tradition, namely the TTPI.

1. LITERATURE REVIEW

The theory of TTPI in the milieu of modern methodological practices has led us to the study of the artistic typology, which has always focused scientists to search for genetic coincidence between the use of a large number of traditional phrases, images, methods, motifs, techniques, etc. It is the analysis of the establishment of the contours of the theory of traditional plot and images (TTPI) that reveals its importance in the genre system. The function of the personosphere in the development of the integrity of the literary text reveals the question of the weight of characters in the new, generated by the original plot of the text. They can radically change the whole storyline of the new version; transform the functional weight of each of the actors of the traditional plot. The specificity of the personosphere appears in the genre system, since the totality of characters, their weight in the new, generated by the original plot of the text can radically change the whole story plot of the new version, when it can change the functional weight of each of the performers of the traditional plot. The naratological vector in the genre system highlights the narrative concept, which focuses on communicative discourse and epicentralises in the author-reader dialogue with the help of artistic text.

The traditional approach of studying TTPI is usually a zone of historical poetics and comparative studies. However, modern science demands changings in this traditional perspective. Against the environment of scientific innovative approaches, it seems interesting to return to the rituals-mythological postulates and, in particular, to W. Turner's thought that "The traditional culture is a complex system whose center involves beliefs, customs, rituals and its bearers". The fact of anthropocentricity of culture, gives let us speak about the person-centeredness, since at all times the center of the existence of different cultures was a certain sacred character, a figure of the divine pantheon, which identified ethnos. Thus, it seems that the central zone of culture is the personosphere.

The personosphere is a very significant structure both for the modern humanitarian science and for the genre system of the novel. It is about structuring the text of the novel at the level of interconnection of characters. In spite of the fact that the concept of the personosphere arose even at the time of antiquity (Plato), it would be worthwhile to consider this concept in the perspective of continuing the scientific thought of Likhachev (1998) on the concept of the language, which is based on the development of Y. Lotman's semiosphere and on the teachings of V. Vernadsky about the noosphere and the biosphere.

Vernadsky (2004) considers the biosphere as "the only area of the earth's crust that is occupied by life". The scientist accentuated the influence of man on nature and the fact that this is the main geological creation force and that "under the impact of scientific thought and human labor the biosphere becomes a new dimension – the noosphere" Vernadsky (2004). The noosphere, in turn, is a reflection of all spheres of human activity, and in this case, the culture serves as an "important element and main factor of the evolution of the noosphere". Guided by the reflections of Vernadsky, Yu. Lotman, introduces the notion of the semiosphere – that is the space "of enactment of the communicative processes and the development of new information" Likhachev (1998). In turn, the "conceptual sphere" of D.S. Likhachev (the totality of potency that opens in the vocabulary of an individual, which forms the conceptual sphere of culture as such) is a motivation for the development of the concept of the "personosphere" for G Hazagerov Lotman (1998).

It should be noted that the problematic of the personosphere still does not have its own discourse. Only researchers such as G. Hazagerov and L. Heckman differentiate this concept as an independent entity. N. Nikoryak considers the personosphere as its film-specific character Nikoryak (2011).

G. Hazagerov introduces into the scientific use the notion of "personosphere" – "the sphere of personalities, images, the sphere of literary, historical, folklore, religious characters. Proceeding from this, one can speak not only about the national personosphere, but also about the personosphere of an individual, a social group" Khazagerov (2002). The position of the scientist logically echoes with the postulates of the reception theory, because

it has the character of the personosphere to draw parallels and meridians to the reader's inner "I" which always relates itself to the characters of the personosphere, compares itself to them, here it is a process of immanent perception of information. Actually, the inner "I" draws parallels in a certain way, which pulls the meridians to a whole circle of characters. For instant, I compare myself (parallel to myself) with Bulgakov's Margaret, and so I reflect in the memory of all the surrounding her characters (Master, Gella, Voland, etc.).

Accordingly, the personosphere is a certain circle of images, characters, personalities. In this viewpoint, the universality of the abovementioned concept and its ability to reflect certain cultural-historical realities, to the specification of representations, comprehension of values, formulation of concepts and elaboration of generalizations should be noted.

The personosphere is considered as "a specific set of objects that can be defined as characters" Chervinska (2008). Literary vocabulary for this concept uses the phrase literary hero, actor, and others like that. It seems that the use of the word character is the most neutral and more used. Despite the differences in the terminology toolkit, we emphasize the primary function of the notion of "character" in the vector of receptive theory.

2. THE PERSONOSPHERE AS INTERTEXTUALITY DEVICE

As we had mentioned our work focuses as well on the search of modern literature appeal to the legendary-mythological material, which is supposed to be a tentative to the formal renovation of the past. The focus of the article also consists in finding new attempts to live out the past, to comprehend it in a qualitatively new spiritual context, to find new links between different eras, and to model variable ethical potential of social progress. Various structural and semantic links that in the process of literary evaluation do not lose recognition are described. The material of the research is the novel "Master and Margarita" by Bulgakov, Aitmatov's, Kulikov's and Ruchinsky's novels. The object is to compare and identify differences and general points of major complexes of evangelical images and motifs. The concep of these novels is clearly established to convey the general points of major complexes of traditional biblical imagery.

The experience of the past leaves its marks on the creativity of each artist. This experience is expressed in the frequency of the use of traditional fables, images and motifs. All of them need a certain structural hierarchy, since they are numerous.

The topic of "Bulgakov's tradition", the development of which can be clearly seen in the literature, requires careful attention. This would allow one to understand the influence of the work on the literary process in several periods. The impact of Bulgakov's genius on many writers with a worldwide reputation is undeniable. His artistic innovation is gratefully acknowledged by outstanding writers.

The twentieth century was a spinning point for humanity and actually in literature. More than a decade, “Bulgakov’s novel” satisfied the needs and search for his followers. Prose and drama by M. Bulgakov are a prominent echo of the drama of the time, and the author’s own destiny. In the last years the modern comparativists dedicate more attention to the problem of transformation in legendary and mythological structures. The specifics of these processes suggest the necessity to study several phenomena in different national literatures. The problematic of functionality of mutual cultural traditions in the national literature is significant concerning intercultural dialogue. The work of some foreign followers of M. Bulgakov suggest that the study of his work to a lesser extent depended on the ideological stereotypes, as it was in Soviet literary criticism, where the main objective was to demonstrate the social position of authors.

However, the characteristic of the literary tradition embraces not only the literary circle of the sequence in the context of a “small time” stories but does not disregard the “big time” – artistic philosophy. The synchronicity of times in Bulgakov’s artistic universe accentuates his ultimate uniqueness as a writer. Considering the work of Bulgakov’s followers the opinion of A. Nyamtsu would be appropriate to mention, that as a result of substantial contamination of a number of traditional motifs, images, details and archetypal myths combined with the universal chronotope simulates the text in ontological plans and accumulates universal cultural “memory” of traditional structures, axiological characteristics and obtain an emphasized contemporary sound Neamtsu (2001).

In M. Bulgakov’s works as well at his followers coexisted the whole epochs that diverge as theater sets before the reader. A prominent example is the work of Chingiz Aitmatov, where he brings together the past, present and future, reflecting in a “miniature” the novelistic narrative methods introduced by Mikhail Bulgakov. There is an internal typological association between the “metaphor” of Aitmatov and the “metatext” of Bulgakov’s novel. Aitmatov’s evangelical chapters are more precise in the transmission of the evangelical material and filled with details in comparison with “Master and Margarita”. The contamination of Bulgakov’s evangelical canonical version of the life of God’s Son is the result of the artistic brilliant imagination. In this way, the notion of novels “Master and Margarita” and “Scaffold” clearly conveys the meaning of the main midpoints of traditional biblical images. The authors claimed to an original reading of motivational axiological dominants of the main characters of the New Testament and they manage to generate an unusual version of the Gospel material. In this milieu, we can talk about the functional identity in the “similar” artistic methods, though it is more precise to call this process of projection of artistic philosophy of the author. We are talking about the potential of cultural scientific work that may be artificial and organic. In the novel “The Master and Margarita” and “The Scaffold” it is clearly seen in the contrast. These works are of a mutual importance

of the text and reality. Intertext components intermingle and demonstrate the character of the further development of conflict. There is a “objectification” of the legendary mythological context and the socio-historical reality is visible. “The polyphony” of cultural sequences that arises here, gives the author axiological gnoseological additional prospects in the creation of a literary text, and for readers – a wide range of interpretative understanding of the work. In any case, both novels are an admirable example of a powerful artistic thought. We can say that it is an important point, which largely takes the narrative style of modern “gospel” is the distance between the sacred time and art Bronskih (2015).

In modern versions of the traditional structures special motivational significance is given to those aspects that are usually of little interest to the authors in the making of motives. As correctly pointed out A. Niamtsu, traditional structures contain the most general form of artistic and socio-encoded historical, ideological and moral-psychological laws of universal life in their interconnectedness and interdependence of the content Neamtsu (2002). The concentration of centuries of individual and collective experience in the traditional plot-shaped material has led to consistent updating of its behavioral and axiological orientation in the context of further literary interpretations that addresses the existential conditions of the person and society by means of artistic modeling and understanding the opposition to the good-evil individualistic “Ego” – universal “we”, the life-death. Therefore, most of the new literary version of the traditional structures act as a sort of ideological and aesthetic catalysts that transform the causal relationships and motivation of what is happening in real or simulated artistic reality give it a universal ontological meaning. For Bulgakov’s followers it is important not only to preserve the newly created ontological reality, but to realize the consideration from an artistic point of view of the mechanisms of formation of degradation dehumanizing society.

The transitivity as a genrological factor of intertextuality highlights issues of intertextuality as a rather complex and mosaic phenomenon. The strategy of our study solidarizes with the theory of communicative-discursive analysis (in the segment of narratology) that combined with the principle of intertextuality, too literally, the adherence to the adequacy of reading does not make sense of any communication. In our opinion, the vision of reading is very important on the basis of a well-understood methodological basis. In our case, we favor J. Jenett’s proposals. In the strategy of our research, we solidarize as well with the theory of communicative-discursive analysis (in the segment of narratology) that, in relation to the principle of intertextuality creates the sense of the communication. In our opinion, it is important not only to interpret the phenomenon of intertextuality in different schools, but, in fact, the very vision of reading on the basis of a specifically well-understood methodological basis. The scientific significance of the concept of intertextuality corresponds to the deep demands of the modern era with its attraction to a

radical renewal of the entire genre of literature. The time-space function in the aspect of genre metamorphism as a form of intertextual experimentation confirms that the time-space coordinates determine the plot of artistic text. Cognizance of the author's narrative and functional principles of the personosphere in terms of time and space contributes to the immanent reception of an artistic work. Hereafter, the analysis of the artistic nature of time space, the signs and ways of expression in the novel "Master and Margarita" and in his novel-continuations arises. Classically the postmodernism is characterized by modification of archaic genres, forming new, derivative, "secondary" (E. Vasiliev's term) forms. Therefore, the borrowing of traditional material in the following interpretations may pass into a zone of another literary genus. Regarding Bulgakov's "Master and Margarita" it is a fairly frequent practice.

The constructive functionality of the personosphere and the narrative in the formation of intertextual metagenres, indicates that the system of genres, being influenced by the practice of intertext, today looks like a combination of numerous deformed genre modifications. In relation to the drama, this question unfolds E. Vassiliev, but his classification conclusions have a general theoretical meaning. Bulgakov's novel "Master and Margarita" is a specific example of most of the preceding forms, which testifies to its high creative potential in the formation of new, metagenres forms. The personosphere of this novel, which, as it has been seen, itself is remixed from various stories, in turn, it gets a continuation in postmodernist samplings, which appear below the texts by V. Ruchinsky and V. Kulikov.

M. Bulgakov, as a classical writer, who was formed in a time of crisis and a tumultuous space, had to not only inherit the tradition, but also zealously guard her from unmotivated literary blasphemy of radically new times. It is he who, in his creative attitude to classical material and his alterations, is a bright representative of the "caste of guardians of the tradition". His last novel, which has absorbed a colossal literary heritage – from legends to classical material, undoubtedly, henceforth, gives us the right to identify this main Bulgakov's text as a metanovel Merezhinskaya (2002).

The functionality of classical models and their reminiscences at the reception of the writer appeals to the question of intertextual recollections in the work of M. Bulgakov. In the context of the TTPI theory, we analyzed the influence of M. Gogol on the work of M. Bulgakov. It is about modernizing Gogol's text, which is made possible by the numerous microstructural components. In addition, we drew attention to Gogol's theatrical interpretations, in which the veiled question of actualization of classical material. In his feuilleton "Adventures of Chichikov" the writer mixed the most flamboyant heroes of M. Gogol, and with the help of the past, he ridiculed the reality of that. In his novel M. Bulgakov creatively embodied the paradigm of three worlds: earthly, biblical and

cosmic. The first are people, others – biblical typescripts, the third is Wolland and his world (infernal characters). Consequently, each of the attraction characters of these worlds forms its own personosphere. The personosphere of a novel clearly forms binary dichotomous pairs, which is characterized by a semantic opposition. The author separates his heroes in pairs. The personosphere of the novel clearly motivates the comparative intent of the reception. And love is an attractional epicenter of the personosphere of the novel. This God's gift (or its absence) determines the actions of all characters – somewhere in a paradoxical way. We can conclude that the personosphere itself, based on a certain plot, forms a new plot. In the light of this issue, it should be noted that in the literature there are images of historical origin (as a kind of traditional images). Such images can reach the mythological sources and the Holy Scriptures. One considers the version of the demonic character of literary satan on the examples of its prototypes in terms of the Bulgakov-Ruchinsky-Kulikov triad.

M. Bulgakov's creative novelty has pushed many contemporary writers to various postings, extensions and variations. In the novel by V. Ruchinsky "The Return of Voland, or the New Devilish", we state the use of the Bulgakov's tradition in contamination with other classic traditional motives. According to its formal features, the title work can be attributed to the genre of sequel. In the sequel V. Ruchinsky there is a recontextualization of the intercultural literary process. In the imitation of contemporary writers of the motifs of Bulgakov's text, the emphasis is transferred from the event-narrative plan to the development of the inner world of heroes through personal narratives, which become the expressions of modern ontological and existential problems of mankind. This two-way process generates invariants of the prototype with new original versions and behavioral as well psychological, respectively, specific narrative structures Namestyuk (2018).

The intermedial components, which in the context of the work obtain originality, content and conceptually follow the author's objective. The ancient literary form of "plot in the plot", initiated by M. Bulgakov, the uniqueness of his version, rapidly becomes the subject of imitation. The specific story-compositional organization of the personosphere, the diversity of ontological plans and storylines of this text, focused on the then-present, has become a literary standard.

Nevertheless, the aspect of the literary tradition comprises not only the literary circle of the sequence in the context of a «small time» stories but does not disregard the «big time» – artistic viewpoint. The coexistence of the times in Bulgakov's artistic universe accentuates his essential exceptionality as a writer. In view of the work of Bulgakov's followers especially the opinion of A. Nyamtsu should be mentioned: «as a result of substantial contamination of a number of traditional motifs, images, details and archetypal myths combined with the universal chronotope one simulates the text in ontological plan

and accumulates universal cultural “memory” of traditional structures, axiological characteristics as well obtains an emphasized contemporary sound Neamtsu (2002). In the feature of the inspiration of “Master and Margarita”, we studied the Ukrainian page, which consists of a number of extremely original works typologically related to the theme of the well-known novel. For example, V. Vynnychenko’s novel “Freckle Mephistopheles” (1917), V. Zemlyak’s “Swan’ pack” (1971), V. Drozd’s “Lonely Wolf” (1983). These texts are well-interpreted by literary critics.

The literary process of the twentieth century is characterized by an intensification of attention precisely to the complication of the epic storyline, the desire to compare different models of the personosphere system of the text, which generates new genre forms – in particular, those where variations are created with continuation, shortening, deformation, etc. Specific examples of the deformation of the genre model in the context of the demands of postmodernism, in particular, are the following sequels of Bulgakov’s novel, as already mentioned in the first chapter “Return of Voland, or the New Devilish” by V. Ruchinsky and “The First of the First, or the Road from the Bold Mountain” V. Kulikov. The richness of the intertextuality of the novel by these sequels became ones of the productive attempts of artistic rethinking of the work of M. Bulgakov. The deviation of the derivative of the personosphere describes the time-spatial specificity of V. Ruchinsky’s novel, which is reflected in the quasimetry of the participants of the personosphere of texts: the reader, fixing similar elements of both samples, can notice their principle contraversion. Thanks to the author’s use of thin reminiscences and allusions, the reader reveals a paradoxical divergence among the identities between the borrowed texts.

On the example of two iconic traditional characters “Master and Margarita” the transformation of the Bulgakov’s personosphere in the text of the post-Soviet times was considered. The image of Valery Gryazhskaya from the novel by V. Ruchinsky should be considered in a triple frame: the biblical Mary Magdalen – Bulgakov’s Margarita – Valery. The outlined triad is explained by the set of allusions and reminiscences that arise in the reader, the logical attempt to read the palimpsests (J. Jenett’s term) of this work. We investigated this aspect in V. Ruchinsky’s novel, considering the contamination of the content characteristics of the traditional character of Faust and the legend of Walpurhiev’s Night in the behavioral, value and stylistic orientations of classical authors (Goethe, Gogol, Bulgakov) Namestyuk (2018).

The interpretation of a loud plot is an immanent quality of postmodern reality. Finally, we considered V. Kulikov's novel as an example of postmodernist text generation from a well-known, traditional, primitive text. We considered him in the aspect of the chronotop of the Bold Mountain – a place where all infernal is found, the opposition of

Calvary is an obvious antithesis of Calvary, on which Christ was crucified, the antithesis of the unclean. It is based on the principle of antinomy.

The difficulties of using the intertext in the light of postmodern requests are considered. In contradiction of the background of the universal postmodern worldview, the sign: polyphony, the perception of the world as a multidimensional, convergence of historical epochs, an ironic attitude to the written, one considers the sequels as examples of the postmodernist deformation of the genre, which indicates a constant transformation of the narrative forms Potebnya (1998). The roman-sequel by V. Kulikov “The first of the first, or the Road of the Bold Mountain” in the context of Bulgakov’s experience, testifies that the preservation of the main characters of the personosphere plays an important role in shaping the dynamic continuation of the original strategy of the story. The model of the personosphere of the sequel by V. Kulikov is determined by the equality of such two attractions as the classical antinomy “the good” and “the evil”.

This sequel is adapted in accordance with the typical genre features of common romance, consisting of characteristic feathers. This, in particular, the ball, as an event centripetal point of the logic of deployment of events; the playful love triangle of the sequel, which in V. Kulikov’s text acquires the signs of a philosophical parable; the section of temporal anachronisms borrowed from the Bulgakov’s primary source, which enables time-space movement of characters in time. The specificity of the postmodernist narrative in the sequel by V. Kulikov labels the functions of quotations in postmodern writing, which play an integrating role in the practice of the narrative on the example of the prototype personosphere of this sequel. The specificity of the postmodern narrative, accordingly, is transformed depending on the metamorphic model of the personosphere of the sequel. Transformation occurs due to the presence of eclecticism Namestyuk (2017).

CONCLUSIONS

We investigated not only the modern methodological practices. In our labor, the theory of TTPI is interpreted as a segment of intertextuality, personosphere, narrative and their postmodern specificity. The sequels by V. Ruchinsky, V. Kulikov as well by Ch. Aytmatov were reviewed. At the level of the personosphere, the named authors metamorphize the genre matrix of the novel “Master and Margarita”, while maintaining recognition. It is the personosphere, that on the basis of a certain plot, each time determines the specifics of a new plot. V. Ruchinsky consciously deforms the Bulgakov’s model of the personosphere due to deviations in the plot.

Using the example of V. Kulikov’s text with Bulgakov’s plot of the well-known novel, it is noted that the preservation of the main characters of the personosphere plays an important role in shaping the dynamic continuation of the original storyline strategy.

The elliptical model of the plot in a postmodern text allows a change in the interpretation of prototext. Translating the events of the genius novel into a new modernity, the authors showed the generative potential of the classics. All this is aimed not only at the reflection of the worldviews of his time, but also, in his creative program, works to reformat the borrowed genre pattern into a specific, different genre form – a sequel. Chingiz Aitmatov, in which he conveys the past, present and future, reflecting in a “miniature” the novelistic narrative methods introduced by M. Bulgakov. There is an inside typological rapport between the “metaphor” of Aytmatov and the “metatext” of Bulgakov’s original. We pronounced the transformation of the cultural heritage of M. Bulgakov in Aytmatov’s literary attainment. The material of our research is Bulgakov’s novel “The Master and Margarita” and “The Scaffold” by Ch. Aytmatov. In this context, the object of the work is legendary and mythological structures that provide a variety of forms and methods of the usage of the literary heritage of Bulgakov. Reliant on the remoteness of the conception and epoch recipient a traditional motive or image is modified. In our case, the standing of the novel “The Master and Margarita” in the interpretation of Aytmatov is not decreasing despite the temporal aspects. The aim was to identify how this novel can be attributed to the rare, single interpretations (continuations), where the writer tells about the future life of Bulgakov’s characters in the twentieth century. V. Ruchinsky consciously deforms the Bulgakov’s model of the personosphere due to deviations in the plot.

Using the example of V. Kulikov’s text with Bulgakov’s plot of the well-known novel, it is noted that the preservation of the main characters of the personosphere plays an important role in shaping the dynamic continuation of the original storyline strategy. The elliptical model of the plot in a postmodern text allows a change in the interpretation of prototext. Translating the events of the genius novel into a new modernity, the authors showed the generative potential of the classics. This sequel is styled in agreement with the typical genre structures of ordinary romance, consisting of characteristic feathers. This, in specific, the sphere, as an incident centripetal point of the logic of arrangement of events; the lively love triangle of the sequel, which in V. Kulikov’s text gets the signs of a philosophical parable; the section of temporal anachronisms hired from the Bulgakov’s key source, which qualifies the time-space movement of characters in time. The peculiarity of the postmodernist narrative in the sequel by V. Kulikov defines the functions of citations in postmodern symbols, which play an assimilating role in the practice of the narrative on the example of the prototype personosphere of this sequel. The specificity of the postmodern narrative, consequently, is transformed depending on the metamorphic model of the personosphere of the sequel. Transformation occurs due to the presence of eclecticism.

Transitivity as an aspect of genrological deformations is closely related to the intertextuality as a rather complex and mosaic phenomenon. The structure of our study is based on the theory of communicative-discursive analysis (in the segment of naratology) that, in kin to the principle of intertextuality, too accurately, the devotion to the adequacy of reading does not make sense of any message. In our opinion, the prospect of reading is very important on the basis of a well-understood methodological basis. In our case, we prefer to follow theoretical dogmatism of narratology. In the tactic of our research, we agree as well with the theory of perception (in the segment of narratology) that, mixed with intertextuality's component brands the sense of the reading. In our opinion, it is important not only to infer the phenomenon of intertextuality in different schools, but, in fact, the very prospect of reading on the source of a specifically well-understood methodological basis. The scientific significance of the concept of intertextuality corresponds to the deep demands of the modern era with its attraction to a radical renewal of the entire genre of literature. The time-space function in the aspect of genre metamorphism as a form of intertextual experimentation confirms that time-space coordinates determine the plot of artistic text. Consciousness of the author's narrative and practical principles of the personosphere in terms of time and space underwrites to the immanent reception of an artistic effort. So, the analysis of the artistic nature of time space, the signs and ways of expression in the novel "Master and Margarita" and in his novel-continuations arises. Typically, postmodernism is characterized by modification of archaic genres, forming new, derivative, "secondary" forms. Therefore, the borrowing of traditional material in the following interpretations may pass into a zone of another literary genus. Regarding Bulgakov's "Master and Margarita" it is a fairly frequent practice.

All this is aimed not only at the reflection of the worldviews of his time, but also, in its creative program, works to reformat the borrowed genre pattern into a specific, different genre form – a sequel.

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STATE POLICY REGULATING SUPPORT OF TALENTED CHILDREN IN UKRAINE

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ABSTRACT

Article containing to review key legislative acts of Ukraine that set standards for children's right to comprehensive development, disclosure and implementation of their abilities and talents. The detailed analysis of these documents and the actual state of observance of children's rights in the educational field was accomplished. It is stressed that for the development of a system to identify gifted students the particular importance in facilitating of self-fulfillment acquire extracurricular education institutions. The Decree of the President of Ukraine refers to expanding of network of extracurricular education institutions, small territorial academies of sciences and their financial maintenance; modernization of educational-methodological and material-technical bases. Education and upbringing of talented children is essential for creating a database of intellectual and creative resources of Ukraine. Therefore supporting them at a legislative level is one of the priorities of our state policy. Indicated the problems that are an obstacle in achieving this goal. Substantiated that the priority importance is improvement of state policy in the field of infrastructure provision, territorial availability, and improving the quality of institutions, introduction of modern technologies, scientific and methodological support, improvement of work with pedagogical personnel. Determined the main tasks of state policy in this area.

Key words: *gifted children, public policy, legislation, education.*

INTRODUCTION

Our country needs innovative human capital for its development and prosperity. Therefore, it is especially important for Ukraine to identify and support talented children, gifted students. To achieve this goal, it is necessary to have properly formed effective state policy, legislative framework, creation of social environment favourable for education of individuals with a high level of creativity, creating conditions for realization of talent and achievement of results.

Scientists pay considerable attention to the methods of working with talented children in education system. Zvierieva dealt with social and pedagogical problems of support, adaptation and development of gifted children and youth [1]. Methodical aspects of organization of social and pedagogical support of intellectually gifted children were described by Walsh, Bowes, & Sweller emphasizing that one of the priority directions of state educational policy is taking care about gifted and talented young people, their creative, intellectual, spiritual and physical development [2]. Kapska described the technology of social and pedagogical work with families [3]. Iliyuchuk pointed out peculiarities of school work with gifted children [4]. Regulatory-legal and socio-pedagogical aspects were studied by Bokov, Tonkikh, Khudiakova [5].

Younger generation demands have to be reflected in the system of state administration properly. Giftedness is becoming one of the most important issues of state policy, defining identification, education and upbringing of talented children. However, Boichenko says that creating conditions for their development and realization is considered by Ukrainian researchers quite doubtfully [6]. In scientific thesis, R. Naumenko proposed solution to this problem, which lies in scientific and theoretical justification of mechanisms for state regulation of extracurricular education, which contributes to identification and development of talented children [7]. Practical aspects of state administration development at different levels in education sector, consideration of the problems and prospects for the development of gifted youth in Ukraine, the development of forecast projects for the formation and implementation of state policy in the field of teacher education were studied by Dubkovetska, Budnyk, Sydoriv [8]. As for the levels of education defined in legislative sector, they are represented in scientific works disproportionately. The biggest number of scientific works is devoted to higher education, several of them define vocational education, only one deals with extracurricular education and none of them is dedicated to preschool education [9-10]. Insufficient interest of scientists in the youngest citizens of our state doesn't give any reason to consider that management at first education stage is done at perfect level and gives positive results. It is the younger generation that should be focused on to reveal children's talents.

1. A "KNOWLEDGE ECONOMY" BASED ON CREATIVITY, SKILLS AND TALENT, AND THE USE OF INTELLECTUAL PROPERTY

Despite significant number of scientific works, the studied issue in education system was mainly considered from the point of view of psychological and pedagogical sciences and administrative management in the context of improving educational process content. Theoretical and methodological scientists developments in public administration are mainly devoted to certain aspects of this problem, and therefore require further development and indepth study.

State authorities tasks are to develop and implement the Concept of formation of national elite in Ukraine that should determine priority directions for young generation education, which include patriotism, purposeful training of talented youth, formation of their leadership skills, organizational skills, national-democratic worldview based on democratic, moral and national values.

At present, we might see reduction of traditional dominance of material production in economies of developed countries, and dynamic industries of post-industrial economy are developing on the basis of "knowledge economy", including cultural or creative activity industries derived from individual creative potential, skills and talent, and have potential to

calculate costs and job places through production and usage of intellectual property. Moreover, cultural activities and cultural industry are recognized as the core around which development of other sectors of economy revolves [11]. Human potential is a measure to indicate human's abilities, talent, level of education, qualifications and their ability to generate income [12]. The World Bank also includes in this concept health condition and food quality. Giving employee free right to offer their labor at their own price, market gives them opportunity to make demands for full payment for their talent, ability, qualification, diligence, work experience [12].

Even before declaration of independence in May 1991, Ukraine adopted the Law on Education [13], where Article 6 states that one of the main principles of education in Ukraine is availability of educational services and equal conditions for full realization of abilities, talent and comprehensive development. And only 9 years later, in June 2000, the Law on Extracurricular Education was passed, where in Article 8 the main task of one of the items is to find, develop and support capable, gifted and talented pupils, students and listeners; as well as improvement of physical development, training of sportsmen for national teams of Ukraine in various kinds of sport. According to Article 12, creative associations of extracurricular educational institutions are classified into three levels, where the highest level is an association of interests for gifted and talented children. Article 15 defines directions in which extracurricular education can be carried out. In particular: research and experimental, which helps to create conditions for creative self-improvement, identification, development and support of young talents and gifted students, involving them in scientific and research, experimental, design, inventive work in various fields of science, technology, culture and art [14]. The last version of this law took place in October 2020, but no changes were made for talented children [15].

The updated law of Ukraine "On Education" (draft from 04.04.2016) includes an article on extracurricular education, which should provide training, education, development and socialization of children and youth in order to develop abilities and talents, acquisition of primary professional skills and abilities necessary for further self-realization and professional activity. Article 23 on particularly gifted children states that central executive body may establish national specialized institutions to ensure completion of secondary education by children who have shown special abilities and talents in mathematical, natural sciences, music, arts or sports [16]. Education admission to these institutions is on a competitive basis. In October 2016, the Ukrainian Parliament adopted the draft law in first reading.

Concerning the measures for developing a system of identifying and supporting gifted and talented children, the President of Ukraine issued Decree stating the following:

- take measures to expand number of extracurricular educational institutions: for young people and solving problems with location of territorial Small Academies of Sciences, their material and technical and financial support;

- to make decision in accordance with established procedure concerning modernization of material and technical and educational and methodological base of existing extracurricular educational institutions to work with gifted and talented student's youth;

- local state administrations have to introduce a system for encouragement and support students, who have won All-Ukrainian Student Olympiads, competition-defense of scientific researches, members of Small Academy of Sciences of Ukraine, including allocation of appropriate financial awards and scholarships [17].

Presidential decrees are of great importance for preserving and reproducing cultural heritage of the Ukrainians, creating and disseminating cultural values, providing financial support to the best art groups, individual artists, talented creative youth by providing presidential scholarships, grants [12].

State financial support for gifted students is provided in the form of:

- awards from Cabinet of Ministers of Ukraine for special achievements of student youth in development of Ukraine (awarded to young people whose special achievements contribute to the development of social and economic life of Ukraine and establishment of its international authority);

- grants from the President of Ukraine for gifted students are financial support provided by our state to gifted students, which is provided in order to implement socially significant creative projects in social and humanitarian sectors.

Grant might be received by any citizen of Ukraine aged from 14 to 35. To participate in the competition, applicant must submit application to Ministry of Ukraine no later than March 1 of the year, accompanied by a project registration card, project description, cost estimates, lens certificate and two letters of recommendation. The Ministry submits grant proposals to Cabinet of Ministers of Ukraine by October 1 of each year together with conclusions of Expert Council. The President of Ukraine appoints grants and sets their amounts by November 1 of each year.

In 2000, Decree on Grants of the President of Ukraine for Gifted Youth was issued, which states: "To establish 30 annual grants of the President of Ukraine since 2001, to increase their number to 60 from January 1, 2005. The maximum amount of each grant should not exceed UAH 75,000" [18]. Decree was amended every two years. However, in 2002, "in order to enhance procedure of awarding talented youth with annual grants" [19], amount of support, for unknown reasons, was reduced by UAH 25,000 from each grant.

In 2004, legislative framework condition improved - number of annual grants for the next year was planned to increase to 60, and amount had become UAH 75,000 again [20]. Two years later, it was said: “Appointment of grants and establishment of their amounts is carried out by the President of Ukraine on the proposal of Cabinet of Ministers of Ukraine.” Their number and amount were not fixed, but grant recipient had to submit a report for allocated funds expenditure in accordance with procedure established by the Ministry and specified in the contract [21], and the Ministry annually informs the President of Ukraine and Cabinet of Ministers of Ukraine about implementation of creative projects, which funds were allocated for.

During the following years number and amount of grants had never been determined, and in 2016 only 13 significant creative projects in social and humanitarian sectors were allocated [22]. Amount for each grant was determined individually and ranged from UAH 23,000 to UAH 75,000. In 2019, it was decided to give grants to 59 young scientists of our state. It is stated that the maximum amount of each grant cannot exceed UAH 75,000 [23]. Thus, tracking hryvnia inflation since 2000, allocated amounts had been reduced by at least 5.5 times by 2019.

Table 1. The President of Ukraine grants for gifted youth

Years	Number of grants	Ammount of each grant / UAH	Exchange rate of UAH to US dollar
2000	30	75 000	5.0
2002	Not specified	50 000	5.0
2004	60	75 000	5.4
2006	Not specified	Not specified	5.4
2016	13	from 23 000 to 75 000 UAH	25.5
2019	59	75 000	24.5

Source: [23]

On the positive side, Verkhovna Rada of Ukraine obliged Cabinet of Ministers of Ukraine to inform about implementation status of Recommendations of parliamentary hearings on the topic: “Family policy of Ukraine - goals and objectives” by April 1, 2016 [24]. To control implementation of this resolution was given to Verkhovna Rada of Ukraine Committee on Family, Youth Policy, Sports and Tourism. Hearings recommendations indicate necessity to amend some laws of Ukraine to support talented children and youth. As well as to develop methodological support for diagnosis and development of giftedness, creation of favourable conditions and implementation of projects and programs for physical, mental, social, spiritual and intellectual development of gifted children, their legal and social protection.

2. REGULATION OF SOCIAL SKILLS OF GIFTED AND TALENTED CHILDREN

Institution of family is an important part of community, where children are grown and brought up, personality and individuality of every person is formed. At the same time, accumulated over the years issues about conditions of economic instability and socio-political changes in Ukrainian society have become even more acute in recent years due to Russian aggression, which has led to armed conflict and difficult economic situation. Social citizens situation has significantly declined. Parents are forced to focus more on finding additional income, so little attention is paid to children and their upbringing. However, circumstances in Ukraine should not affect the younger generation. We consider Cabinet of Ministers of Ukraine approval of State Targeted Social Program of Family Support until 2016 as a justified step. However, at present our state is mainly focused on organizing support system for families in difficult life circumstances, and gives insufficient attention to support for ordinary families with children. National Center “Small Academy of Sciences of Ukraine” plays a leading role following Decree of the President of Ukraine “On measures to develop a system for identification and support of gifted and talented children and youth” and supporting them. Extracurricular education institutions are especially important in promoting creative self-realization. It is here that talents can be revealed that parents do not have time to pay attention to.

To achieve these goals, Cabinet of Ministers of Ukraine established Institute of Gifted Children, the main tasks of which are to develop programs for gifted individuals development at all stages of education system from preschool to higher education; creation of favourable conditions for realization and development of talented children, integration into international educational and information space; their legal and social protection, solving current problems of education and upbringing, as well as awareness of state importance of working with this category of young citizens.

The main purpose of this institute activity is to improve system functioning of identification, development and support of talented children and youth of Ukraine. Talent is a high level of giftedness, person’s natural inclination to a certain type of activity; outstanding natural human abilities and skills, which are being developed during their acquisition of skills and experience that allows a person to act successfully, independently and innovatively, and is characterized by novelty, high level of perfection and social significance [3, 8, 25]. First signs of talent can be seen in childhood. It can be revealed in various spheres of human activity in the fields of music, literature, natural sciences, technology, sports, in organizational activities, in various types of production. According to E. Tsygankova, giftedness of a child can be both prosperous and problematic for them and their environment [26].

Therefore, one of the problems that must be constantly solved by public administration and society as a whole is development of creative personality with innovative thinking, and ability of young citizens to direct their practical activities in future. Education and upbringing of talented young people are extremely important for creating a basis for development of intellectual and creative resources of Ukraine. At present, it is necessary to promote talented children development at the stage of their education at secondary school. Their support at legislative level should be one of the priorities of our state policy.

Measures of state support for gifted students include enrollment out of competition in higher education institutions, provision of targeted preferential state loans for higher education. They are provided with scholarships, hostels, boarding schools. Research, design and other types of scientific activity are financed by state budget. Conferences, exhibitions, tournaments are organized. A one-time cash prize is awarded for winning Olimpiads, contests, competitions. Gifted children receive free education in specialized educational centers of culture, sports schools and sections, extracurricular educational institutions.

Regulatory framework analysis of educational work shows that there is necessary of legal framework in Ukraine that allows our state to ensure comprehensive children development. This is evidenced by the following laws of Ukraine: “On extracurricular education”, “On youth and children’s NGOs”, “On the basic principles of state support for gifted children and youth of Ukraine”, “On National Program of Action Plan for implementation of the UN Convention on the Rights of the Child” for the period up to 2016. Decree of the President of Ukraine on support of gifted and talented children and youth is also important. Resolutions of Cabinet of Ministers of Ukraine “On approval of State target program for extracurricular education development for the period up to 2014”, “On approval of State target social program “Youth of Ukraine” for 2009-2015 years”, “On improving work with talented children” also played a positive role. But all these constituent documents were created before 2010. Subsequently, Decrees of the President of Ukraine on allocation of grants, scholarships, awards for gifted youth were issued.

In accordance with action plan for implementation of National Strategy for Educational Development in Ukraine until 2021 in order to increase the level and improve the content of extracurricular education, Ministry of Education and Science of Ukraine has announced a course to improve quality of clubs, groups, sections, studios and other associations of educational institutions with updated educational literature. A draft Concept for Development of Education in Ukraine for the period 2015–2025 was also developed, which states that at legislative level it is necessary to ensure unification of extracurricular educational institutions from ownership changes and their property transfer. Local, district, regional programs “Gifted Child” for 2016-2020 were approved, which are aimed at ensuring formation of intellectual potential of our nation by creating optimal conditions for identifying gifted children in the region and support development of their creative potential, self-realization in modern society, permanent spiritual self-improvement.

This suggests that gifted and talented children support and extracurricular education development is given enough attention, but their enshrinement in current legislation is not an indicator of their implementation in pedagogical practice and obtaining planned result. In Ukraine, there is a state center for extracurricular education, which coordinates educational, informational and methodological and organizational and mass work. It has 227 subordinated extracurricular educational institutions of scientific and technical direction and 906 artistic and aesthetic ones, which together make up 2/3 of the total number of extracurricular educational institutions of our country. More than 1.2 million students study there. But it is extremely difficult to give a real situation assessment in this sector because there are no accurate statistics on institutions network and children who attend clubs or sections after classes. Affordability of educational and developmental base after classes is one of the most necessary needs of the younger generation, regardless their place of residence and level of their family well-being. Because different categories of children have different opportunities to access services provided by these educational institutions. This limits their self-realization, and becomes an important factor forming inequality in society in future. In fact, a situation is created when young citizens of Ukraine have equal rights, but different opportunities to ensure them.

Because of this we consider of great importance state policy improvement in the field of infrastructure development and territorial accessibility, improving functioning quality of various types of institutions by updating their activities content, introduction of modern technologies, scientific and methodological support, improving work with teachers for both urban and rural children to give them opportunity to show their talents and abilities at the local, regional and national levels.

CONCLUSIONS

At present stage of state and society development in Ukraine, the necessity to organize talented children support in accordance with their abilities, talents, preferences and interests is especially emphasized. Therefore, utmost attention should be given to formation and implementation of state policy of Ukraine to support such children in the context of their rights protection. In particular, it concerns relevant legislative and regulatory framework improvement; creating conditions for preschool and extracurricular education development, charitable activities of legal entities and individuals in this sector; coordination of efforts of executive bodies of all levels, local self-government bodies, enterprises, institutions, organizations, NGOs in order to solve outlined range of problems.

It is also important to implement principles of state regulation, which will follow optimal combination of centralization and decentralization, full financial and economic support, state policy entities' professional competence increase to support talented children and, consequently, be responsible for obtaining results.

Due to the fact that currently in Ukraine we have only departmental statistics on extracurricular education centers network, and do not have accurate information on total number of children receiving services in public institutions and individual entrepreneurs, there is necessity to create a single state register, which would reflect situation in this sector (institutions existence, their structure and specifics, number of children involved). Therefore, it will be possible to plan this sector development, in particular: required number of teachers, institutions, funding.

It is an issue of state importance not only to create appropriate conditions for gifted and talented children development, but also to keep them in Ukraine, providing quality education and decent work in the near future. Meanwhile, Ukrainian youth are increasingly choosing foreign universities to study. At the same time, our state higher educational institutions are losing applicants and investments, employers (in the future) are losing tens of thousands of qualified specialists, and our state is losing citizens whom it has raised and trained for 10-15 years.

Further research on these issues, in our opinion, should be related to state administration aspects of equal access to quality education for all children, in particular, respect for all children rights in Ukraine, especially those living in remote areas and in rural areas. Because they are the least provided with all necessary educational equipment and organization of extracurricular education for them.

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FUNDAMENTALS OF HIGHER EDUCATION IN THE DIGITAL ECONOMY

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ABSTRACT

The article highlights the key aspects of modeling to improve the quality of forecasts of staffing needs of the regional economy in the context of digital transformation of the regional economy and business. The distribution of the number of specialists in the field of ICT in Ukraine, employed in the economy, was assessed and a negative tendency towards a decrease among specialists of the highest level of qualifications of software and application developers and analysts was revealed. The analysis of the distribution of ICT specialists by type of economic activity in 2018 and 2020 (forecast) in the Dnipropetrovsk region is carried out. The distribution of the graduation of bachelors and masters in the main areas of training and specialties in the field of ICT in the Dnipropetrovsk region for 2018-2019 was analyzed and areas and specialties in which growth trends are observed. The data on the distribution of the population of the Dnipropetrovsk region in 2019 of the possession of digital skills are considered and presented. It was revealed that, in accordance with official data, the share of the population of the Dnipropetrovsk region with digital skills (elements of digital literacy) in one or another subject area is less than 50%.

Key words: *digital economy, digitalization of education, information technology*

INTRODUCTION

The world economy at the beginning of the XXI century demonstrates new phenomena and trends that were not previously known. The depth of the ongoing changes allowed some economists to draw a conclusion about the onset of a special temporary phenomenon or an era of transformations that presuppose a qualitative renewal of the economy to its new model. In this aspect, Ukraine and its regions are no exception, it is on the eve of a new stage of transformation.

Today, the Ukrainian community needs clearly defined guidelines for socio-economic development, in connection with which, the study of the essence of the transformation process in the context of the transition to a digital economy is of particular relevance. The digital economy sets fundamentally different trends focused on training specialists of a qualitatively different level, including solving the problems of modeling the personnel needs of the regional economy.

And the point here is not even that a number of specialties from the former economy will not only lose their relevance, or even disappear from the labor market. Much will depend on how much the specific knowledge, skills and abilities acquired in the learning process will be consistent with the format of the digital economy, which itself will undergo constant and fairly rapid changes.

1. DIGITALIZATION IN HIGHER EDUCATION IN UKRAINE AND ITS REGIONS

It should be noted that in the conditions of the economy of the regions of Ukraine, modern approaches to modeling the personnel needs of the regional economy have a number of limitations. Among them, the three most significant should be noted:

- focus on large and medium-sized businesses, while regional development is accompanied by fairly high growth rates of small businesses, while in the framework of the coronavirus pandemic it is most exposed to economic risks;

- the lack of consideration of the influence of a number of factors causing structural changes in the main subsystems of the regional economic system: in the economy (by type of economic activity and number of employees), in the labor market (by professions, qualifications, by competencies), in the system of vocational and higher education (by training levels, including digital literacy and specialties). Among such factors are the implementation of innovative digital and investment projects, the development of regional technological platforms (RTP), the formation of promising labor markets;

- orientation of forecasting methods for the retrospective period and development trends, which does not allow timely identification and consideration of changes in the qualitative and quantitative composition of the personnel needs of the regional economy. As a result, forecasts of the staffing needs of the regional economy are characterized by a low level of accuracy and reliability, especially when making forecasts for levels of education, professions and qualifications.

In the context of the digital transformation of the regional economy and business, in order to improve the quality of forecasts of the staffing needs of the regional economy, the key aspects of modeling should be clarified:

- regional subsystems taken into account when modeling the personnel needs of the economy and business;

- factors affecting the size and structure of staffing requirements;

- the stages of the process of forecasting the staffing needs of the regional economy by types of economic activity, levels of education, professions.

Among the regional subsystems in modeling the personnel needs of the economy and business, as a rule, the following three are distinguished: the economy, the labor market, and professional and higher education.

For the effective implementation of the task, first of all, it is necessary to define and understand what digitalization implies in higher education and whether this process entails a change in the educational paradigm, the transformation of relations between co-sponsors of education.

An analysis of the few scientific publications devoted to this issue [1, 2, 3, 4] showed that it is widely believed that digitalization of higher education involves the wide and active use of information and communication technologies (ICT). It is assumed that the introduction of ICT through digital repositories, cloud services and social networks will allow teachers of educational organizations to introduce active forms of student learning in a mixed environment based on the theory of social constructivism of project learning and situational learning.

Digitalization in higher education in Ukraine and its regions also involves the creation of a fundamentally new information structure for conducting the educational process at the regional level. This structure will provide unlimited access to educational resources for anyone with access to the Internet. However, unlimited access to electronic resources does not mean expanding access to education, improving its quality.

Getting information is not learning or education. It should be noted that the research literature of domestic and foreign scientists dedicated to the strategy of e-education, in addition to the dignity of this type of education – unlimited access to educational resources, also revealed the problem – the digital competence of both students and faculty. Undoubtedly, the majority of current students and part of school graduates, before entering a higher educational institution, have quite a lot of experience in using some digital technologies after compulsory (secondary) education. But basically, these technologies are associated with good skills in finding the necessary information in Internet resources and creating (if necessary) electronic presentations.

Having experience of initial acquaintance with digital technologies, there is a high probability that students (or an applicant) have an overestimated self-esteem about the level of digital technology proficiency, which can negatively affect their activities in the learning process. Undoubtedly, the search for information through the Internet resources significantly reduces the time, but it leads to the fact that students, using someone else's ready-made texts, lose the ability to critically comprehend, «fragmentary thinking» develops.

The training of specialists adapted to the digital transformation of the regional economy and business requires appropriate skills in the use of ICT and from the teaching staff. In today's realities of the economy, under the influence of the consequences of the coronavirus pandemic and financial crisis risks, the format of electronic-distance education is undoubtedly a positive point.

Any training is carried out with the help of a «mediator», and this mediator is traditionally a textbook, study guide, workshop, scientific methodological guide, etc. At the same time, the textbook is filled with «energy», the act of learning occurs spontaneously, in flashes [5, p. 107]. In e-learning, the «mediator» is not a paper medium – a textbook and

educational-methodical literature, in which educational information is presented in accordance with the logic of studying the field of knowledge, that is, not the entire «holistic picture» of educational information is visible, but only part of it, «a fragment images».

At the same time, the information is perceived as absolutely truthful, correct, without comprehension and reflection. However, a number of empirical studies, for example [5, 6, 7, 8], show that familiarity with technology does not mean that a student understands the patterns of its use. Currently, with wide access to gadgets, students are experiencing difficulties in using digital technologies in an educational context [6].

It is important to note that constant immersion in a redundant information environment and in the absence of a certain systematic approach, leads to the fact that the student applies individual tactics of avoiding information (the phenomenon of information output), the essence of which is that a person ignores relevant useful information, because it too much to understand and accept [8]. A paradox of choice appears, that is, «there is a refusal to comprehend (analyze) information and fixation on a quick decision» [7].

This means that the student has difficulty in front of the volume of educational information, before solving the tasks assigned to him, therefore, he chooses the easiest or the first solution that comes to mind. There is a paradox: despite a certain level of information literacy, a student cannot select the necessary and sufficient number of information sources.

The choice leads to a random, not always correct source of educational information. In such conditions, one of the main tasks of a teacher is to teach students how to learn: how to extract the necessary, cutting off unnecessary (unnecessary) information, where to get it, given that there is so much of it. At the same time, be able to show how to classify and package information, how to cope with multitasking that goes in parallel. Modern university students, those who were born in the 21st century, according to M. Prensky's concept of Digital Natives, have an innate knowledge of digital technologies, perceive the digital world as everyday life, feel themselves in the flow of multitasking, are accustomed to the interactivity of gadgets, to their own activity on social networks, to the speed in the world of video games [9]. Based on this concept, many followers stated that modern university students have different abilities, therefore, the educational process in universities should be organized differently.

To confirm or refute this provision, a study was conducted in a number of universities in Dnipro in September 2020 (based on surveys of 2nd and 3rd year undergraduate and first-year students of economic and non-economic specialties of full-time education). Students were asked to choose teaching methods that best meet the needs and interests of the students themselves, as well as to identify outdated methods and methods that do not form the necessary skills, knowledge, and competencies.

The study (in the form of oral surveys) involved 186 students from 4 universities.

Analysis of the results of this express survey showed the following picture:

1. The most «outdated» teaching methods are – conducting a lecture with the help of chalk and blackboard (on the part of teachers) and manual «writing lectures» (on the part of students). This is noted 64 % respondents.

2. The methods that do not form the necessary skills, skills and competencies are writing essays, control tests; writing and public reading of reports and performance of tests. So answered 70 % students.

3. The most optimal teaching methods, according to students, were:

- solving situational problems in small groups (no more than 4-8 people) – 63 %;
- Creation of illustrative and informational graphic presentations for each academic discipline – 71 %;
- creation of projects (including multimedia) – 61 %;
- conducting trainings using role functions (including in the form of a colloquium) to consider a specific scientific and practical problem using the examples of operating enterprises, firms, companies – 78 %;
- the use of social networks in the educational process – 81 %;
- search and discussion of several options for solving the assigned tasks (and not only the option offered by the teacher) – 63 %;
- solving only those tasks, situations that are associated with the development and preparation of management decisions – 84 %
- use of gadgets in the learning process – 94 %;
- practical solutions to problems of information security, business analytics – 74 %.

Thus, based on the process of digital transformation of education in universities, a preliminary conclusion can be drawn: on the one hand, students believe that receiving and processing information from different systems, the introduction of digital technologies, practical training in the field of innovative digital development of an enterprise, company, firm (including in the field of small and medium-sized businesses), the active use of new teaching methods (in particular, on the basis of graphic illustrative display of educational material) allows you to get and form important skills and abilities; on the other hand, it should be noted that the teacher's use of digital technology leads to an increase in multitasking. This does not mean that students will do better.

Also, during the first half of 2020, an attempt was made to analyze the current situation with the availability and level of preparedness of specialists in the field of information and communication technologies in one of the regions of Ukraine – Dnipropetrovsk region.

In Ukraine and its regions, the share of specialists in this area amounted to 2.35 % of the total number of people employed in the economy. In the economy of the European Union, the leading position in this indicator is occupied by Finland (6.8 %), followed by Sweden (6.6 %), Estonia (5.6 %).

In the structure of the number of specialists in the field of ICT, the largest share falls on specialists of the highest qualification level – 64.1 %, the smallest – on managers (2.8 %). In Ukraine, the distribution of the number of ICT specialists employed in the economy is shown in Fig. 1.

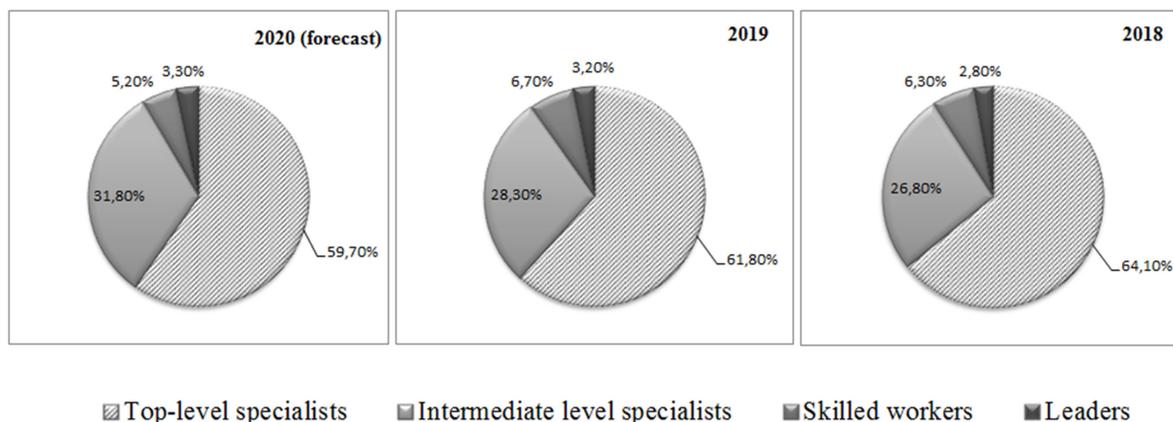


Fig. 1. Distribution of the number in the field of ICT employed in the economy, % (2018-2020)

Source: prepared by the authors

Developers and analysts of software and applications (for databases and systems) prevail among specialists of the highest qualification level. From the data in Fig. 1, it can be seen that in the country there is a negative trend towards a decrease in such specialists due to leaving for other countries (in the period from 2018-2020), this indicator was 4.7 %. The largest share of mid-level specialists falls on specialists in ICT operation and ICT user support. It should be noted a positive (albeit insignificant) trend + 5 %. Unfortunately, the number of skilled workers is rather unstable (this is also associated with their departure to other countries).

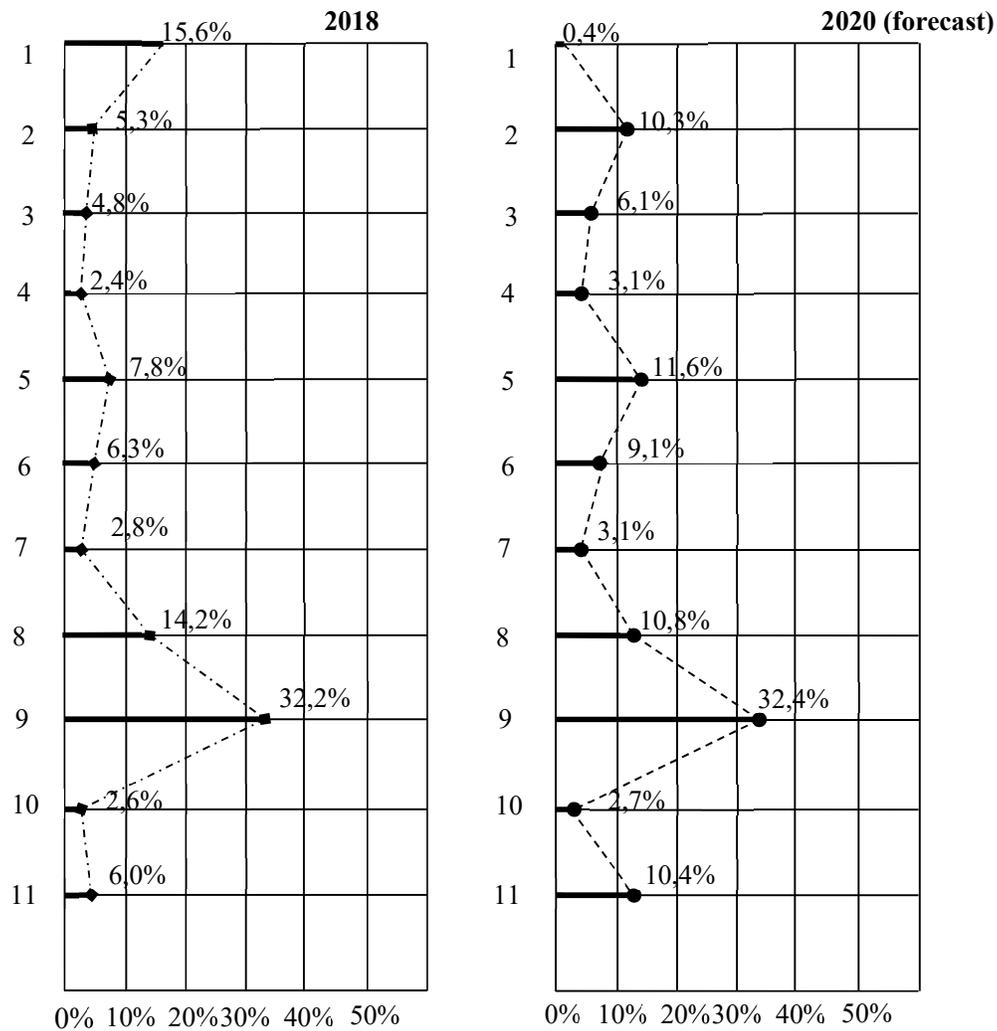
The insufficient number of trained ICT leaders should be highlighted. For example, in the United States, the share in the structure of the number of managers is up to 18.6 %, against 3.3 % in the field of ICT management.

The most popular types of activity in which ICT specialists are concentrated (and required) in a large region – the Dnipropetrovsk region are (Fig. 2) the leading sphere is «information and communication».

It should be noted that the analysis data indicates that the need for specialists in the field of ICT has the following types of activities (have a positive trend): wholesale and retail trade (+3.8 %), the financial sector (+ 5 %), scientific and technical activities (+ 2.8 %), service sector (+ 4.4 %). At the same time, a low level of activity of ICT specialists was noted: in the manufacturing industry (3.4 %), as well as in social spheres: education and healthcare, construction. A low inflow of ICT specialists can be noted in other spheres of activity (outside those noted in Fig. 2).

According to the results of the analysis, what specialties in the field of ICT are currently in demand in higher educational institutions of the Dnipropetrovsk region and to what extent the universities of the region are ready to provide the labor market with these specialists. According to data for 2018-2019, the release of bachelors and masters in the main areas of training and specialties in the field of ICT amounted to 8,6 % of the total graduation in 2018, and in 2019 – 10,6 %. Of these: 3,8 % – in the field of informatics and computer technology; 4,4 % in the field of applied informatics; 2,4 % – in the field of information systems and technologies. Figure 3 shows the distribution of the graduation of bachelors, masters of full-time and part-time education in the main areas and specialties in the field of ICT.

The analysis of the data presented in Table 3 showed that there is a growth trend in the following areas and specialties in the field of ICT: informatics and computer technology (+1.5 %), applied informatics (+1.3 %), information systems and technologies (+ 4.4 %), business informatics (business intelligence) (+1.8 %) and ICT and communication systems (+ 0.9 %). At the same time, in 2019, a smaller number of graduates came to a number of the most important sectors of the region's economic complex, namely: information security, minus 2.8 %; radio engineering, minus 1.7 %; fundamental informatics and information technology, minus 1.2 %, mathematics and computer science, minus 0.8 %.



1	Others	2	Financial and insurance activities	3	Transportation and storage	4	Construction
5	Wholesale and retail trade	6	Scientific and technical activities	7	Education	8	Manufacturing industry
9	Information and communication	10	Health care and social services	11	Services		

Fig. 2. Distribution of ICT specialists by types of economic activity in 2018 and 2020 (forecast) – in Dnipropetrovsk region

Source: prepared by the authors

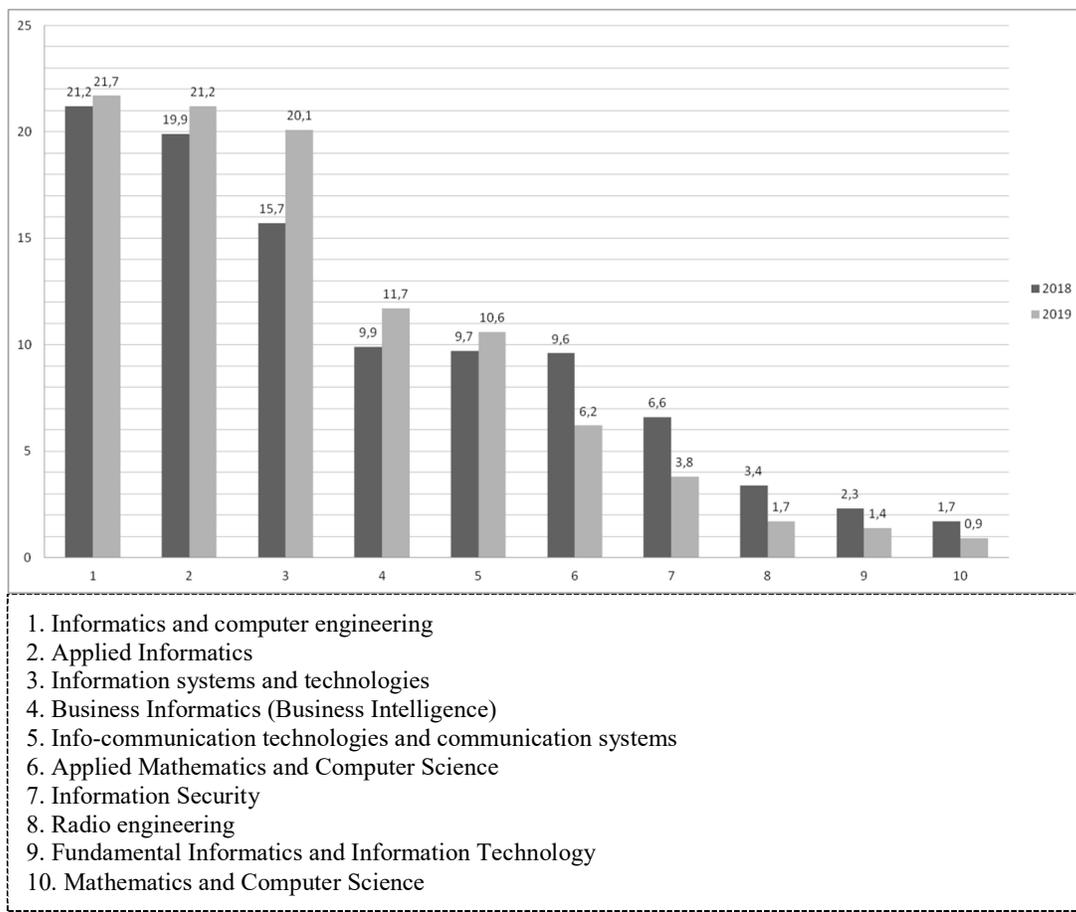


Fig. 3. Distribution of the graduation of bachelors and masters in the main areas of training and specialties in the field of ICT – Dnipropetrovsk region (2018-2019)

Source: prepared by the authors

At the same time, according to the opinion of a number of heads of IT companies and large industrial enterprises in the region, there is a lack of specialists – developers of software and applications of an applied nature.

It should also be noted that a difficult situation in the field of digital literacy has developed in the Dnipropetrovsk region. Figure 4 shows the data on the distribution of the population of the Dnipropetrovsk region in 2019 of the possession of digital skills. According to official data, the share of the population of the Dnipropetrovsk region with digital skills (elements of digital literacy) in one or another subject area is less than 50 %. At the same time, the region is included in the group of leaders in the whole of Ukraine in terms of digital literacy (4th place in 2018). Moreover, most of the region's population is concentrated between the ages of 16 and 26. Among the older generation (more than 50 years old), up to 71 % of the region's population does not need to use the Internet, and 62.3 % refers to the lack of skills for working on the Internet.

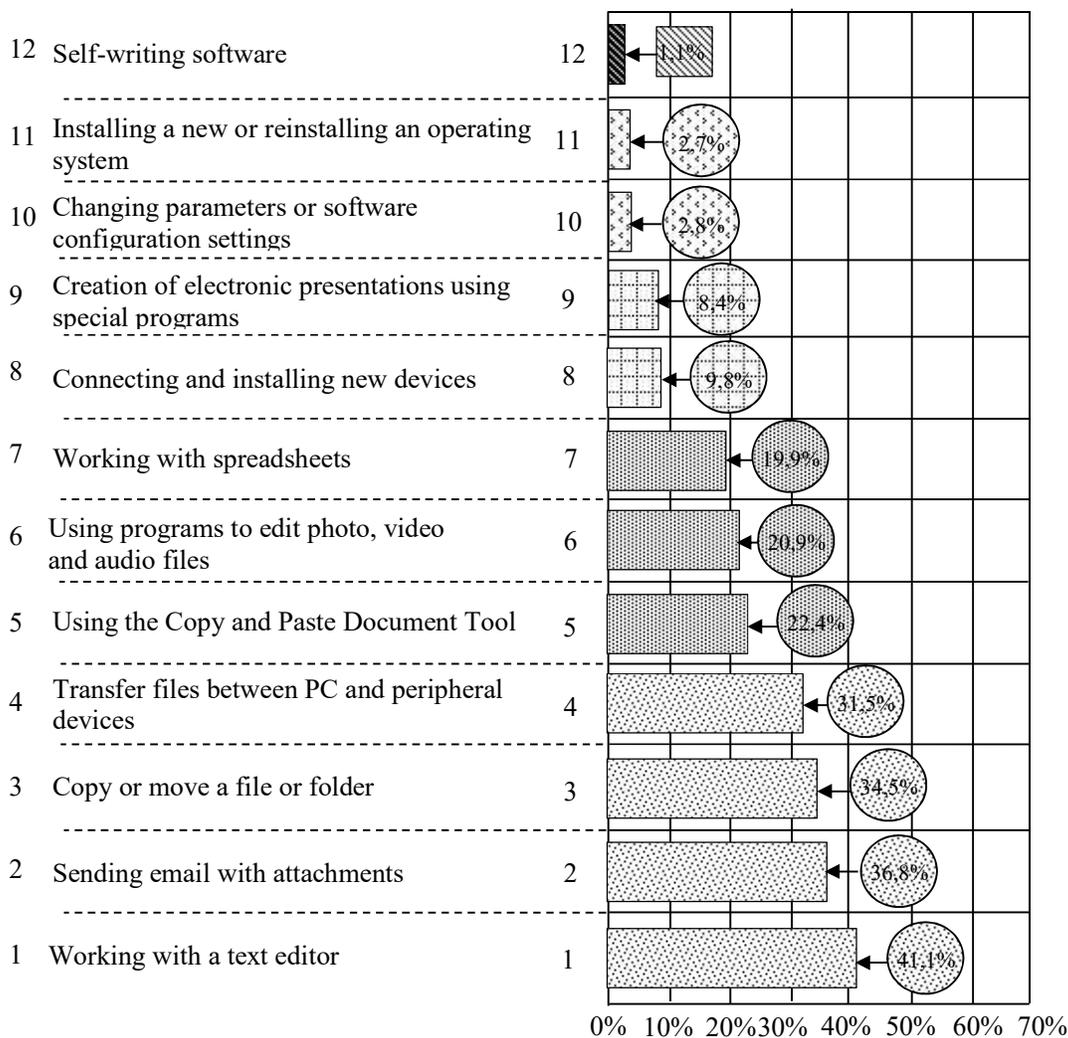


Fig. 4. Distribution of the population according to the degree of possession of digital skills (elements of digital literacy – Dnipropetrovsk region, 2019)

Source: prepared by the authors

2. THE POTENTIAL OF USING DIGITAL TECHNOLOGIES IN THE EDUCATIONAL PROCESS

The emergence of online courses with the use of IT technologies allows you to acquire knowledge at a convenient time and place without the direct participation of a teacher. In relation to the educational programs (EP) themselves, constant monitoring is also required in order to adapt them to the needs of the digital economy, including based on the specifics of a specific regional economy. Today, most students of universities and professional educational structures openly declare the need to obtain more in-depth knowledge in disciplines in the field of processing and analysis of big data, applied informatics, innovative digital development of enterprises and companies and the field of entrepreneurship, electronic and digital marketing, digital modeling of business risk assessment, including risks of economic interests of business structures of the regional economy.

To assess the potential of using digital technologies in the educational process, two most important criteria can be considered – «effectiveness» and «economic efficiency». From the point of view of effectiveness, this means that the introduction of digital technologies should contribute to meeting the needs of improving the quality of the educational process at the university (for example, independent study of certain topics, subject to effective applied training in the form of computer laboratory classes; reducing the duration of training (passing educational topics); individualization training, etc.

On the other hand, the use of one or another digital technology should reduce the costs of budgetary (extra-budgetary) expenses of the university itself, although there is a limitation due to the fact that the computer material part is in a deplorable state in most Ukrainian universities, and government structures have clearly lost time for digital transformation of the educational process.

It should also be noted that paying more attention to the analysis of new phenomena and trends in the economy, relying mainly on the work of American researchers (N. Negroponte, Ch. Meyer, M. Sawhney, D. Spulber, Don Tapscott, S. Durvetson, P. Seybolt and others), one can find the desire of the authors [10, 11] to characterize the new features of the modern economy, using terms such as «New Economy», «Internet Economy», «Digital Economy» (Digital Economy), «e-commerce» (E-economy, E-business), etc. These terms are often used synonymously when considering new phenomena in the economy caused by the formation of the global electronic network (Network), the global spread of personal computers (PC), the creation and continuous improvement of software (Software), the production of non-material products and services of IT companies.

Thus, considering the problems of higher education in Ukraine and its regions, the new economy is a natural form of post-industrial economy, then the digital economy is one of the evolutionary forms of manifestation of the new economy. The techno-digital nature of economic relations is the key distinguishing feature of the digital economy. It also follows that as a «form of form» the digital economy contains not only a set of features of a new economy, but also contains a number of distinctive aspects that characterize the qualitative certainty of the digital economy, which must be taken into account when developing EP and the educational process in general in Ukrainian universities.

According to the results of studies by a number of foreign and domestic scientists, it was revealed that the new and digital economy is characterized by also a rapid change in the material factors of social production, both in form and in content, that is, in the direction of decreasing their value and physical content. For example, the material consumption of products and production has dropped significantly in the economies of different countries only in recent decades. That is why one of the leading trends in the digital economy is considered to be the «disappearance» of the material, the replacement of the material by non-material components of production and products. Here we mean, first of all, the

tendency of an increase in the role and significance of the information-digital component in production costs and intellectual property, including: information itself, digital technologies, Internet services and services, software products, etc. compared to the material component. These trends should be taken into account in the process of digital transformation of education, especially in the context of the regional economy.

The value of companies, enterprises and firms as subjects of the economic complex of the regional economic system, their competitiveness is increasingly determined not only by tangible property, but rather intangible: human knowledge, human capital, artificial intelligence and strategic key intellectual property (possession of ideas, the ability to form the idea of an innovative product, the potential for the introduction of innovative digital technologies), providing strategic competitive factors of success for the subjects of the economic complex of the region.

Considering the problems of transforming education in the context of digitalization and modeling the staffing needs of the regional economy, it should be noted that the generation and interconnection of everything new (innovative) in the economy is still provided by humans. The mental potential of people and the power of intelligence can never be completely high (including artificial intelligence technologies), have no limit, and determine progress in any field. That is why human capital, the intelligence of employees, as well as university graduates, is becoming a leading factor in the new, digital economy. It is also important that if modern traditional technologies in market conditions are available to almost all firms, companies, corporations, then new digital business technologies and attracting consumers for some time entirely belong to the «know-how» of the personnel of the firm, companies and corporations. People who are able to work creatively, innovatively and digitally are practically invaluable. This, in turn, leads to a change, the development of personnel management methods, primarily due to the formation of a mechanism for motivating it to innovations, at enterprises, firms, companies aimed at maximizing the use of human potential.

In the context of modeling the staffing needs of the regional economy, another feature of the digital economy should be highlighted – the implementation of the principle of accelerating economic growth and innovative development. Thanks to the electronic network (Network), it significantly accelerates the distribution and adaptation of products in the field of circulation and consumption. The electronic network and digital technologies make network marketing (based on its digitalization) more effective: information about products, market situations is distributed according to the principle of a chain reaction. According to this provision, the first decision and the right action often provide great benefits and additional benefits. Good, quality products are distributed and sold online at a rate comparable to the spread of a virus in nature.

«Viral» marketing ensures the acceleration of economic growth for any enterprise, firm, company. An example would be many internet companies (Amazon, Alubaba) doing e-commerce and internet commerce. At the same time, the dependence of the value of the product on the market share is determined by the large-scale development of the electronic network. If earlier the value of a product was largely determined by its scarcity, now, thanks to the Network, the exception is quickly turning into a rule, the price is falling. The effectiveness of companies operating online is ensured, first of all, by persistence, mobility, communication skills, professional competence of personnel, collegiality of decisions and an individual approach to network users (potential buyers) based on Big Data technologies [12].

The digital economy, including in the context of the formation of criteria for digital literacy of university graduates, is also characterized by a change in the institution of mediation. The activities of intermediaries are now changing, as awareness and awareness of buyers is replaced by direct interconnectedness of market participants. On the one hand, traditional distributors and agents in developed countries are currently facing serious difficulties (including under the influence of the coronavirus pandemic) in their work with the development of an Internet network in which buyers and sellers are directly connected and do without intermediaries in their transactions. On the other hand, the amount of information is growing rapidly and users (buyers) are in dire need of a kind of «filters» that filter out unnecessary information.

These conditions create the preconditions for the emergence of a new type of mediation – information mediation. More and more info-Internet companies appear, offering aggregated services or intelligent customer service, aimed at strong qualified and technologically secure assistance in the implementation of transactions in all aspects. Such companies form the so-called communicative and organizational environment for the convenience of consumers and for the benefit, of course, of their own business. It is interesting in detail when any companies that have frequent contacts with all market participants and possess the appropriate digital technologies, as well as potentially useful information about these participants from the generated databases, can become information intermediaries. Software systems (Software) and services of Internet companies help buyers find the best options.

An important aspect of the Internet economy and the digital economy, in particular, is the special technology of doing business, which must be taken into account in the educational process. The peculiarity lies in the fact that the transaction is carried out on a one-to-one basis and generally without the participation of intermediaries traditional in the market, or with the participation of information intermediaries. Therefore, the information component of the value of goods and services is becoming more and more. At the same time, as real practice shows, sellers find this process more profitable, since the cost of digitalization is more efficient than spending on the traditional components of the cost of

goods. In turn, consumers tend to individualize their product requirements in accordance with their desires. In fact, there are unprecedented conditions for information exchange between suppliers and consumers, between sellers and buyers. For both, information is a key moment in their economic life in the context of the digital transformation of the economy.

It is also important to take into account the fact that the digital technological platform (the techno-digital basis of the new economy) provides unique opportunities for the implementation of the methodology of selectively targeted interaction of socio-economic subjects of the region. The formation of databases, large tables or large data arrays (Big Data) coupled with the emergence of new digital technologies for working with information on supercomputers allows you to determine the preferences of the subjects of relations and generate targeted influences and proposals for each individual. An individual approach to each consumer or participant in relations (including socio-political) in the context of globalization of relations, thanks to the «digital», becomes a reality and an effective management tool [13].

Thus, the goal of higher education in Ukraine and its regions in modern conditions should be to train specialists with modern knowledge and practical skills in analytical, statistical and economic research methods, analysis of socio-economic phenomena and processes using digital technologies.

It should be noted that digital transformation does not mean exclusively the introduction and use of ICT. The digital transformation of the economy and business at the macro, meso and micro levels presupposes qualitative changes in the content of the educational process at the university, which ultimately lead to the satisfaction of the needs of all its participants (students, teachers, employers) and will provide a worthy place for a particular higher education institutions in regional, national, world rankings.

At the same time, it is important to note that it is obvious that digital technologies can significantly transform educational processes in the face of reduced teaching load. At the same time, we must not forget about the quality of the education received. EP are constantly updated in the part of academic disciplines where changes are taking place. The transformation in the higher education system in Ukraine and its regions can contribute to a radical (even radical) rethinking of the discipline, its place in training specialists for the realities of the modern market, which has modern knowledge in demand on the labor market in an information-innovative society.

To implement this, will need access, during studies at the university, to modern professional information bases, software products, modern equipment. Of course, from the standpoint of economic efficiency, this carries additional costs, but the quality of knowledge and the possibility of obtaining it for adaptation in the conditions of modern market relations is much higher.

CONCLUSIONS

Thus, the basic goal of education, including higher education, for the needs of the economic complex of Ukraine and its regions, in the context of the digital transformation of the national and regional economies and business, should be the training of specialists with modern knowledge and practical skills (professional competencies) in the field of analytical, statistical and econometric methods, analysis of socio-economic phenomena and processes using digital technologies.

Transformation in the higher education system can contribute to a radical (sometimes radical) rethinking of academic disciplines, their place in the training of a specialist who has up-to-date knowledge in demand in the labor market of a particular region of Ukraine, based on the specifics of the structure of the regional economy, in an information-digital society.

A situation should be created where the interests of regional universities and the interest of employers (regional business) in obtaining highly qualified specialists with real practical skills coincide. At the same time, the need in every region of Ukraine to increase and develop digital literacy of the population should be realized.

Digital transformation at the regional level implies a qualitative change in the content of the educational process, both at the school level and at the level of a higher educational institution, which, ultimately, will lead to the satisfaction of all its participants (schoolchildren, students, teachers, employers).

In general, it should be noted that modeling the staffing needs of the regional economy, taking into account the specifics of its development, in the structural aspect, involves the creation of an effective system of strategic forecasting and operational monitoring of staffing needs by levels of education and professions, based on the «hard» impact on the economy of the regions of Ukraine of digitalization. The development of modeling methods will also improve the quality of forecasts of the staffing needs of the regional economy and create the basis for the formation of scientifically based forecasts of the target figures for admission to the regional system of higher education and vocational education. And this, in turn, will contribute to achieving the maximum correspondence between the needs of the economy, business and the capabilities of the education system in the digital economy. The upbringing of young people with the features of a new digital and economic intelligence should become one of the main tasks of the national and regional education systems, and above all higher professional education. The currently dominant focus on acquiring competencies as the main goal of higher education in Ukraine should be supplemented (or, more precisely, softened) by an orientation toward acquiring the traits of a new intelligence – a necessary quality of participants in socio-economic activity in the era of both intellectual economy and information and innovation digital economy.

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SOURCES OF FUNDING AS SUPPORT FOR DEVELOPMENT OF LATVIA'S REGIONS

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ABSTRACT

Promoting business in regions and regional development is one of the priorities identified in Latvia's State planning documents. For example, in Latvia's long-term policy planning document "Sustainable Development Strategy of 2030", the Sustainable Development Strategy of Latvia until 2030 foresees, among other things, innovative and eco-efficient economic development to ensure the development of a sustainable country. Creating innovation and increasing productivity has been mentioned as an important factor for economic development. But the priority "Spatial Development Perspective" is to boost business in the regions. In Latvia's medium-term planning document "The National Development Plan of Latvia for 2021-2027" (NAP2027), factors such as the relatively low level of investment, linked to weak lending. Also the low level of development of the capital market are mentioned. These are areas to be addressed in order to achieve the strategic development objectives of Latvia, including the objective of balanced regional development. This programming document states that "Increasing the range of financial instruments will increase lending rates and the availability of sufficient sources of alternative financing" (Source: (NAP2027)). The aim of the study is to compile, classify and analyze the external sources of funding available for business (source of funding). Using the monographic method, scientific analysis and synthesis methods, scientific induction and deduction methods, the author came to the conclusions that bank loans (as an external source of financing) to domestic non-financial corporations (A-K sectors) in Latvia have decreased each. In general, such a reduction is not in line with our country's development priorities. However, in contrast to the decrease in lending, the author found positive trends in alternative sources of financing, namely - the range and volume of alternative sources of financing has increased, it is also widely available to entrepreneurs affected by COVID - 19 negative support programs, grants.

Key words: loans, alternative financing, business development, regional development.

INTRODUCTION

At a time when the COVID - 19 crisis has led to an economic downturn, the availability of credit, various alternative sources of financing, and support programs for businesses is even more important to reduce the negative impact of COVID - 19 on the economy as a whole, including regional development. Because developing and promoting entrepreneurship in the regions and reducing regional disparities – these are the objectives set for the long-term development of Latvia. Promoting entrepreneurship in the regions and regional development is a goal set in the Latvian long-term strategic planning document "Sustainable Development Strategy until 2030" Sustainable Development Strategy of Latvia until 2030. But Latvia's medium-term planning document "The National Development Plan of Latvia for 2021-2020" (NAP2027) provides for strategic goals for Latvia's development, including - Latvia's strategic development goal - balanced regional development.

In order to achieve this goal, one of the indicators of the strategic goals is the reduction of the regional gross domestic product (GDP) gap. Also, one of the directions of action of the action line “Capital and business environment” is the development of the capital market and promotion of the availability of financing, including the provision of credit growth in line with GDP growth. The importance of capital as a source of financing in business and ensuring its availability to entrepreneurs have been mentioned as important factors for successful business development. It is important that this planning document also emphasizes the importance of alternative sources of financing and ensuring their availability, ie ensuring the availability of various financial instruments for entrepreneurs. The author of the study found that the amount of loans issued by banks has decreased, moreover, the decrease has been found every year since 2016 (Source: Financial and Capital Market Commission), but alternative sources of financing are widely available. Hypothesis put forward - a wide range of financing sources is available for business development and regional development in Latvia: both bank loans and alternative financing sources. The aim of this research is to summarize, classify and analyze the sources and availability of funding, available to business in Latvia. Limitations of the research - only external sources of funding are summarized and analyzed. The author of this study is also aware that due to the limitations of the volume of the study it is not possible to fully identify and analyze all external sources of financing for companies, therefore only the most important external sources of financing of companies have been analyzed (according to the author).

1. METHODS

The research employed the following methods: the study uses a monographic method, methods of analysis and synthesis, method of scientific induction and scientific decomposition. As part of the study, the author analysed the long-term and medium-term policy planning documents of Latvia, which relate to raising capital and accessing financing for business development in the context of regional development. As well as the author compiled, classified and analysed information on available sources of funding for business in Latvia. The study uses statistical data, policy planning documents, regulatory enactments, public information provided by different financial institutions, expert opinion, international research results. The author drew conclusions on the sources of funding available in Latvia for business promotion and regional development. These conclusions will be used in the follow-up study on accessibility and assessment of sources of business finance and lending in the context of regional development.

2. RESULTS

As a result of the economic recession caused by COVID-19, economic growth rates in Latvia have decreased in 2020. According to data from the Central Statistical Bureau, Latvia's gross domestic product (GDP) decreased by -2.6% in Q3 2020 compared to the corresponding period in the previous year.

The GDP forecasts are not optimistic for the next period as well, DUE to the contraction of the economy caused BY THE crisis. The International Monetary Fund (IMF) also forecasts an economic downturn for Latvia. The availability of funding for economic operators in such cases is essential. In addition, the Ministry of Finance of the Republic of Latvia forecasts that GDP “is again threatened by COVID - 19” (Source: Ministry of Finance). In the circumstances of COVID – 19, this topic regarding the funding source is topical, since the promotion of business, increasing lending volumes, regional development is one of the priorities identified in Latvia's State planning documents: the long-term policy planning document “Sustainable Development Strategy to 2030” Sustainable Development Strategy of Latvia 2030, and Latvia's medium-term policy planning document. in the deadline planning document “The National Development Plan of Latvia for 2021-2027” (NAP2027). Funding sources (capital) can help entrepreneurs to overcome the negative effects of COVID-19, can help to develop business, promote regional development. Issues being studied:

1. Topicality. Sources of funding and their role
2. Types of funding: traditional financing – lending and alternative forms of financing

1. Topicality. Sources of funding and their role

In the light of the study, the author wants to analyse the sources of funding available to entrepreneurs at the moment. Because, on the basis of the development directions (development objectives) set out in the Latvian planning documents, they provide for the development of business, the raising of capital for business development. The long-term Latvian policy planning document “Sustainable Development Strategy of Latvia until 2030” and the Latvian medium-term planning document “The National Development Plan of Latvia for 2021-2027” (NAP2027) summarise the development targets for Latvia in the context of business and regional development in Table 1.

Table 1. Strategic development objectives set out in Latvia's long-term and medium-term policy planning documents for Latvia in the context of business and regional development

Objectives / indicators	Latvia's long-term and medium-term policy planning documents	
	Sustainable Development Strategy of Latvia until 2030	The National Development Plan of Latvia for 2021 -2027 (NAP2027), action “Capital and business environment”
Objectives	To become one of the EU's leaders in terms of the proliferation of innovative and exporting companies. Promoting entrepreneurship in regions (Priority - Spatial Development Perspective).	Development such of a legal, administrative and financial environment that promotes the development of a competitive business throughout Latvia. By properly identifying and effectively exploiting the potential of national resources and opportunities, ensuring the inflow and deployment of foreign capital in the Latvian economy, as well as encouraging greater attraction of domestic capital in business development.
Indicators	GDP per capita regional differences - regional GDP per capita dispersion (%)	Bank loans to domestic non-financial enterprises (sectors A to K), % of GDP.
Directions of action tasks	 developing financing instruments and promoting access to funding.

Source: prepared by the authors, using (NAP2027), 51.-54. and Sustainable Development Strategy of Latvia until 2030.

Developing business in the regions and reducing regional disparities – these are the objectives set for the long-term development of Latvia. In order to implement them, factors such as access to capital and capital raising for business development are the challenges to be achieved. These challenges are important, particularly as THE NAP2027 document stresses that “Latvia is characterised by a relatively low level of investment” (Source: NAP2027). As well, this document stresses that in Latvia “it will be essential to ensure the growth of lending rates and the availability of alternative sources of funding to a sufficient extent by travelling the available financial instruments” (Source: NAP2027).

Capital as a source of funding is needed to operate and develop a business. Especially at the moment, during the economic downturn, these sources of funding could be particularly important for entrepreneurs. According to data from the Central Statistical Bureau, GDP has decreased in 2020 (Source: CSB), as well as the International Monetary Fund's GDP forecasts are negative (Source: International Monetary Fund (IMF), 2020). In such circumstances, the availability of funding for business provision is essential.

Equity (internal source of financing) and borrowed capital (external source of financing) are generally considered to be sources of funding. The author considers that one of the most popular sources of funding is credit (usually the loan must be returned to the lending provider, as well as the interest on the loan). But other sources of funding are also familiar, which are gaining increasing importance in our days, such as alternative sources of financing.

Entrepreneurs can also use a variety of so-called financial instruments to raise funds, usually by means of shares, bonds, various long-term contracts. If a financial instrument is any document that creates financial assets for one party and for the other financial liabilities, then also as a result of any transaction when capital (such as borrowing) is raised, it should be called a financial instrument. The accounting, valuation and presentation of financial instruments in accounting financial statements shall be governed by the International Financial Reporting Standard 9 (IFRS 9). But the Financial Instrument Market Law - it ensures the functioning, stability, reliability and protection of the interests of financial instruments (Source: Financial Instrument Market Law). Such use of financial instruments to raise funding for business is, in the author's view, an advantage for large companies, which can be used in the main way by public limited companies. Although they are an important source of funding, these external sources of financing - issuing shares and bonds - are not the purpose of this study.

2. Types of funding: traditional financing - lending and alternative forms of financing

The author of this study classifies and analyses external types of financing for entrepreneurs for business development and also for regional development. They are summarised in Table 2.

Table 2. Sources of funding for entrepreneurship and regional development

No.	Sources of funding	Availability
1.	Loans	Constantly
2.	Alternative sources of funding	
2.1.	Grants / support programs for entrepreneurs affected by COVID-19	Until the end of the project
2.2.	Private and Venture Capital	Constantly

Source: prepared by the author

In Table 2, the author of the study classified the sources of financing available to entrepreneurs, which are analyzed below.

Table 3. Loans for domestic non-financial corporations by sector of economy (A-K), (in thousands of euro), from 2014.until 2020 (each year for a period of 9 months)

Sectors of national (Latvia) economy (A-K)	The information is for 9 months of the each of respective year (in thousands of euro)						
	2014	2015	2016	2017	2018	2019	2020
A Agriculture, forestry and fishing	430,459	428,156	486,423	555,758	759,336	704,949	668,532
B Mining and quarrying	34,773	22,909	15,735	24,192	20,804	16,583	11,365
C Manufacturing	907,857	838,926	815,687	761,100	854,016	780,040	681,886
D Electricity, gas, steam and air conditioning supply	488,292	411,680	450,707	407,136	456,156	502,584	607,732
E Water supply	78,836	92,813	84,944	67,794	85,399	88,857	84,794
F Construction	456,460	435,129	284,478	156,379	197,737	162,321	137,582
G Wholesale and retail trade	675,477	668,902	685,103	683,784	970,048	829,587	773,638
H Transport and storage	575,410	600,012	622,035	514,804	678,467	683,095	475,229
I Accommodation and food service activities	41,476	70,303	70,094	151,838	117,218	195,569	213,897
J Information and communication	127,385	126,721	154,858	165,274	149,782	125,441	88,375
K Financial and insurance activities	691,962	755,335	1,113,629	1,149,840	88,655	6,399	18,259
Total	4,508,387	4,450,885	4,783,693	4,637,898	4,377,618	4,095,424	3,761,291

Source: prepared by the authors, based on statistical data (Statistics available on the page of the Finance and Capital Market Commission)

Loans

Currently, in Latvia, on the basis of statistics from the Finance and Capital Market Commission (FKTK), in Q3 2020, compared to the corresponding period in 2019, bank loans to domestic non-financial companies (A-K sectors) have decreased overall (excluding sectors D, I, K). According to the statistical information collected by the author, in the 9 months of 2020, bank loans to domestic non-financial enterprises (A-K sectors) decreased by – 8.16% against the corresponding period in 2019.

According to the author's estimates, it is in absolute terms EUR 3761291 thousand, for the 9 months of 2020, and for the corresponding period in the previous year - 9 months 2019, the amount was EUR 4095427 (Source: Finance and Capital Market Commission).

An analysis of the dynamics of loans issued by Latvian banks (for 9 months of each corresponding year) for domestic non-financial companies (A-K industries) from 2014 to 2020 showed a reduction in the amount of credit issued from 2016. The reduction was recorded annually until 30 September 2020 (9 months). The information analyzed by the author is summarized in Table 3. The information is given for 9 months of each year.

Table 3 summarizes the statistical information on loans for domestic non-financial corporations by sector of economy (A-K), where it appears that overall, since 2016, the portfolio of these loans (loans) has fallen since 2016, every year, until 2020 (information is 9 months). If the reduction in credits in 2020 could still be explained by COVID – 19 would lead to an economic downturn, there was no such economic downturn in previous years. The author of the work found that GDP growth has been on an annual basis since 2014 and 2019. The GDP decrease from 2014 to 2020 was only recorded in 2020 (Source: Central Statistical Bureau (CSB)). Figure 1 has been created to further understand this information on the total amount of loans granted to domestic non-financial enterprises (sectors A - K).
Fig. 1.

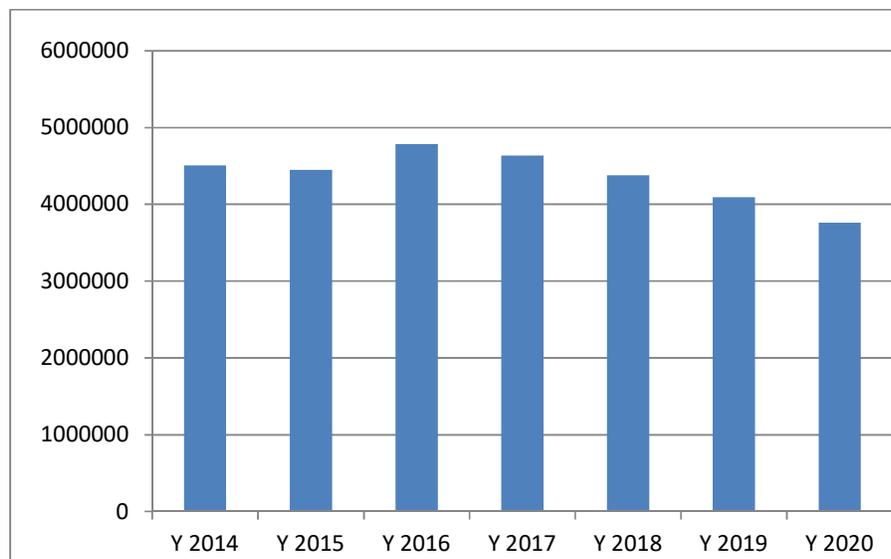


Fig. 1. Total amount of loans for domestic non-financial corporations by sector of economy (A-K), (in thousands of euro), from 2014 until 2020 (each year for a period of 9 months)

Source: prepared by the authors, based on statistical data (Statistics available on the page of the Finance and Capital Market Commission)

When analyzing this information in Fig.1, it can be seen that the amount of credits issued on 30 September 2020 against 9 months 2016 has decreased by EUR -1022402, corresponding to a decrease against the corresponding period of 9 months in 2016 by -21,37% (Source: Calculated by authors). But the amount of loans issued on 30 September 2020 against the 9 months of 2014 decreased by -747096 thousand euro, a decrease of -16.57% against the corresponding 9-month period in 2014 (Source: Calculated by authors). But according to data from the Latvian Central Statistical Bureau, it can be seen - there is an increase in gross domestic product (GDP) over the same period of time.

In general, it can be concluded that during the period to be analysed (2014-2020), the dynamics of the amount of credits issued by Latvian banks indicate a decrease (by 9 months of each corresponding year) for domestic non-financial companies (A-K industries). The authors of this study identified this reduction in the amount of credit issued annually as from 2016 (Source: Calculated by authors).

The study author concludes that such a situation does not correspond to the development of the Latvian planning document “The National Development Plan of Latvia for 2021-2027” (NAP2027), the proposed course of action - the increase in lending to domestic non-financial enterprises (A-K industries), in line with GDP growth. (Source: (NAP2027)). What are the reasons for this? In the opinion of the author, in 2020, this is also due to the shrinking of the economy resulting from COVID, 19. This is illustrated by statistics on the fall in GDP in 2020. (Source: Central Statistical Bureau (CSB)).

However, industry expert - economist V.Micune from Bank of Latvia said that observing caution and tightening lending standards in early 2020 had an impact on lending volumes in Latvia. (Source: Trouble, V. (2020)).

The author of the study also wishes to express an opinion on the so-called “entrepreneurial attitudes”, in agreement with the results of Professor Arnis Sauka's study on the so-called “productive business activities”. According to the professor, “there are companies that are entrepreneurial orientation” (Source: Sauka, A. (2008)). His written work “Productive, Unproductive, and Destructive Entrepreneurship” has studied “productive, counterproductive and destructive businesses.” Arnis Sauka concludes that “The productive entrepreneurs are less involved in behavior such as tax avoidance or illegal business and show a higher level of entrepreneurial orientation” (Source: Sauka, A. (2008)). The author believes that “entrepreneurial orientation” is a business attitude, a focus on achievements, a result that is also an important factor in our days.

Alternative sources of funding

The Cabinet Regulations “Strategy for Latvia Covid – 19 to mitigate the effects of the crisis”, approved in Latvia on 26 May 2020, which includes 5 strands of action, including: accessibility and infrastructure, provides for the implementation of measures in three

consecutive steps: the period of economic stabilisation (measures to be implemented in 2020), the period of re-orientation (measures scheduled from 2021. By 2022) and a third step, a growth faze scheduled to start from 2023. It provides support for business growth, fast-growing industries. (Source: Cabinet Regulations “Strategy for Latvia for Mitigation of the Consequences of the Crisis Caused by Covid-19”).

As well as in other countries affected by COVID-19, the availability of this financial resources support in Latvia is up to date. In Latvia, companies can receive support. Funding for entrepreneurs is not only available in the form of different credits (loans), but also in the form of different support programmes. Funding from the European Regional Development Fund (ERDF) is available as well as funding form the Government (by grants). For example, different programmes, different projects are available to entrepreneurs in Latvia. They may receive support if they have suffered due to COVID - 19.

Grants/support programmes for COVID - 19 affected companies

At the moment, we can find approved several regulatory enactments on the basis of which entrepreneurs can receive support (such as international laws, regulations of the European Commission, as well as the laws and regulations of Latvia). International law has a higher level, so it should first be called European legislation. For example, the Temporary Framework for State aid measures to support the economy in the current COVID-19 outbreak (European Commission (2020/C 91 I/01)). This framework is designed to support micro-enterprises, small businesses and start-ups and stimulate private investment. The main objective of this temporary framework is to provide targeted aid to other undertakings that are in financial difficulties due to the outbreak of COVID-19 (Source: European Commission - press release. Brussels, 29, 2020. June). This framework provides that Member States can provide public support under temporary regulation, such as micro and small businesses and start-ups, in particular innovative start-ups (Source: Commission (2020/C 91 I/01)). The framework determines the economic impact of the outbreak of Covid-19, as well as the need for strong coordination of national support measures at European level. And it also lays down the need for appropriate state aid measures.

It lays down provisional State aid measures. For example: Aid in the form of direct grants, repayable advances or tax incentives, Aid in the form of guarantee loans, Aid in the form of subsidised interest rate loans, Aid in the form of guarantees and loans provided through credit institutions or other financial intermediaries, short-term export credit insurance (Source: Commission (2020/C 91 I/01)).

Margaret Vestager, Vice-President of the European Commission responsible for Competition Policy, stresses that “Micro-enterprises, small businesses and start-ups play a key role in the economic recovery of the Union” (Source: European Commission - press release. Brussels, 29, 2020. June). In fact, this is the main reason, in the authors' view, why

the European Commission - Temporary Framework for State aid measures to support the economy in the current COVID-19 outbreak (2020/C 91 I/01) has already been established.

Laws and regulations have been adopted and approved in Latvia this year, which provide for the granting of aid to companies suffering from COVID-19. For example, Cabinet Regulation No. 676, Adopted 10 November 2020. Regulations Regarding Aid to Undertakings Affected by the COVID-19 Crisis for Ensuring the Flow of Working Capital. These rules lay down the criteria and procedures for granting grants (grants - State aid) to current funds. These rules provide for a total amount of EUR 70800000 (Source: Cabinet Regulation No. 676 (2020)).

For companies affected by the crisis and whose turnover has declined by more than 20% against the previous period, the available aid programme makes available for the flow of funds working on grants, which is a one-off State aid to compensate for the fall in the flow of working capital (the aid is intended from the State budget and the application for this aid is scheduled to expire in 2021. 21 January) (Source: Cabinet Regulation No. 676 (2020)).

The regulation applicable to aid categories such as regional aid also includes aid to small and medium-sized enterprises, including aid for access to finance for small and medium-sized enterprises, and others: Commission Regulation (EU) No 651/2014 of 17 June 2014 declaring categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty. This Regulation is a legislative act at European level which provides for the provision of support for regional development. This Regulation lays down, inter alia, definitions relating to regional aid, including aid to SMEs, definitions relating to aid for SMEs for access to finance, definitions of aid for research, development and innovation, definitions relating to aid for disadvantaged workers and disabled workers, definitions relating to aid for the environment protection, and others. Chapter III (Specific rules for different categories of aid), Section 1 (Regional aid), Subpart A (Regional investment and operational aid), Article 14 (Regional investment aid) lays down regional investment aid measures. On the basis of this Regulation, this Article 14 provides that aid is to be granted in assisted areas (Source: (EU) No 651/2014). In addition, in assisted areas which comply with the specific articles of the Treaty on European Union. This Regulation also provides for aid for regional urban development. Urban development projects must meet the criteria set out in this Regulation (e.g. they must meet the criterion of being implemented in assisted areas through urban development funds; they are co-financed by the European Structural Funds and Investment Funds; they support the implementation of the “integrated sustainable urban development strategy”. It is also stated here that the total investment in the urban development project under any urban development aid measure does not exceed EUR 20 million (Source: (EU) No 651/2014).

It is also important to mention the Latvian Cabinet Regulation No. 677 on loans and interest rate subsidies for merchants for competitiveness, approved in 2020, comes into force on November 17. These rules define the purpose of the crisis loan program, the terms of the crisis loan program, the procedures for submitting the financing application. These Regulations prescribe the purpose of the crisis loan programme - to promote the development, competitiveness, preservation and increase of export volumes by providing for the provision of funding necessary for this purpose for the implementation of viable business projects, promoting the sustainable development of the Latvian economy and international competitiveness (Source: Cabinet No Regulation). 677., 2020.). The rules lay down the conditions for granting aid in the form of loans and subsidies and the procedures by which this programme should be implemented. As well as these rules, the amount of funding available is specified. The rules also provide that, under the crisis loan programme, loans are provided, and their interest rate subsidies are applied by the company “Development Finance Institution Altum”. It is important to note that “Financing is provided as regional aid under Article 14 of Commission Regulation No 651/2014” (Source: Cabinet Regulation No. 677, 2020.).

The next rules to be mentioned are Regulations of the Cabinet of Ministers No. 866, Riga, 20 December 2016 (protocol No. 69 § 90). Rules for Issuing Short-Term Export Credit Guarantees to Merchants and Relevant Agricultural Service Cooperatives. These Regulations prescribe the conditions for the issuing of payment guarantees for short-term export credit transactions to merchants and agricultural services co-operative societies, they shall also prescribe the procedures for the issuing of guarantees, the amounts of guarantees, including the financing of guarantees, it shall also prescribe that the guarantees are issued by the Stock Company “Development Finance Institution Altum” and other conditions in the issuance of such instrument. (Source: Cabinet Regulation No. 866, 2016.).

Cabinet Regulation No.537, Adopted 5 September 2017, should also be mentioned. It is regulation regarding to portfolio guarantees for the promotion of lending to small (micro), small and medium-sized economic operator - legal entities. These rules define the purpose of the portfolio guarantee and the conditions for the granting of guarantee aid. They also provide that guarantees are available to economic operators by the “Development Finance Institution Altum” (Source: Cabinet Regulation No. 537, 2017.).

COVID - 19 as a result, companies negatively affected have the possibility of receiving aid in the form of guarantees, including on the basis of Cabinet Regulation No. 454, adopted 14 July 2020. Regulations registering to guarantees for large companies approved by the spread of Covid-19. These rules, like the above, also lay down the rules and procedures for the granting of aid to economic operators in the form of guarantees where their activity has been adversely affected by THE COVID 19 pandemic. These Regulations

prescribe the granting of the referred to aid directly to large operators who comply with the characteristics specified in the Regulations. These provisions also provide that this aid is granted by the “Development Finance Institution Altum” (Source: Cabinet Regulation No. 454, 2020.).

On the basis of the above-mentioned regulatory documents, commercial investors whose activities have been negatively affected by the Covid-19 crises may receive the following support from the Development Finance Institution Altum: “Loans of revolving assets”, “Guarantees for bank credit holidays”, “Export credit guarantees”, “Guarantees for large merchants” and “Capital Fund”. The proposed time for the introduction of these types of aid is up to 30. June 2021. It is also possible to obtain the form of aid: “Loans to medium and large enterprises”, which is also intended for companies affected by the COVID-19 crisis, but its implementation time is longer than 31 December 2021 (Source: company of the Development Finance Institution Altum).

Entrepreneurs also have the opportunity to apply for support measures from international financial institutions to mitigate the consequences of the crisis in business caused by COVID-19. For example, entrepreneurs have the possibility to apply for aid offers from different international financial institutions. For example, from the European Bank for Reconstruction and Development (EBRD), from the European Investment Bank (EIB), from the International Finance Corporation (IFC), and so on.

In Latvia, on the basis of the Law on Aid for the Activities of Start-up Companies, approved in 2016, entered into force on 1 January 2017, it is possible to obtain funding to start business. Because this law provides for promoting the formation of start-ups in Latvia in order to promote research, innovative ideas, products or processes in economic activities (Source: Law on Aid for the Activities of Start-up Companies). It should be noted that the start-ups are usually a high-growth capital companies. This Law lays down the criteria for support programmes for start-ups and for granting them, as well as the procedures for administering the aid granted to start-ups. This Law also lays down the conditions for the qualification of venture capital investors, and the formation and competence of the Performance Assessment Commission for start-ups. This Law also provides that start-ups may apply for the following support programmes: “Fixed payment support programme”, “Source: Law on Aid for the Activities of Start-up Companies”.

But Cabinet Regulation No.692, which are Adopted 25 October 2016, entitled “Regulation for the Implementation of the Activity 1.2.1.2 “Support for the Improvement of Technology Transfer System” of the Specific Objective 1.2.1 “To increase investments of private sector in R & D” of the Operational Programme “Growth and Emsealing”, as it is a regulatory document governing the provision of aid for the commercialisation of research results promoting innovation activity in small (micro), small, medium and large merchants,

so that they can be supported by technology transfer for the development of new or substantially improved products or technologies. As well as promoting the formation of start-ups in Latvia. The target group of the measure shall be economic operators and research organisations (Source: Cabinet Regulation No. 692). It is important to mention Commission Regulation (EU) No 651/2014 of 17 June 2014, declaring certain of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty, (Text with EEA relevance), since it is this European Commission framework that lays down the definition of beneficiaries (Source: (EU) No 651/2014). Under this framework, start-ups eligible for support, called “Participation of start-ups in exhibitions, conferences and direct visits abroad”, where this support can be received by the start-ups Investment and Development Agency of Latvia (LIAA) (Source: (LIAA)).

It should be noted that there are also a number of other support programmes available to Latvian companies through the Investment and Development Agency of Latvia.

The author would like to mention support programmes such as “Innovation vouchers support services”. This programme can contribute significantly to improving product or technological development by contributing “to the achievement of the objectives of Latvia's smart specialisation intermodality. The basis for the provision of this aid, the regulatory framework here is Cabinet Regulation No. 692, Adopted 25 October 2016, Regulation for the Implementation of the Activity 1.2.1.2 “Support for the Improvement of Technology Transfer System” of the Specific Objective 1.2.1 “To increase investments of private sector in R & D” of the Operational Programme “Growth and Employment” (Source: Cabinet Regulation No. 692). On the basis of the framework already mentioned, it is also possible to receive such aid, called “Aid for the Commercialisation of Research Results”, but the beneficiaries are scientific bodies for public research, and this aid is provided to enable them to develop a commercialisation strategy in order to develop and register a patent or a licence, including a new technology organisation, a technology-oriented company.

But on the basis of Cabinet Regulation No. 678, Adopted 1 December 2015, and also on the basis of Cabinet Regulation No. 482, Adopted 28 July 2020, economic operators may receive support for export activities in order to promote international competitiveness in business (“Promoting international competitiveness”).

Companies may also receive the necessary support for the training of employees. This aid is called “Aid for training of workers” and aims to promote investment by providing support to foreign investors in the supply of skilled labour (Source: (LIAA)).

In order to promote innovation activity, small and medium-sized economic operators may receive support, under Horizon 2020, the European Union Framework Programme for Research and Innovation, the Small and Medium Business Instrument. As well as support available for the 2014-2021 period of the Norwegian Financial Instrument “Business

Development, Innovation and Small and Medium Enterprises” to promote high-value product creation and sustainable growth of economic operators, in areas such as “green” innovation, information and communication technologies and quality of life-supporting technologies, (Source: Investment and development Agency of Latvia (LIAA)).

It is important to mention - Cabinet Regulation No. 279, Admitted 3 May 2016. Operational Programs “Growth and Employment” 3.1.1 Specific support objective “Facilitate the creation and development of SMEs, especially in the manufacturing industry and in the priority sectors of RIS3” 3.1.1.6 Implementing Rules for the measure “Regional Business Incubators and Creative Industries Incubator”. Because, on the basis of this legislative instrument, aid for incubation is available to businesses in regions. In fact, it is an incubation program for merchants as a support for their faster growth. In this incubation support programme, co-financing is available to businesses. Incubation aid for enterprises shall be available until 31 December 2023. In Latvia, there are currently 14 regional business incubators and one Creative Industry incubator in Riga, who is specialised in providing support to creative industry companies (Source: Investment and Development Agency of Latvia (LIAA)).

Private and Venture Capital

Due to the development of technology, entrepreneurs in our days have the opportunity to choose other forms of funding as well. Alternative types of funding available in Latvia, are several, for example: venture capital, mutual lending platforms, business angels, and other.

The study data compiled by Deloitte in the report “Baltics Private Equity and Venture Capital Market Overview 2010-2019 (June 2020) shows that there is an increase in Private Equity and Venture Capital in the Baltic market, including Latvia (data collected from 2010 to 2019) (Source: Deloitte, 2020). For example, Private equity and venture capital in Latvia - In 2019, amounts invested were 37.3% higher (EUR 13 M) than 2018 (Source: Linas Galvelē. Baltics Private Equity and Venture Capital Market overview 2010-2019 (June 2020), Deloitte Central Europe.

P2P (peer to peer) as an alternative means of financing is also an opportunity for entrepreneurs to receive funding. For example, data from the Alternative Financial Services Association of Latvia show that investment in mutual lending platforms in Latvia is increasing every year, and in Q3 2019 these investments have reached EUR 920598 million (Source: Alternative Financial Services Association of Latvia, <https://www.lafpa.lv/en/statistics/>).

Risk capital, as an alternative form of financing, is available to entrepreneurs in Latvia, according to Latvian private equity and venture capital association (LVCA). Unlike

bank credit, venture-capital owners take part of business risk as they become co-owners of companies when investing in equity.

In order to highlight the importance of venture capital in business, the author wishes to mention the publication of the World Economic Forum in report entitled “The Global Competitiveness Report (2020). How Countries are performing on the Road to Recovery”, points to the impact of the pandemic on business. The chapter entitled “The impact of the COVID-19 crisis on indicators of competitiveness” summarises a study on the perception of impacts on the business environment. “The impact of the current health crisis has had a profound impact on the perception of business leaders, and many of these perceptions have been captured by the World Economic Forum's Executive Opinion Survey” (Source: World Economic Forum. The Global Competitiveness Report. (2020)). According to the World Economic Forum, a perception study indicates that progress in some areas increased significantly or, conversely, decreased. There are areas where respondents in the study - business leaders - believe that significant improvement has occurred. For example, according to this survey, business leaders are identified as a positive factor by Venture Capital availability (Source: World Economic Forum. The Global Competitiveness Report. (2020)).

The World Economic Forum has identified this factor as a positive business environment among a total of 5 other factors (“Factors, that registered that most positive shifts”), including the “soundness of banks” factor as a positive factor. It should be noted that Venture Capital availability among other “Factors, that registered that most positive shifts” has been identified as a positive factor in both markets, as “Advanced economy” and “Emerging and development economies” (Source: World Economic Forum. The Global Competitiveness Report. (2020)).

In its study, the World Economic Forum considers that: “These insights from the Executive Opinion Survey, although not comprehensive, offer a unique perspective on business leaders' views and clear indications on the needs of business communities.”

The information available also indicates the availability of crowd financing (Crowdfunding). For business financing, this alternative source of financing is available through the “Project Bank” co-financing platform (Source: <https://projektubanka.lv/>)

The author would also like to mention alternative sources of funding, such as Business Angels, available to entrepreneurs. Latvian Business Angels Network (LatBAN) reports that in five years, business angels have invested in 109 Latvian companies (Source: Latvian Business Angel Network (LatBAN)). This funding is available to support new and prospective projects.

CONCLUSIONS

The author of the study has achieved the objectives of collecting, analysing and classifying external sources of financing: credits and alternative sources of financing. As far as the hypothesis is concerned, it has been partially confirmed. While business development and regional development in Latvia have a wide range of sources of finalisation: as bank loans, as well as alternative sources of financing, bank loans are declining as a source of funding.

The author also found that, on the basis of statistics from the Financial and Capital Market Commission (FKTK), bank loans to domestic non-financial companies (A-K sectors) in Latvia in Q3 2020 have decreased overall compared to the corresponding period in 2019 (excluding sectors D, I, K with a slight increase in lending volumes.). According to estimates made by the author of the work, they decreased by – 8.16% in the 9 months of 2020 against the corresponding period in the previous year.

But in contrast to the decline in lending volumes, the so-called alternative funding sources have increased and are available. Alternative sources of funding have increased in the form of different programmes, different aid, as well as aid from government (in the form of grants) and venture capital and other private capital. Funding for regional development is also available in the form of different support programmes.

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