

TRADE CO-OPERATIVE UNIVERSITY OF MOLDOVA

ISSN 2345-1424
E-ISSN 2345-1483

**Journal of Research
on Trade, Management and Economic Development**

VOLUME 8, ISSUE 1(15)/2021

Chisinau – 2021

Editorial Board:

Viorica FULGA, Associate professor, PhD – Deputy Editor

Oxana LIVITCHI, Associate professor, PhD

Simion MORARU, Associate professor, PhD

Technical Board:

Tatiana LUCINSCHI – English editing and consulting

Angela MOCANU – Copy editing and typesetting

Roman CAMERZAN – Cover design

The *Journal of Research on Trade, Management and Economic Development* comprises articles related to various topics of economy, commerce and management, focusing on the relationship between trade and economic development at national and international levels.

The electronic version is available on <http://jrtmed.uccm.md/index.php/en>.

The *Journal of Research on Trade, Management and Economic Development* is classified by the **National Agency for Quality Assurance in Education and Research** in the **category B**.

Responsibility for the content of printed materials lies entirely with the authors.

In the hope of a lasting fruitful cooperation, the Editorial Board gratefully thanks the partner institutions and persons who contributed to the publication of this volume.

Board of Advisors**Larisa SAVGA**

Professor PhD, Trade Co-operative University of Moldova – Editor-in-Chief

Ion VERBONCU

Professor PhD, Bucharest University of Economic Studies (Romania)

Hagen HENRY

Professor PhD, Ruralia Institute, University of Helsinki (Finland)

Panaite NICA

Professor PhD, Alexandru Ioan Cuza University (Romania)

Alexandru STRATAN

Professor PhD, National Institute for Economic Research (Republic of Moldova)

Isobel M. FINDLAY

Associate professor PhD, Edwards School of Business, University of Saskatchewan (Canada)

Marius-Dumitru PARASCHIVESCU

Professor PhD, George Bacovia University of Bacau (Romania)

Alexei NESTULEA

Professor PhD, Poltava University of Economics and Trade (Ukraine)

Erkara AIMAGAMBETOV

Professor PhD, Karaganda Economic University of Kazpotrebooyuz (Kazakhstan)

Tatiana PUIU

Professor PhD, George Bacovia University of Bacau (Romania)

Marieta OLARU

Professor PhD, Bucharest University of Economic Studies (Romania)

Domagoja BULJAN-BARBACA

Associate professor PhD, University of Split (Croatia)

Elisaveta TARASOVA

Professor PhD, Belgorod University of Co-operation, Economy and Law (Russian Federation)

Zuhui HUANG

Professor PhD, China Academy for Rural Development, Zhejiang University (China)

Valentin NITA

Professor PhD, Alexandru Ioan Cuza University (Romania)

Iulia DOITCHIOVA

Professor PhD, University of National and World Economy, Sofia (Bulgaria)

Ana Beatriz HERNANDEZ LARA

Associate professor PhD, Rovira i Virgili University of Tarragona (Spain)

Ala COTELNIC

Professor PhD, Academy of Economic Studies of Moldova

Victoria GANEA

Professor PhD, Moldova State University

Welcome to the Journal of Research on Trade, Management and Economic Development

The Journal of Research on Trade, Management and Economic Development (JRTMED) focuses on theoretical, applied, interdisciplinary and methodological researches in all areas of economics, trade, management and, more significantly, on various interrelationships between trade and economic development at national and international levels.

JRTMED was set out to promote research and to publish information on the achievements in all areas mentioned above and to provide a way for researchers, academics, policy makers, business practitioners and representatives of co-operatives to exchange views and share information and new ideas.

The goal of JRTMED is to disseminate knowledge, to promote innovative thinking, intellectual discussions, research analyses and pragmatic studies including critiques regarding a wide area of economic sciences, as well as to facilitate communication between academics, research experts, policy makers, business practitioners, members of co-operatives, government agencies and executive decision makers.

JRTMED Editorial Board is inviting researchers, doctoral students, teaching staff and professionals from the real sector of economy to collaboration, exchange of experience and dissemination of the achieved research results.

Editorial Board

More information about the Journal of Research on Trade, Management and Economic Development can be found on the journal's homepage <http://jrtmed.uccm.md/index.php/en>.

Contents

	Page
TWO POSSIBLE MANAGERIAL CRISIS SOLUTIONS: RESTRUCTURING AND/OR MANAGERIAL REENGINEERING	6
Ion VERBONCU	
GENERALITIES RELATING TO THE IMPERATIVE, EVOLUTION AND CONCORDANCE OF MEANS AND METHODS OF PROTECTION OF ECONOMIC INFORMATION AND INFORMATICS RESOURCES	25
Tudor LEAHU Alexandr GRECU Victor MORARI	
MECHANISM FOR INTERACTION BETWEEN UNIVERSITIES AND INTERNATIONAL ORGANIZATIONS WITHIN THE FRAMEWORK OF THE INTERNATIONAL UNITWIN / UNESCO CHAIRS PROGRAM	44
E. E. TARASOVA E. V. ISAENKO E. A. GOMONKO	
SUBSTANTIATION OF MARKETING ACTIVITIES FOR THE PRODUCTION OF SEA BUCKTHORN FOR AGRICULTURAL ENTERPRISES IN THE REPUBLIC OF MOLDOVA	59
Sergiu MÎRZA Feodosie PITUȘCAN	
RECOMMENDATIONS FOR THE INNOVATION-DRIVEN DEVELOPMENT OF THE REPUBLIC OF MOLDOVA IN THE CONTEXT OF SUSTAINABILITY	70
Alina SUSLENCO Marilena DONCEAN	
THE PARTICULARITIES OF THE SOCIAL CAPITAL CHANGES OF JOINT STOCK COMPANIES ACCORDING TO NATIONAL LEGISLATION	86
Liliana DANDARA	
REVIEWERS	106
NOTES FOR AUTHORS	107

TWO POSSIBLE MANAGERIAL CRISIS SOLUTIONS: RESTRUCTURING AND/OR MANAGERIAL REENGINEERING

Ion VERBONCU, Prof., PhD

Bucharest University of Economic Studies, Romania

Email: iverboncu@yahoo.com

Universal Decimal Classification: 338.124.4: { 330.341+ 658.012.4}

JEL Classification: M10, M19

Abstract

The difficult period we are going through, created and maintained by the Covid-19 pandemic, is marked by an economic crisis affecting the world, without any discrimination. Specialists and politicians come up with solutions, feasible or less feasible, but they all require financial resources. For companies, especially private ones, financing possibilities are diminishing due to their worsening financial situation: lack of liquidity, high costs, declining revenues, lost markets and also declining image. There are several ways to overcome the crisis or mitigate its adverse effects, the most frequently invoked being restructuring, seen as a real "safety belt" for both insolvent companies (to avoid bankruptcy) and those that register, over a period of time, an economic and financial decline. Such a rescue solution, considered miraculous, has begun to be re-evaluated in terms of its necessity, opportunity, content and implications, in the context in which little or no purely managerial solutions are used, which include structural changes or important procedural. One of these is managerial reengineering, by far the most important and complex way of managerial and organizational change known and applied quite timidly in Romania as well. We will focus on these two possible managerial solutions in our paper.

Keywords: *economic crisis, management, restructuring, business process reengineering, managerial reengineering*

1. Introduction

1.1. About the economic crisis in Romania

The resolution of a crisis, especially of the economic crisis, requires the adoption and application of appropriate measures to ensure the transition from one state to another, from an unfavorable to a favorable situation. The starting point in this approach is given by the phrase: *change causes a crisis, and can only come out of the crisis by change!*

The economic crisis that characterizes Romania starting with the middle of 2020 differs a lot from the previous economic crises, both by causes and by the forms of manifestation. Although it is widespread in the world economy, the current economic crisis in our country can be individualized mainly by the causes that generated it, presented briefly below:

- *The health crisis* generated by the pandemic with Covid-19 is, indisputably, the most important cause of the onset and manifestation of the current economic crisis, with dimensions not only national, but even global. Most companies were closed and, subsequently, with online activities, public institutions adapted their services to the demand of citizens, businesses and local communities by trying to digitize the interface with them, schools and universities promoted, for the most part, online

education, etc. Moreover, the health crisis has generated at least five other crises: *economic*, whose manifestations are beginning to worsen, *political*, the government's inability to properly manage the pandemic, *social*, in *education*, and in *agriculture*.

- *The managerial crisis* is an important cause of the economic crisis in the sense that in almost all organizational levels of society and economy (parliament, government, ministries, central and local authorities), in key decision-making positions, there are deficient figures in terms of knowledge, qualities and managerial skills. Unfortunately, the exaggerated interference of politics in management is felt not only at the level of public institutions, but also at the level of public enterprises under central or local public authority, incompetence generating managerial and economic instability of the organization, bureaucracy and corruption.
- *The social crisis*, found in the many social problems created in times of crisis, such as: the threat of job loss, worsening quality of life, declining living standards, technical unemployment, permanent unemployment, the emergence of additional expenditures for the population (procurement of health materials whose use is mandatory), rising prices for consumer goods, fear of disease and its consequences, the emergence of social tensions caused by measures taken by the authorities to reduce the spread of the pandemic, fear among the population, etc. In other words, there is a psychological component of the crisis, fueled by social isolation and fear of the consequences of the pandemic.
- One of the causes of the managerial crisis and, indirectly, of the economic crisis, is the crisis in *education*, explained by the asynchrony between the needs of the labor market and the educational offer of Romanian education, remained, in many respects, in some outdated patterns, far from the progress made in this field worldwide. The mechanisms for recruiting, selecting and hiring managers are dominated by bureaucracy, formalism and have a pronounced political flavor, a situation that justifies the presence in many management positions in public organizations of incompetents.
- *The political crisis*, triggered with the appearance of the first symptoms of the health crisis, is based on the traditional disputes between power and opposition. The inability of the government team to decisively solve the most important problems related to the proper functioning of pandemic hospital units and the social measures adopted that have restricted certain fundamental freedoms of the individual.
- *Corruption* at the top of society, encountered in the midst of a health crisis in unprecedented situations, generated both by the public procurement system and by the provision of basic health products (masks, jumpsuits, disinfectants, etc.).
- *The bureaucracy*, who manifests itself as a corollary of the previous causes, accentuated the health crisis and, ultimately, the economic crisis, through the multitude of papers (documents) whose completion and transmission created more harm than good, created chaos!

At the organizational level, it is unanimous to appreciate that the current economic crisis is, in fact, a deep *liquidity crisis*, manifested by difficulties in ensuring the continuity of business

processes. Going through this period, sometimes of rupture, is difficult without the involvement of truly professional managers. Management during the crisis - which is not limited to a few months, but can last for years - is the decisive factor in achieving economic and social efficiency. The reference to the management sages of the last century, *Peter Drucker* or *Richard Farmer*, in whose view "there are no efficient and inefficient enterprises, but well or poorly run enterprises", is not accidental.

1.2. Economic characteristics of the crisis period

- Restricting the volume of production, sales, supply, service activities, etc.
- Worsening of the economic and financial situation of the organization: dramatic decrease in liquidity (bills can no longer be paid, but not collected), reduced turnover, losses, wages, rising debts to the state and suppliers, etc.
- The growth rate of the economy, which we have become accustomed to in recent years (until 2020), has diminished and the outlook for the coming years is pessimistic. Such a situation will affect the scale and pace of investment at the enterprise level.
- Quite a large public debt, generated by the contracted loans, with non-transparent destination, generating new taxes and duties for the economic agents.
- High budget deficit, given that the level agreed by the European Union has been resized, with a tendency to increase in 2021 to over 7%, with an unfavorable impact on salaries and other motivational elements granted at the organizational level.
- Loss of markets or alarming reduction of sales on traditional markets, a situation generated by the predominant manufacturing character of the Romanian economy; this state of affairs translates into a dramatic reduction in exports, as well as an increase in imports, which means a growing trade deficit.
- Loss of a significant number of jobs, especially in the area of main activities and support (auxiliary). Such a situation has led to the bankruptcy of many SMEs or to the insolvency of other companies, which have already resorted to restructuring, as a rescue solution.
- The occurrence of unemployment through temporary or permanent dismissals.

1.3. Managerial characteristics of the crisis period

The difficulties manifested in economic, social, technical and technological plan cause mutations, sometimes profound, in the manner of exercising the management processes, as well as in the functioning of each component of the management system.

a. Particularities of exercising the management processes

The exercise of management processes is the exclusive prerogative of managers, individual and group, from public and private organizations and is materialized in the substantiation and adoption of managerial decisions that support the establishment and achievement of assumed objectives. The performance of managers targets five "areas of interest" delimited within the management processes, each of them having, during the crisis, certain characteristics.

Forecasting - involves making decisions about setting goals, how to achieve them, sizing the necessary resources and specifying deadlines for meeting goals. In the midst of the economic crisis, the exercise of forecasting is focused on making decisions for the survival of the enterprise, i.e. decisions by which the material and, especially, financial resources necessary for the achievement of the already established objectives, the provision of liquidity for the payment of salaries and the current maintenance of the company's operation are ensured. As such, decisions are primarily tactical and current.

Organization - is the function exercised with a much higher intensity than the normal period because the immediate decisions, but also future ones (next 2-3 years) refer to the procedural organization, structural organization and restoration of organizational documents that include these changes organizational nature. The most significant decision-making interventions should have as object *the procedural and structural-organizational reconsideration of the organization* and, in this context, the restoration of some organizational documents.

Coordination - approached from the position of harmonizing the decisions and actions of subordinate staff or subordinate compartments, is the function intensely exercised. The support of the exercise of coordination is communication. Coordination and, implicitly, bilateral communication, aimed at explaining the economic situation of the enterprise, the need and opportunity to take tough decisions, with unfavorable human impact, must become a reality. These are, ultimately, ways to improve the work climate, the cultural environment in which managers and executors act to keep jobs alive, the enterprise. The psychological preparation of employees for a future that is not at all favorable, but not apocalyptic, is more than necessary.

Training - is the function performed with great difficulty during the crisis, on the one hand, due to the depletion to exhaustion of financial resources for the payment of salaries and other monetary rights and, on the other hand, due to the limitation of solutions to determine individuals to participate, to get involved in the development of work processes, in achieving objectives. The training is marked by the exclusivity of current and tactical decisions, materialized in the reduction of salaries or even the frequent postponement of their payment, individual or collective dismissals, elimination of bonuses, allowances or non-financial elements of motivation, postponement of due rates on bank loans or debt payments. These are decisions that must be taken by chance to ensure a minimum of conditions required for the survival of the company, to avoid going into insolvency or bankruptcy. The most painful of these decisions - are those related to job loss, as the consequences are manifested in the chain: unemployment, impoverishment of the population, the emergence of conflict and so on.

Control-evaluation - function that focuses mainly on the results recorded in the field of production, supply and sales, costs, profit, productivity, wages, liquidity and dynamics of debts to banks, the state budget, employees, suppliers and other creditors, so more on evaluation (specialists rightly invoke the need for an *economic, financial and fiscal audit, through diagnosis*, as a starting point in addressing the crisis). Based on this information, some immediate solutions are ensured to ensure the survival of the company in a hostile economic environment and, at the same time, the premises are created for the adoption of complex, long-term solutions that allow the recovery and development of the company.

b. Dimensional and functional characteristics of the managerial components

The methodological component, consisting of managerial tools and methodologies for designing / redesigning, functioning and maintaining the functioning of management, is considered the most active, most dynamic component, with an important role in scientificizing the performance of managers. The crisis period brings significant changes in this level of managerial concerns, in the sense that the emphasis must be focused *on management by objectives* (applied in a simplified methodological formula), *on management based on profit centers*, *on project management*, *diagnosis*, *meeting and procedures*, adapted to the objectives pursued in order to mitigate the adverse effects and, in this way, to put the organization back on the waterline. Let's not forget that *the lack of methodology leads to empiricism in management, and the excess of methodology leads to bureaucracy!* A balanced approach ensures the scientific performance of managers.

The decision-making subsystem, which contains the managerial decisions and the mechanisms for substantiation, adoption and application, specific to each decision-maker, located in a certain position in the hierarchy of the company, has some peculiarities, in the sense that along with those in the financial-banking field; decisions to survive, avoid insolvency or bankruptcy sound it the most common and important; in terms of time horizon and impact on the company, tactical and current decisions are a priority, and the nature of the variables involved highlights the increased role of uncertain and risky decisions. But decision-making requires managerial competence. A competent manager knows management, *he knows what he is doing and he is doing the right thing!* We are not wrong in saying that, in most cases, *competence makes the difference* in management. In times of crisis, this can be the key factor in the successful selection and operationalization of the most appropriate rescue solution.

The information subsystem, approached through data, information, flows, circuits and information procedures, together with the means of information processing, focuses, during the crisis, on the detection, adoption and application of information simplification, computerization and digitization solutions that allow reducing the number of positions and, implicitly, the staff and ensuring the interface with its own employees, with internal and external stakeholders (in this category, suppliers, customers and banks are the most important), in better conditions. Telework urgently needs successful IT solutions.

The organizational component, called to ensure the procedural and structural-organizational conditions adequate to achieve the objectives, will undergo multiple changes. It is the most vulnerable managerial area and, at the same time, the most attractive in terms of the ease of substantiation and the adoption of solutions to the crisis. The emphasis will be on eliminating unnecessary processes or consuming large resources, so with high costs, remodeling the activities strictly necessary for the production and marketing of products remaining in the manufacturing portfolio, as well as simplifying the organizational structure.

Human resources management, the managerial component that ensures the viability of the management as a whole, through specific activities to determine the necessary staff, recruitment, selection and staffing, evaluation, motivation, promotion, training and protection of employees, has the status of the most visible and affected managerial component in the crisis period. Why? Because, the decrease or lack of liquidity and the solutions of procedural

and structural-organizational nature create real difficulties for the management of the enterprise in terms of numerical maintenance of the human factor (individual and / or collective redundancies occur), in maintaining and even paying salaries, managing conflicts and even social conflicts.

Choosing the best solutions to overcome the crisis and reduce the adverse effects on the company requires the active, effective and responsible involvement of management. It, through the top level managers, proposes, and the owner approves such solutions, and the *managers from the middle and lower echelons*, together with the *executors*, apply.

The defining characteristic of the involvement is a *proactive* one, of anticipation and prevention of some phenomena that can cause disturbances in the functioning of the enterprise.

Why have legal consulting firms proliferated in recent decades, required to solve insolvency or bankruptcy problems of some companies, to the detriment of some management consulting companies that offer viable solutions to save those companies? This is a question that we are trying to answer by presenting ways to mitigate the unfavorable influences of the crisis, avoid insolvency and, implicitly, bankruptcy.

The portfolio of possible solutions, from which managers will choose the ones that best meet the dimensional and functional characteristics of the company and its management, but especially the objectives set by the resized strategic scenario, includes: *restructuring, redesign of business processes (business process reengineering), redesign of the management system, sale of assets or procedural and / or structural-organizational outsourcing*.

2. Degree of investigation of the problem currently, and purpose of research

The issue of functioning of enterprises and other types of organizations in times of crisis has been the subject of concern of specialists in economics and management both during the crisis of 2008-2010, and especially in the last 2 years, marked by the Covid-19 pandemic and the manifestation deep crises - economic, health, social, etc. - at the planetary level. Scientific research in Romania abounds in highlighting solutions to mitigate the effects of the crisis and even exit the crisis such as restructuring, sale of assets, outsourcing without deepening, from a methodological point of view, any of them. The medium- and long-term implications of such modalities on the business environment are also not sufficiently rigorously addressed. For publicly subordinated public enterprises (companies or national corporations) the regulations are specified by the European Union which, after accepting the restructuring plan, bears a significant part of its cost. Most of the information is collected from specialized works in the country or abroad, published in the last two decades, but also from the results of such approaches carried out at the level of representative enterprises in Romania.

The main objective of our article is to find and argue the most feasible managerial solutions for economic recovery of Romanian enterprises in crisis, from a fairly generous portfolio of such solutions.

3. Applied methods and materials

In making the article we have used the studies carried out and published in the Romanian literature on the behavior of Romanian enterprises during the crisis period. To those mentioned shall be add:

- The own research carried out in the last years at the level of organizations in various industries (construction of machinery, construction, wood processing, etc.), through diagnostic studies of managerial and economic viability, development of strategies, management redesign
- Books and articles published by the undersigned and his colleagues in the management department of the Academy of Economic studies in Bucharest;
- The innovations drawn from the French and American literature in the field of enterprise restructuring, the redesign of business processes and, in general, the improvement of management of companies in crisis.

4. Results obtained and discussions

Two possible crisis management solutions

4.1. Restructuring

If we approach the restructuring semantically, the notion can be explained, logically, by *changing the structure* in certain reference areas of the organization from the perspective of improving its performance. We refer to:

- *production structure* (remodeling of the assortment structure by giving up the manufacture of unprofitable or low-profit products, increasing the share of products with lower material and labor consumption, without affecting their quality, etc.)
- *the structure of the business environment, property insurance and sales markets* (revision of product policies in certain markets through changes in suppliers and customers in relation to structural changes in production and, of course, profitability at production and production)
- *the structure of business processes*, involved in obtaining and marketing products (elimination of some processes / operations, resource-intensive activities, redesign of others without affecting quality and profitability and in close connection with structural changes in production)
- *the organizational structure* of the enterprise, as a result of the structural changes operated in the business processes (structural-organizational redesign according to the work processes, with emphasis on positions, compartments, hierarchical levels and weights, organizational relations); mergers, outsourcing, etc. can take place in companies operating on profit centers (business formats).
- *staff structure*, in the sense of quantitative and structural changes in staffing requirements (usually, through restructuring, staff redundancies occur), required by the functioning of the redesigned organizational structure).

Consequently, *restructuring is a way of mitigating the impact of internal and external variables, materialized in modifying and adapting the dimensional and functional parameters of the enterprise and its management (people, assets, money, etc.) to the requirements of the*

internal and external environment, the prospect of improving the viability, efficiency and effectiveness of the business, maintaining and strengthening the competitive advantage.

The determinants of the restructuring are:

- *the life cycle phase* of the enterprise (start-up, growth, development, stagnation, decline);
- *complex and turbulent business environment* specific to the enterprise;
- *economic crises, regardless of the causes of their appearance and manifestation*;
- *its economic and financial condition*, highlighted by efficiency indicators (profit, costs, liquidity, income, productivity, etc.);
- *its management system and operating mechanisms.*

The purpose of a restructuring project / plan is to *improve the conditions for survival, recovery and consolidation* of the business. This results in the *objectives* of the restructuring, namely:

- *reducing costs and improving their structure* by detecting and eliminating processes (activities) that generate economic losses;
- *optimization of profit and liquidity generating processes (activities) by redesigning them*;
- *repositioning the company in the specific business environment*;
- *ensuring a simplified structural-organizational configuration, with positions, compartments, levels and resized hierarchical weights*;
- *improving the commercial image of the company*, by getting out of insolvency and saving from bankruptcy, increasing sales in a certain market, improving the quality of the products offered, etc.

In conclusion, it is observed that the objectives of the restructuring fall into four main categories: *economic-financial, managerial, commercial and socio-human.*

Causes

The main causes underlying the restructuring are, in essence, of an economic and financial, managerial, cultural-organizational nature.

- *the accentuated economic and financial decline of the company*, highlighted by the dramatic decrease of the level of some specific indicators: incomes, profit, liquidities, etc. ;
- *reaching the critical threshold regarding the possibilities of paying salaries*; the specific indicators of work and wages are no longer observed (the dynamics of wages exceeds the dynamics of the wage fund and the number of staff, and the dynamics of labor productivity is below the dynamics of the average wage);
- in the event of a global economic crisis, loans can no longer be paid and debts can no longer be collected; *we are witnessing an extensive economic and financial deadlock*;
- *the commercial environment and, in general, the company's business environment becomes totally unfriendly to it* (supply and sales markets are declining dramatically);

- *the decrease of the market share*, “fueled” by the managerial and economic inefficiency, but also by the moral wear and tear of the products and services, the inadequate quality of the products and / or services sold;
- *major difficulties in securing the financial resources* necessary for medium and long-term development (poor relations with banks and other important stakeholders);
- *organizational structure inadequate for the enterprise, with vaguely defined roles of individuals* (see totally inappropriate job descriptions);
- *the option for another organizational formula*, resulting from the merger, absorption, privatization, sale of assets, outsourcing or internalization, the establishment of joint ventures, etc .;
- *a failed, poorly developed and catastrophically applied strategy*;
- *outdated organizational culture*;
- *poor management, dominated by incompetence, lack of strategic and tactical vision, stiff in outdated patterns, with an outdated organizational culture, with oversizing management and execution positions and, implicitly, staff*;
- *etc.*

Typology of studies / restructuring plans

And in the field of restructuring there are several types of studies or projects / plans, delimited according to several criteria:

a. Scope

- *global restructuring* of the enterprise as a whole, recommended in the conditions of today's economic crisis in Romania;
- *partial restructuring*, at the level of procedural components (activities or functions) or structural (compartments or groups of compartments), recommended for the adaptation to the challenges and opportunities of the business environment.

b. The nature of the approach delimits the partial restructuring projects into:

- *managerial restructuring* (includes organizational and information restructuring);
- *commercial restructuring*;
- *financial restructuring*;
- *staff restructuring* (consequence of the previous three types).

c. Purpose of the restructuring [2, p. 253], [3, p. 14]:

- *"crisis" or defensive restructuring* triggered to avoid bankruptcy and mitigate the impact of the crisis on the company (specific to the period 1930-1980 and, in our opinion, during this period);
- *"competitive" or offensive restructuring* aimed at increasing the competitiveness of the business and consolidating its competitive advantage (encountered in the period after 1990).

d. Approach to the restructuring:

- *reactive restructuring*, which tries to recover the business, after or in the context of a crisis period;

- *proactive restructuring*, focused on finding the appropriate solutions to prevent the occurrence and manifestation of elements of managerial, economic, commercial discomfort, etc. and ensuring an upward trend in the competitiveness of the business (enterprise).

As far as we are concerned, we consider that the **methodology** for carrying out a study / organizational restructuring plan must be structured in several specific stages, as follows:

- Preparation for restructuring;
- The actual restructuring by:
 - Diagnosis of the internal and external environment;
 - Elaboration of the main strategic and tactical landmarks;
 - Elaboration and communication of the organizational restructuring plan / study;
 - Implementation and monitoring of the organizational restructuring plan;
 - Evaluation of the results of organizational restructuring.

The preparation of this approach requires the specification of some **coordinates of the organizational restructuring**:

- *Appointment of an interim manager* in place of the general manager of the enterprise to be restructured
- *Plan developer* (team of specialists led by the interim manager of the enterprise)
- *The period of realization* of the restructuring plan
- *Type of restructuring*
- *The costs* of elaborating the restructuring plan
- Expected / anticipated *results* from its application (estimation of some performance indicators levels that will be achieved at the end of the restructuring operationalization).

The methodology itself includes:

- a. Global or partial diagnosis** of the internal and external environment of the enterprise, highlighting the positive and negative symptoms, strengths and weaknesses, as well as the generating causes, opportunities and threats, the potential of internal and external viability and strategic recommendations tactics for enhancing viability potential. A diagnostic study, coupled with the SWOT analysis, performed professionally, is, especially through *recommendations, the starting point in any organizational or managerial change*.
- b. Elaboration of the main strategic and tactical benchmarks**, specific for the crisis and post-crisis period; where there is an overall corporate strategy, it is necessary to substantiate and develop a *partial restructuring strategy* with the same strategic components.
 - *Strategic objectives* (fundamental)
 - *Strategic options* (restructuring arrangements, often referred to as 'methods')
 - *Resources* (financial, human, material, informational and knowledge)
 - *Deadlines*, intermediate and final
 - *Ways to maintain or obtain a competitive advantage* in specific markets.

c. Elaboration and communication of the organizational restructuring plan

- *The need and timeliness of the restructuring*, in whole or in part
- *The purpose and objectives of organizational restructuring*
- *Content of the restructuring* (main organizational restructuring modalities: production restructuring, restructuring of main processes, procedural, structural-organizational or informational outsourcing, reduction of the number of posts, compartments and hierarchical levels, dismissal of part of the staff, restructuring of suppliers and customers, new organizational formulas resulting from absorption, merger, division, outsourcing, etc., ways of economic recovery through investments, promotion of a new business model, etc.)
- *Communicating the restructuring plan* to all those involved, directly or indirectly, in ensuring the functionality of the enterprise: employees, managers, shareholders, unions, customers and suppliers, banks, employers' associations, etc.

d. Application / implementation of the restructuring plan

- The psychological preparation of the employees for the following changes, generated by the restructuring
- Adopt decisions and initiate actions for the operationalization of restructuring and economic recovery modalities (improperly entitled "action plan")
- Monitoring the operation of the redesigned company and making adjustments, corrections, etc. to the solutions included in the restructuring plan, if the situation on the "ground" requires it.

e. Evaluating the results / determining the efficiency and effectiveness of the restructuring

- *Assessment of economic, financial and other results*, expressed by indicators and indices, at the end of the period covered by the restructuring plan
- *Compare them with the objectives undertaken by the restructuring* by the makers of the plan and the management of the undertaking concerned and *determine the effectiveness of the restructuring*
- *Determining the effectiveness of the restructuring*, through the period necessary to meet the assumed objectives and the manner of compliance with the pre-established conditions agreed with the consultant.

If for the first four stages the main actor is the *developer* of the restructuring plan (the team of specialists led by the interim manager), the last two require the permanent and competent presence of the *management* of the restructured enterprise (upper and middle level). Saving the company from insolvency and / or bankruptcy and ensuring the conditions for consolidation and business development are possible if the managers - from the general manager to the foreman or the head of the office - have adequate knowledge, qualities and managerial and professional skills, as such they are professionals. Otherwise, the restructuring remains at the planning stage, filed and archived like many other improvement, modernization or rationalization studies.

[see a totally different point of view on one of the greatest French restructuring specialists 2, pp. 253-260; we also recommend to those advised to consult the bibliographic sources recommended by 1, pp. 109-122].

4.2. Managerial reengineering

Managerial reengineering or managerial redesign can therefore be approached either as a way of independent managerial and organizational change, or as a fundamental strategic option.

In 2008, *a new model of managerial reengineering was conceived*, methodologically finalized and published, closer to the logic of the succession of managerial approaches involved in setting and achieving objectives; it was focused on a rigorous scenario, structured in several distinct sequences [12, pp. 226-272] which, in recent years, have gained shape and consistency, as follows: *diagnosis - objectives - processes - structures - people - decisions and actions - methods - information - assembly - application and monitoring - evaluation*. The content of these sequences is detailed below.

- The first sequence is *the elaboration of the diagnostic study*, consequence of a rigorous methodological approach, following which “are obtained”: the strengths and causes that generate them, the weak points and the causes of their production, the potential of managerial and economic viability and tactical-strategic recommendations to amplify this potential. In order to identify the opportunities and threats (vulnerabilities) of the environment, national and international, either external diagnosis is used, as a distinct stage of diagnosis, or SWOT analysis which offers the advantage of using the SWOT matrix [10, pp. 31-77].
- Diagnosis, coupled with SWOT analysis, is, along with the marketing study, ecological study or national and / or sectorial strategy, an important foundation of the organization's *strategy*. It includes the mission of the organization, strategic objectives, how to achieve the objectives or strategic options, the resources to be employed, and the intermediate and final deadlines for achieving the objectives and how to achieve them and how to gain a competitive advantage. From the draft strategy, the developer of the managerial redesign study will take over the *objectives*, as we specify below.
- *Objectives* - refers to the goals of the new management system and takes the form of a system of objectives, resulting from the development of global and partial strategies and policies. The substantiation and elaboration of fundamental, derived, specific and individual objectives, consequence of the promotion of realistic strategies and policies implies a radical change of attitude of the organization and its management towards its present and future, approached through the prism of performances.
- *Processes* - adequate work processes with different degrees of aggregation are required to achieve the objectives. Their delimitation and sizing - from a *procedural* point of view (it is not a play on words, but expresses the content of an activity given by attributions, of an attribution, given by e tasks), *organizational structure, informational and human* - in (main) business processes, support processes and management processes are determined by the complexity of the objectives in the achievement of which it participates directly.
- *Structures* - The work processes, regardless of the degree of aggregation, must have an adequate structural-organizational support, ie an organizational structure conducive to the achievement of objectives. That is why, the third step in

managerial redesign is the structural redesign, materialized in the resizing of the necessary positions and functions, management and execution, functional and operational compartments, while "arranging" them in a predefined configuration through hierarchical levels, hierarchical weights and organizational relations. It is also necessary to design the convenient organizational formula, depending on the dimensional and functional characteristics of the remodeled processes and contextual influences - a much more flattened structure, a holonic type structure, in which holons can be business formats delimited mainly procedurally or structural-organizational. The tendency towards holacracy is obvious [11, pp. 101-105, 357].

- *People* - The next step is crucial in ensuring a high viability of the organization as it aims to "equip" management and execution positions with people who have the necessary competence. Compatibility of people with jobs is achieved through competence and is the key element; the personal authority given by the managerial and professional knowledge, qualities and skills, must satisfy the official authority, respectively the rights to decide, with which the managerial positions are invested.
- *Decisions and actions* - Quality human resources ensure the professionalization of management, as:
 - *managers* are directly involved in substantiating and adopting decisions and in monitoring their operationalization in the managed environment; for this, it uses the managerial tools and pertinent information, transmitted on rationalized ascending information channels;
 - *the executors* initiate actions necessary for the application of the decisions, capitalizing on information transmitted, mainly, on descending routes.

That is why the quality of decisions and actions is dependent not only on the manner and modalities of decisional redesign, but also on the methodological-managerial and informational redesign solutions [see 12, pp. 409-410].

- ***Methods*** - Since without a judiciously outlined methodological-managerial component it is not possible to scientifically manage managers, special attention must be paid to the redesign of the *methodological subsystem*, by promoting a modern managerial tool - with emphasis on management by objectives or its evolved version, the basis of profit centers - and of rigorous general or specific methodologies.
- ***Information*** - In turn, *information redesign* involves the redesign and redesign of each component of the information system from the perspective of computerization and digitization of the organization.
- ***Assembling in a new management system*** - The operationalization of substantive changes, sometimes radical, in the area of processes, requires adequate changes in the structural-organizational configuration, in the sense of restoring the organizational structure and promoting specific managerial tools - job description, rules of organization and operation, organization chart - with a dynamic content.
- ***Application and monitoring of the operation of the new management system*** - sequence that requires the decisional and actional intervention of managers and executors; it is very important to support the top management in the successful operationalization of the new management system, which implies a permanent monitoring and an effective, active and responsible involvement whenever

deviations from the configuration and functionality of the management system and its components designed and redesigned by specialists.

- ***Evaluation of results / performances*** - The management redesigned according to this methodological and operationalized scenario generates results that, normally, should acquire the meaning of managerial performances, which, in turn, generate economic performances.

4.3. Organizational restructuring vs. managerial reengineering

A comparative approach of the two ways of change, the most complex, highlights both similarities and differences. In terms of *similarities*, we point out:

- The obligation of diagnosis, coupled with SWOT analysis, as a support for any way of organizational or managerial change, regardless of its magnitude. Through them are argued the transformations to be operated in managerial, economic or commercial, as well as their intensity;
- Both restructuring, organizational and managerial redesign require teams of specialists, inside or outside the organization subject to change, to think and actually carry out the restructuring / redesign study. For each of them, specific roles and objectives must be established to make them responsible;
- The most requested restructurings / redesigns are the global ones, which refer to the organization as a whole. In this way, the impression is created that nothing is left out of change, and the chances of success are much higher;
- Both are especially needed in times of crisis, in the phase of economic and commercial decline of the organization;
- Both tend to be widely used, not only in companies with majority or wholly state capital, but also in private companies and public institutions.
- Restructuring and managerial redesign must be treated as *major strategic options*; as such they must be included in the economic operator's strategy. These can be treated independently, as a restructuring strategy or managerial redesign strategy;
- Both are important ways of organizational and managerial change.

Much more consistent, however, are the *differences* between organizational restructuring and managerial redesign, highlighted by:

- Managerial redesign targets management processes and the management system, while restructuring focuses primarily on structural changes (production structure, supply and sales market structure, cost structure, business process structure, organizational structure, etc.);
- Managerial redesign emphasizes the decisive role of management in streamlining the organization, while restructuring is based on its economic and financial revitalization, mainly by reducing jobs and, consequently, the number of staff, reducing costs and obtaining liquidity to ensure the survival and continuity of the company's activities;
- Restructuring knowingly omits those who lead and manage the organization and its subsystems, cultural-organizational, methodological, decision-making aspects, etc.; managerial redesign emphasizes the professionalization of managers and

management and the improvement of organizational culture, as prerequisites for the success of this approach;

- Restructuring ignores some managerial means with an impact on the efficiency of the organization, while managerial redesign considers them essential; for example, the management by profit centers, which allows the managerial and economic decentralization within the company, is one of the most effective ways to make the procedural and structural organization more flexible, and the management centers ensure the development of the competitive spirit at the company level;
- Methodologically, managerial redesign is much more complex, much more elaborate; restructuring seems to be a way of change more accessible to managers and specialists, proof of its perpetual nature, with questionable purpose;
- The substantiation degree of some restructuring modalities is much lower compared to the substantiation of the solutions adopted in a redesign study. There are frequent situations in which individual or collective dismissal is adopted once the signs of a serious economic and financial depreciation appear, manifested by the decrease or lack of liquidity. Perhaps this is also why insolvency is quickly reached, those who lead and manage the business not being able to analyze the situation created and design more elaborate solutions [details in].

5. Conclusions

The presentation of the theoretical and, especially, methodological elements of restructuring and reengineering - in the two hypostases - highlighted the advantages and limitations of each, the difficulties of operationalization and the conditions that must be met for success. We are aware that all this is not enough. Only by applying them can you opt for one or the other. But, here too, the specialists do not have common points of view, but rather divergent ones. For example, French restructuring specialists are not at all optimistic about improving the economic and financial performance of the companies that use it, the Americans are exalted by the spectacular leaps of performance indicators through business process reengineering (BPR) and so on. The truth is somewhere in the middle. We must neither neglect nor absolutize the role of these ways of change on performance indicators, but, depending on the constructive and functional features of restructured or reengineering managerial business, treat objectively the favorable or unfavorable implications and, where possible, try to quantify them.

The conclusions that emerge from our elaboration are underlined below:

- Each way out of the crisis begins with an analysis of the existing situation, made through a diagnostic study [see details in 10].
- Any of the three ways is operationalized with the help of a team of specialists in the field, experts recruited from the company's specialized staff or from outside it (these are management consultants).
- The “object of study” of the three solutions for change is different, a situation that generates appreciable differences in complexity and difficulty. Thus: BPR operates with business processes, it is true, the most consistent, large consumers of resources but also the only generators of added value for customers; Organizational

restructuring focuses primarily on the organizational structure, knowing that any structural component the size of posts and compartments has a human dimension. As the redundancy of staff is the surest way to simplify the organizational structure, with or without outsourcing processes, it is clear that restructuring is often equated with a reduction in the number of employees and, consequently, a reduction in the running costs of the enterprise; Instead, managerial reengineering aims at the management of the systemically approached enterprise, which is the redesign and redesign in a certain logic of each of its components - organizational, human (human resources management), decisional, methodological-managerial and informational. The purpose of managerial reengineering is not directly to reduce staff - although this effect occurs - but to provide superior managerial conditions for achieving objectives. We must not forget a fundamental aspect related to management: this is the most important factor to increase the efficiency and effectiveness of the enterprise, to achieve performance. In other words, you can't achieve business excellence if you don't achieve management excellence!

- Managerial redesign includes business process reengineering and restructuring. Procedural remodeling means rethinking and redesigning business processes, and structural-organizational redesign, specific to restructuring, is a distinct methodological stage of overall management reengineering. But in many ways, restructuring is not the same as redesign! Restructuring means simplifying the organizational structure, reducing its constructive parameters, while redesign involves a redesign and, subsequently, a redesign of the structural configuration, ensuring a much higher functionality. Then why is organizational restructuring the most common and agreed way of change, by shareholders and managers? Our answer is very simple: because restructuring quickly solves the surface problems faced by enterprises in difficulty. From a signature, the staff is dismissed individually or collectively (as needed), a part of the enterprise is outsourced procedurally or structurally-organizationally, thus reducing expenses and it is possible for it to solve its liquidity problem (at the moment) and acquire the eligibility potential needed to obtain credit. The restructuring has become perpetual for Romanian companies as it does not offer sustainable solutions, but only stage economic and financial recovery. Whether it is "crisis" or "performance", the restructuring does not reach the degree of depth; detail required by the problems facing the enterprise and, perhaps, therefore, is repetitive. Unfortunately, no one is thinking about the long-term human consequences of restructuring - the destruction of groups that have coagulated over the years, the promotion of fear, fear of losing their jobs, reduced incomes of those turned overnight into unemployed. There are no alternative social assistance programs, as there are no resilience programs or plans in times of pandemic.
- All the ways of change approached have a neuralgic point of great human load: organizational culture. Although it causes appreciable dimensional changes in the company's staff, obviously, in the sense of reduction, the impact on it is quite timidly analyzed. Terms such as communication, stress, fear, emotion, disintegration, destruction, psychosocial risks, corporate culture, psychological training are frequently encountered in periods of profound changes triggered by restructuring or

managerial redesign but, unfortunately, not integrated into coherent cultural improvement actions. "Culture is the common thread that connects the trio: strategy, structure, the human factor. It is the breeding ground on which the company will develop and, consequently, its image with customers. However, this corporate culture is directly affected during any organizational, strategic or human change" [see also 6].

- Impact on performance indicators. The objectives pursued by restructuring, BPR or managerial redesign refer first of all to the improvement of some indicators of economic and financial performance: labor productivity, production costs, profit, revenues, etc. Given the depth of the changes promoted, appreciable favorable differences are expected from the levels recorded in the "current state", which would ensure a rapid transition to the "ideal state" in conditions of creditworthiness and financial eligibility seriously improved. In reality, this is not the case at all. Controversies are also encountered in the practice of these changes. So:
 - *Restructuring*, "destroyer" of organizational structures (eliminating unprofitable, cumbersome, unnecessary processes and, implicitly, their organizational structural support, outsourcing some structural components, flattening structures by reducing the number of hierarchical levels and eliminating many management and execution positions) can bring the enterprise afloat in terms of liquidity, as markets continue to absorb its products. Staff reductions mean the reduction of labor costs and, implicitly, of total costs, being, from this point of view, a vector of acquiring financial creditworthiness [see 7 and 8, pp. 13-24]. The other performance indicators show only modest increases of up to 2%, with the exception of labor productivity, in the situation where the restructuring does not change at the selling prices of the products. In our opinion, restructuring is necessary as a solution, with priority in times of crisis to avoid insolvency and, worse, bankruptcy and in conditions where mergers, alliances, etc. are needed to increase the company's performance as a result of these processes. The division of restructuring into "*crisis restructuring*" and "*performance restructuring*" seems to us very useful in explaining its necessity and opportunity, but also its short-term or long-term effects.
 - *Business Process Reengineering*, with a limited scope in business processes (mainly in production), has, in the opinion of American specialists (where it appeared and applied) spectacular effects [4], but they are also questioned of the propaganda that accompanied in the first years of operationalization this solution of change [see 5 and 9].
 - Finally, managerial reengineering, embodied in the radical change of the enterprises management system, has quantified effects - difficult to estimate - but especially qualitative, non-quantifiable: superior quality of management decisions, superior quality of information provided, adequate quality of managerial tools and methodologies, the quality of the human factor, ensured by the professionalization of managers and management, the quality of organizational structures, the high degree of managerial decentralization, the accountability of managers and executors generated by the allocation of objectives, etc. The "cascade" of objectives to the job level, the focus of motivation on the trinomial "objectives - results - rewards / sanctions" or the increasing methodology of enterprise management are essential

elements that promote the management of profit centers. In terms of quantifiable economic effects, they are assessed at least at the level of those triggered by the restructuring and reengineering of business processes, together.

REFERENCES

1. BEAUJOLIN-BELLET, R., SCHMIDT, G. Les restructurations d'entreprises. Paris, Collection Reperes, Editeur: La Decouverte, 2012. 128 p. ISBN: 9782707158246.
2. BEAUJOLIN-BELLET, R. Le pilotage des restructurations: l'innovation est dans les processus. In: Vol. Of the XIV AGRF Congress, November 2003, 2003, pp. 249-268
<https://www.agrh.fr/assets/actes/2003beaujolin-bellet012.pdf>
3. CHANLAT, J.-F., coord. Restructuring the company: what roles and contribution of the HR function?. Universite Paris-Dauphine, 2012.
4. HAMMER, M. Reengineering Work: Don't Automate, Obliterate. In: Harvard Business Review. 1990, Issue 4.
5. HAYES, A. Business Process Reengineering. Investopedia, 2020.
<https://www.investopedia.com/terms/b/business-process-redesign.asp>
6. HELD-KHAWAM L. Management through coaching: The framework in search of its landmarks. Switzerland, Publisher: REORGANIZATION, Pro Mind Edition, Lausanne, 2002. 370 p. ISBN-10: 395225620X, ISBN-13: 978-3952256206.
7. MOULIN Y. Contribution to the knowledge of the staff reduction process instrumented by a social plan: an empirical analysis of formal and informal mechanisms. PhD thesis in management sciences, Nancy University 2, 2001.
8. SEVERIN, E. Staff reductions as a restructuring measure to promote performance. In: Revue des Sciences de Gestion, 2007, nr. 1/223, pp.13-24.
9. THOMAS, J. Business Process Reengineering 101. 2019. <https://toggl.com/blog/business-process-reengineering>
10. VERBONCU, I., POPA, I., ȘTEFAN, S. Diagnosis of the organization. Bucharest, Pro-university Publishing House, 2020. 222 p. ISBN 978-606-26-1179-8.
11. VERBONCU, I. Management of the organization in 360 questions and commented answers. Bucharest, University Publishing House, 2019, 368 p. ISBN 978-606-28-0948-5. DOI: 10.5682 / 9786062809485.
12. VERBONCU, I. How do we lead? Between amateurism and professionalism. Bucharest, University Publishing House, 2018. 464 p. ISBN 978-606-28-0775-7. DOI: 10.5682 / 9786062807757,

Rezumat

Perioada dificilă pe care o traversăm, creată și întreținută de pandemia de Covid-19, este marcată de o criză economică ce afectează mapamondul, fără nicio discriminare. Specialiștii și politicienii vin cu soluții, fezabile sau mai puțin fezabile, dar toate cer resurse financiare. Pentru întreprinderi, mai ales cele private, posibilitățile de finanțare se diminuează din cauza înrăutățirii situației financiare a acestora: lipsă lichidități, costuri mari, venituri în continuă scădere, piețe pierdute, imagine de asemenea în scădere. Sunt vehiculate mai multe modalități de depășire a crizei sau de atenuare a efectelor nefavorabile ale acesteia, cea mai frecvent invocată fiind restructurarea, văzută ca veritabil colac de salvare atât pentru firmele intrate în insolvență (pentru evitarea falimentului), cât și pentru cele care înregistrează, într-un anumit interval de timp, un declin economic și financiar. O asemenea soluție de salvare, considerată miraculoasă, a început să fie reevaluată în ceea ce privește necesitatea, oportunitatea, conținutul și implicațiile sale, în contextul în care se apelează foarte puțin sau deloc la soluții de natură pur managerială, care includ și modificări structurale ori procesuale importante. Una din acestea este reproiectarea managerială, de departe cea mai importantă și complexă modalitate de schimbare managerială și organizațională cunoscută și aplicată destul de timid și în România. Asupra acestor două posibile soluții manageriale ne vom concentra în lucrarea noastră.

Cuvinte-cheie: *criză economică, management, restructurare, reengineeringul proceselor de afaceri, reengineering managerial*

Аннотация

Трудный период, который мы переживаем, вызванный и поддерживаемый пандемией Covid-19, отмечен экономическим кризисом, который без какой-либо дискриминации влияет на мир. Специалисты и политики предлагают выполнимые или менее осуществимые решения, но все они требуют финансовых ресурсов. Для компаний, особенно частных, возможности финансирования сокращаются из-за ухудшения финансового положения: нехватки ликвидности, высоких затрат, снижения доходов, потери рынков, а также ухудшения имиджа. Существует несколько способов преодоления кризиса или смягчения его негативных последствий, наиболее часто применяемым является реструктуризация, рассматриваемая как реальный спасательный круг как для неплатёжеспособных компаний (во избежание банкротства), так и для тех, которые регистрируют в течение определенного периода времени экономические и финансовые спады. Такое спасательное решение, считающееся чудесным, начало подвергаться переоценке с точки зрения его необходимости, возможностей, содержания и последствий в контексте, в котором используются мало или вовсе не используются чисто управленческие решения, которые также включают структурные изменения или важные процедурные аспекты. Одним из них является изменение структуры управления, безусловно, не самый важный и сложный способ управленческих и организационных изменений, известный и довольно робко применяемый в Румынии. В нашей статье мы сосредоточимся на этих двух возможных управленческих решениях.

Ключевые слова: *экономический кризис, менеджмент, реструктуризация, реинжиниринг бизнес-процессов, реинжиниринг управления*

Received 09.03.2021

Accepted 22.03.2021

Published 30.06.2021

GENERALITIES RELATING TO THE IMPERATIVE, EVOLUTION AND CONCORDANCE OF MEANS AND METHODS OF PROTECTION OF ECONOMIC INFORMATION AND INFORMATICS RESOURCES**Tudor LEAHU, Assoc. Prof., PhD**

Free International University of Moldova

*E-mail: leahu.ts@mail.ru***Alexandr GRECU, Lecturer, senior researcher**

Free International University of Moldova

*E-mail: alexandrgrecu1972@gmail.com***Victor MORARI, Lecturer**

Free International University of Moldova

*E-mail: vicvictormorari@ulim.md***Universal Decimal Classification: 330.47:330.5****JEL Classification: C55, D85, E47, L63, L86**

Abstract

The compelling factors, characterized by the circumstances and environments of the current and prospective economic information and informatics systems, which objectively contributed to the urgent need for invention, elaboration and use of the various means and methods of protection of informational resources, are elucidated. The functional value of the domain concerned in the market economy environment and integrated informatics systems is accentuated. The content of the material is structured and rendered from the positions of the unitary economic management process, which carries out not only informational activities, but also materials in interconnection and direct interaction in real-time mode. Its subdivisions are also specified on this basis – determined the scope of the application of the above-mentioned means and methods under the existing conditions of the processing of informative content information values. In the given context are systematized and analyzed the subdivisions of the previously nominated process, its constituents. The general scheme of interconnection and interaction between the parameters of the protection and effectiveness of the functioning of economic integrated informatics systems is established and developed. Depending on the environments of application, the categories of protection of information units, physically made in the form of data, on manual and informatics memory environments are highlighted. At the same time, in terms of mutual influence with informational resources, some aspects of the protection of other informatics resources are elucidated. Tangentially, the terminology is examined and the consistency of the means and methods of organizing and carrying out the processes of data protection is carried out. The problems of this section of economic informatics and possible ways of solving them are formulated.

Keywords: *categories, consistency, means, methods, issues, terminology factors, data protection, integrated informatics systems*

1. Introduction

In advance of any research or development activities in the previously well-defined direction, it is objective impose the formulation, knowledge and exact application of certain specific terms for the concrete scope of their use. Neglect of this thesis makes it impossible to initiate, develop, implement and operate the managed object (process).

In this respect, informatics resources protection processes have also called for and have been increasingly requested, have submitted increasingly stringent requirements for the completion of procedures, processing and retention of the composition, structure and content (values) of previously nominated resources units. It should be noted that in order to satisfy and respect these primary requirements, the need arises in the formation of certain terminology consistent with the composition, configuration and logic of the evolution of the area of application. For the reason given, both for the theory and for the practice of the elaboration and functioning of these systems, of particular importance it provides clarification of the essence and content of some basic terms in this field.

In the context of what has been set out so far, in relation to the protection of economic informational and informatics systems, a relatively high number of terms, sometimes with contradictory content, are not directed towards the real environment that caused their formulation and use. Therefore, starting from the complexity of the composition of the resources, notes of all the sphere of informatics concerns, sector, sub-sector, compartment, resource and constituent component of them are required to be developed and applied. In accordance with such a desire, general, intermediate and particular terms may be highlighted.

The situation created at the moment and the premises of the possible evolution of economic management increasingly imposing confirm the need for its gradual transformation, as an organizational unit, into a material-informational core of automatic analogous action. In such circumstances, the direct and immediate decisive influence of human material and spiritual activities on the state of informational processes is not excluded. As a result of the formation of this conjuncture, the protection of informational units, operations and handling procedures with them will have extreme management value, as their prompt 'alteration' will spill over to the activities in question. For this reason, the systemic approach and integrated treatment will be imminent for any economic managerial ground, regardless of the dimensions of its existential and evolutionary spatial and temporal rays. It should be emphasized that the actuality of the informatics resources protection problem is caused primary by the massive implementation and use of them in any field of human activity and, in particular, economic informational works, own for any category of occupations.

Just as the efficient functioning of economic informatics systems (E.Ic.S.) is ensured by the proper interconnection and interaction of its constituents, such concern becomes imminently impossible. Its complication and imperiousness become even more evident when applying the means and methods that require the actions to be carried out automatically. In this situation, it is not out of the question that a single error will lead to the alteration and collapse of the system.

For the above reasons and at the beginning of the present article, convincing awareness of the compelling role of the protection of informatics components, deep knowledge of evolution, the distinction between their reliability and security, the categories and the consistency of the means and methods of these processes, which will contribute to the performance and notorious of the works related to obtaining informational products in the informatics environment.

2. The degree of investigation of the problem at present and the purpose of the research

The field under investigation is characterized by numerous publications mainly in the general aspect and less in relation to each category of external and internal resources and technological units of operation of the E.Ic.S. Totally absent are the investigations concerning integrated systems, which directly and temporally perform the analogous material processes depending on the composition, structure and values of the informational entities.

Also, the problems of information security are often accosted, but mostly with reference to the physical environment of the informatic technical means, especially to the computer's memory space. At the same time, it is known that the range of physical environments of both the computer and many other classes and categories of such means are quite varied, but conceptually and practically their protection is in its infancy. They are not fully covered by informatic methods and means to protect not only the information resources, but also the other resources of the E.Ic.S.

The issue of ensuring the protection and security of all resources of this variety is not addressed from the positions of their integration, without the analysis of interconnections and interactions with the aim of creating a unitary system of their protection.

Obviously, the created situation could not fail to affect the correctness of the formulation and use of terminology, the peculiarities of its application, the examination of the possibilities of constituting methods and means of protection depending on the specific characteristics of the exploitative parameters and the reliably efficient domain operation.

The same condition can be characterized the level of investigations into the composition, disclosure of the particularities of the factors and problems of the concerned field. In terms of integration, insufficient is revealed first the evolution, analysis of the environments, means and methods of protecting all informatics resources in interconnection and interaction, and then – each one of such listed characteristics.

Based on the elucidated considerations, in the present material, at the conceptual level, attempts are made to specify the terminology, to sort the most productive methods and means of protection, to reveal the evolution, determine and analyze the factors and issues of the researched area.

3. Methods and materials applied

With the excessive increase in the volume and complexity of the compositional field of activities, in particular, of social character, such as information and other economic informatics resources, the issue of their protection is becoming more and more acute. Given the extremely varied variety of constituents composition of this category, the procedures and operations exercised on them, the research field was based on a fairly wide range of conceptual sources and practical experiences.

Thus, the conceptualization of the elucidated sector was carried out taking into account the fundamental thesis of theory, analysis and synthesis of methods and means of protecting information of circulating informative content in the economic management system and its

informatics sub-system. Also, along the way, were considered, the fundamental principles of managerial theory, systems theory and systemic analysis, multitudes theory, informatics theory and economic cybernetics, a.s.o.

The basis of the investigations are scientific publications on the specifics of the protection of informatics processes in general and economic, in particular, informatics systems, economic informational management and the fields adjacent to these branches of activity. In the same situation, materials related to the elaboration and implementation of the design decisions of the formation and day-to-day operation of the informatics systems of the social-economic units, their protection, the results of the university scientific activities, the normative and legislative acts of the Republic of Moldova in the management, informational and informatic fields, the results of the author's own investigations were taken into account.

4. The obtained results and discussions

4.1. Some approaches to the essence and content of domain basic terms

In bibliographic sources [1-4, a.s.o.] and the most commonly used practical data protection activities are the terms "reliability", "security", "protection", "privacy", "integrity", "risk (danger)". Although each of them has a certain degree of synonymy, not all could be used equally for one element or another of the informational (informatics) system. Thus, for example, "security" is interpreted as minimizing the vulnerability of system elements, and "danger" - as a potential breach of security. As data processing systems increase the performance, the value of unintended and intentional hazards becomes more and more evident.

The broadest is considered the notion of "protection", which refers to any resource of the informatics system. Therefore, with regard to informational resources, it includes in itself ensuring the confidentiality of data, protecting information from changes and falsifications, winding up (deleting) it and excluding the "gripping" of the system's resources with their monopolistic mastery "Informational protection" refers to the whole system of organization, transformation and use of the data and to each component (resource, activity) of it in particular. Therefore, in each individual case it is determined differently, depending on the objects and actions, for which it must be insured.

Also, "informational protection" includes a totality of actions, methods and means that ensure the resolution of such main problems as the verification of the integrity of information; exclusion of unauthorized access to computer resources, programs and informational data, exclusion of unauthorized use of programs (program copy protection).

Reliability characterizes the degree of safety of a system or its component according to the purpose designed and achieved; capacity to operate for as long as possible. Therefore, the notion refers more to the physical (material) part of the system, at least that at the general level it can also be used in the sense of living, thoroughness, safety and even security of any element of the system.

At the same time, "confidentiality" has a particular task to the meaning of the content of informatic resources and consists in ensuring the non-detection of the essence, composition, number, structures and values of informational units.

Also, "integrity" as a term refers mainly to the informational part of the system. In this plan it boils down to ensuring the fullness and accuracy of the values of the data by excluding their occasional or intentional modification, their cancellation by deletion.

As stated above, protection relates to any resource of informatics systems and therefore the term is considered to be of the most general level, which is why it is justified to include the parameters contributing to its achieving. In such a way, depending on the category of resources and the purpose of protecting them, the term elucidated encompasses the notions of reliability and security. So, by ensuring a certain degree of reliability and security, a certain effectiveness of the operation of the system is achieved. On this basis, the interconnection and consistency between the notions of elucidated parameters of schematically nominated systems can be presented in fig.1.

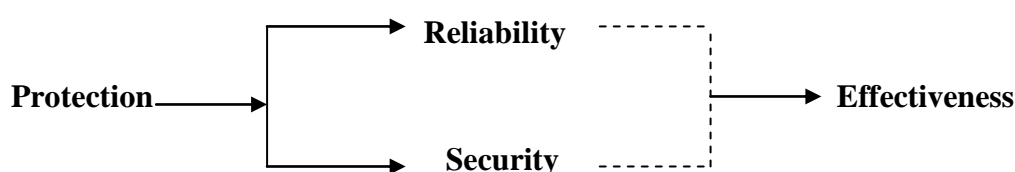


Figure 1. Scheme of interconnection and consistency of parameters terms of the protection and effectiveness of the economic information systems (E.Ic.S.) functioning

It should be noted that reliability refers, in particular, to the functioning of E.Ic.S. resources, whereas security has a predominant role in their existence ("preservation"). Therefore, the first ensures the functionality of technical and technological resources, and the second - access and confidentiality of other resources. However, whatever is not done in this area everything is oriented towards a single purpose - ensuring the quality of informational resources, which fully characterizes the efficiency of E.Ic.S. It is known as in the U.S. (according to the statement and data of the company C.N.N.) the amount of losses from security breaches and non-insurance of E.IC.S. reliability, reached figures of tens of billions of dollars [1, pp. 311-312; 3, pp. 33-35].

Importantly, for the market economy it is characteristic to apply as frequently as possible the selective principle of the application of informational resources in management activities. It boils down to that concept that the variety of selection is directly dependent on the complexity, composition and fullness of the content of these resources. Therefore, the more varied and voluminous the information kept on the physical memory environment of the informatic technics, the more operative and random is their selection at all times.

In this context, there is currently a lot of economic information, which without awareness of the need to train and display not only the resulting ones, but also the initial ones, also complicates and sharpens the issues of protection and efficiency of E.Ic.S.

As the practice of the functioning of E.Ic.S. evolves, the obvious specialization of informatics services in the form of certain organizational subdivisions within economic units is increasingly required, rarely being carried out in the form of data protection services predominantly in the banking, state, internal affairs sectors.

As is well known, economic informational systems are characterized by considerable volumes, compound composition and extensive spatial distribution of its elements. For this reason, there is a need to ensure a certain consistency between different levels and their compartments in such a way that the objects and economic processes served by them have continuous prosperous evolution.

In the given context the informational connection contributes to the integration of economic activities, in the form of a unitary system for carrying them out, which in reality and it is necessary to be produced.

At the same time, the integrated organization of the data submits pressing issues regarding their security because its realization is conditional on the informational connections between the problems solved. Under such conditions, the "deterioration" of a data unit can affect the quality of the informational system as a whole. Therefore, the integration of data into the processes of organization and objective transformation sharpens the need to ensure strict protection.

4.2. Specificity of the functioning of the existing applied scope – imperious of protection

In the above-mentioned context, preliminary to the establishment of the protection system, there is a pressing need in the analysis of the level of integration of the current economic management system and implicitly of its informational sub-system. Both are characterized by spatial isolation and discrete evolution of material and informational processes, which virtual and analog interpretation form a whole. Hence - the multiple discrepancies between the activities of these two categories of processes, the crumbling of the management system by management levels (primary, intermediate, superior), operating periods (operative, current, prognostic) and the informational system by sub-systems, complexes of problems and particular problems.

Such a situation has led to the most expressive effects, in particular, at the intermediate and higher levels of management, of the subject's influenceable role on material and spiritual events both of the human society as a whole and of each subdivision, its individual. Conditions have been created to favor the negative trend of the management system on the object (process) managed, as well as to the predominance of administrative methods and means applied in virtually any space and moment of management. From unitary positions, all these moments, with prevalence, are caused by the inadequacy of the performance level of the management sub-system compared to the sub-system managed by it. The formation of that rupture occurred with the establishment of the social character of human material activities, as a consequence of the severe dispensing of qualitative information.

The analysis of the course of these two constituents of the unitary economic management process reveals the objective approach to the liquidation of territorial isolation and their discreet functioning. At present and from the beginning of the socialization of the activities of the subject so forward is observed and is achieved by the invention, elaboration and application of various technical means, programmed, technological methods, etc., considered as informatics resources.

Drawing a parallel between the progress of the development of the elucidated resources, it becomes noticeable that the above have advanced essentially, whereas, in terms of the total inclusion of the information phenomenon as an integral unit, their application in the economic informative and decision-making fields is insufficient. For the purposes of this regulation, satisfactory coverage by the means and methods of computer is shown only by a transformative stage of the information – the stage of processing (informational, structural, calculational), the other two stages – initial and use remaining carried out mainly manually by the subject. As a result, a substantial discrepancy was formed between the performance levels of the methods and means of informational technology and the scope of their application. This situation can be classified as the failure to prepare informational resources for the involvement of the nominated resources in their processing.

The created circumstances are caused by spatial expansion and unimaginable speeds of realization of human material concerns. This is what the evolutionary formulation of the concept of globalization of the activities in question is drawn about, an objective being driven by the imperative of material – informational integration. Otherwise, by saying, material globalization has provoked and cannot be achieved and functioned without information globalization.

It should be noted that at present and permanently, in the processing of data with good reason and justification, the informatics resources listed above are considered decisive. However, no less valuable for this method is also the adequacy of the structure and organization of informational resources, their procedural and functional interconnections. The consecutive implementation of these two categories of interconnections ensures the continuity of all informational processes. Where continuity is supported by technical means and methods, it shall become automatic. Therefore, not only informatics factors, but also the very field – informational resources, through its rational structural interconnections, of efficient organization and processing, contribute directly to their machine processing. That is why, decisive importance in supporting the automatic functioning of the integrated economic management system provide for the identification, compliance, commissioning and guarantee the technical functioning of interconnections of any variety within the system.

From what has been elucidated so far, from a scientific and designer point of view, it summarizes the justification for the elaboration of the unitary concept of creating and ensuring reliable and efficient officials of a informatics system, which would integrate into an entire indivisible the resources and processes (materials + information) belonging to it. This system is required to be not only compositionally and structurally unitary, but also totally interconnected and procedurally integrated.

On the basis of those considerations, the conception of the integrated informatics system lies in the inclusion with informatics processes not only of informational activities, but also materials in interconnection and direct interaction. The unity of this system refers both to the organization and structure and functioning of all its constituent elements from unitary positions.

Such an approach requires the elaboration, implementation and assurance of its daily evolution by establishing and carrying out all constituents, interconnections and interactions between them, regardless of territorial and temporal rays on the basis of the principle of

motivation, according to which matter causes information, the latter being of informational and decision-making predestination.

In addition to mentioned above, with the exact and full determination of the mentioned characteristics, their exact compliance and achievement by means of the informatics factor, conditions are created for the establishment of an analogous, i.e. automatic and not automated, economic management system, which is unique for such systems at present. In this situation the system will operate according to the scheme in fig. 2 [1, pp. 251-253].

The scheme of the conception of the succession of interconnection and interaction of compartments and sub-compartments of the economic integrated unitary process in fig. 2 is based on the principle of motivation and the variant of the initiation of its evolution.

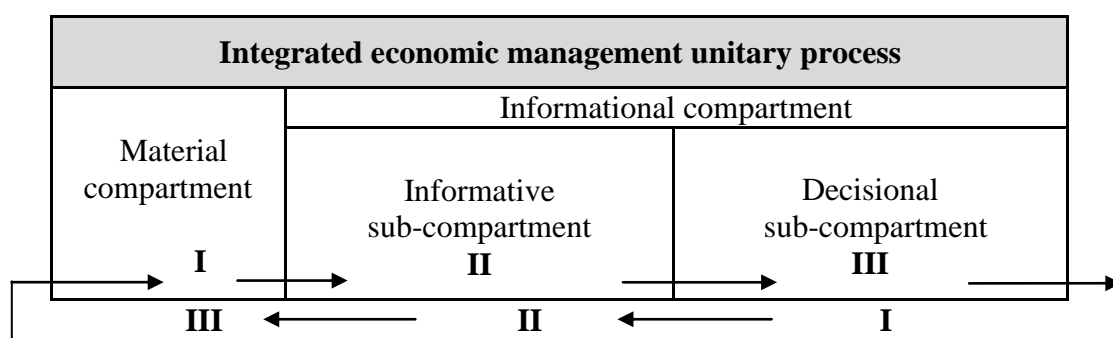


Figure 2. Conceptual scheme of operation of the integrated unitary economic management process

If the process already works, such orders are reversed, i.e. the decisions formulated affect the material processes, the last – the informative processes, and the latter – the exact repeated formulation, the authentic taking and the efficient realization of the material processes, according to the new decision values, a.s.o. until the end of the operation of this process. As can be seen, in both situations, within this material-unitary information cycle, the yield of compartment I and of the products of sub-compartment III (variant I → II → III) decisively depend on the level of authenticity of the products of sub-compartment II, which establishes the imperative of its most reliable protection.

Consideration should also be given to that circumstance, according to which the formation (appearance) of a new activity or complex of activities is motivated both by the results of certain imposed experiments (practices) and by the consequences of the evolution of processes. In this respect, today the evolution of economic information systems (Ic.S.) has led to the emergence and accumulation of the many and increasingly varied and voluminous issues that require daily resolution, significant efforts and resources. Among them the first order of valorization and conceptual is considered those that ensure the necessary degree of reliability, security and effectiveness of these systems. Most importantly, the practice of their functioning gradually required the field of cyber and economic informatics to form certain branches of theoretical knowledge and practical skills regarding the carrying out of the nominated activities (reliability, security, effectiveness) [4, pp. 205-208].

Just as material and informational economic processes are carried out spatially and temporally, there is a need to coordinate them within these rays. For this reason, any actions

and activities relating to them require a systemic approach of a scientific nature. In addition to those mentioned, it is necessary to note that E.Ic.S. is a rather complex unit, being composed of various resources, of which the basic ones are technical, informational, mathematical, programmed, technological, economic, socio-legal, a.s.o. Such specific essential objective has led to the consideration of the interconnections and interactions between these components in such a way that the system in question functions as efficiently as possible, obtaining the most qualitative informational products with the lowest consumption.

The importance of data protection is also motivated by the peculiarities of the market economy environment, which amplifies the functional value of ensuring these qualitative parameters of E.Ic.S. It is known the situation that in this practical environment is unlimited informational request of any object or activity, which constantly increases the volume and complicates the composition of informational resources. As a result, special attention is sought to protect the latter, which in turn is achieved through the reliability and security of all other resources (technical, programmed, technological, economic, socio-legal), the latter contributing to the overall effectiveness of the functioning of as a whole E.Ic.S.

4.3. Evolution, factors and issues to ensure the protection of economic informational and informatics resources

At the beginning, when the production, distribution and consumption of material and spiritual goods were of a particular nature and practically were not carried out in certain long periods of time and on a large spatial scale, the respective information on these activities, as a rule, was "acquired", memorized, processed and used by an individual or a small group of individuals (individual household) orally and within operational time limits (during economic activities, in a day or a few days), without involving in these processes certain special auxiliary supports and means.

On the measure of spreading of human economic manifestation material rays becomes more pronounced, the social character of the information in question and the informational processes require their conscious organization and execution. Therefore, if at the initial phase of human economic material activities, the spatial information flows were formed and carried out there, where the material ones, then gradually they became more essential and distanced themselves from each other and increased both the temporal deadlines and the scale of action.

In such circumstances the efficient functioning of the economic informational system is based not only on the spatial and temporal concordance of the information processes, but also on ensuring the protection of the values of functional informational units. The latter finds its explanation in the fact that with the integration of economic material activities into the nominated parameters, the integration of the accompanying information flows occurs automatically. As a consequence of the phenomenon produced it is sufficient that a single value of the information unit is "altered", or lost, and the informational system as a whole may not correspond to the demands of the concrete management system, just as the informational unit in question has a lot of connections with a lot of other such units and its "loss" ("alteration"), of course, negatively influences the entire information system. That is why the conception of organizing information resources in the form of separate files does not

clearly emphasize the value of data protection, as its non-assurance refers to each file and does not affect the entire informational system as a whole or a good part of it.

On the basis of this reason, the increase in the importance of data protection activities is also conditioned and by the following basic factors:

- 1) the evolution of the concept of data organization with the transition from separate files to the integrated unitary information base, which serves the whole economic object and each subdivision, participant (activity) and resource of it;
- 2) coordination and regulation of economic informational processes in space and time;
- 3) continuous increase in the number and volumes of functional information units;
- 4) increasing the structural complexity of these units;
- 5) the complexity of the compositional variety of the establishments concerned;
- 6) complicating the processes of organization, transformation and use of the values of the informational units within the management system of the economic unit.

In turn, these contributing factors to data protection have resulted in the need to:

- 1) highlighting, ordering and functional integration of structural information units, conditioned by the informational interconnection of the problems solved and the most economical use of the memory space of the computer system;
- 2) revealing, systematizing and structural integration of informational units with the aim of unifying their structure;
- 3) profiling, classification and integration of informational procedures, processing and use of structural data units in order to exclude their unjustified duplication and iterating.

Currently, the users of economic informatics systems are largely aware of the timeliness and urgent need to ensure the protection of information to be accessed and used in an unauthorized manner. However, although there are considerable number of publications, some experience in this area and a major interest in the given topic, the following main problems remain unresolved:

- 1) elaboration of a unitary approach to determining the purposes of ensuring the informational protection of the economic informatics (informational) system;
- 2) non-univocal interpretation of terminology;
- 3) elaboration of the unitary approach to the classification of factors of influence on informational security with the highlighting and systematization of intentional and potential risks (dangers);
- 4) the composition and rigorous observance of the unitary approach to the concept of protection of the information system as a whole and its components in particular;
- 5) elaboration of the unitary approach to the evaluation (estimate) of informational system resources protection;
- 6) drawing up the scientific unitary methodology and the various methodologies for its realization in determining the size of losses due to programmatic abuses;
- 7) elaboration of a unitary system of criteria (indicators) to determine the dimensions of the risk and efficiency of the informational security system [1, pp. 207-210].

4.4. Analysis of environments, means and methods of the protection of informatics resources

Data protection shall be carried out differently depending on the environment of their training and transformation. It highlights two environments of this nature – the informational system and the informatics system. The first includes all information that is organized, processed and used according to the requirements and within the concrete management system as a whole, both on the basis of manual and automatic methods. It should be recalled that the informatics system is nothing but the informational system made through technical means. It should also be borne in mind that the information system has not yet been able to be fully realized automatically in the economy to date.

Depending on these two environments, various means and methods of data protection characteristic of each of them have been invented, developed and applied, which have evolved along the way. Their varieties are predetermined by the types of media on which information is recorded differently. In this case, two groups of means and methods of data security are observed, one referring to documents and another - to informatics (technical) media. The first ones are considered manual, and the second ones - mostly automatic. In turn, the means and methods of manuals are of a physical nature, as they depend on the properties and physical "possibilities" of this category of media (documents) to protect information. They are developed and implemented for information systems based on the organization and transformation of information manually in whole or in part.

The means and methods of data protection characteristic for technical (informatics) media are both physical and programmatic. Within both groups of such means and methods (manual and computer), various organizational processes can also be carried out to secure the data. Physical methods are conditioned not only by the physical peculiarities of the media, but also by the devices of the technical means, informational and informatics technologies. In this respect, it can be assumed that with the performance of the construction of the building elements and the physical "hardness" of the technical means, the weight and value of the programmatic means of securing the data, possibly, will decrease.

In general, the ratio between physical and organizational means and methods depends on the quality and performance of the former and the social value of the information. The more imperfect the first ones, the more varied the composition of the organizational methods, at the same time as their continuous performance.

Apart from those mentioned, it is necessary to warn that, being invented and used by the subject, economic information is considered artificially produced and, on this occasion, the subjective aspect of the means and methods of training and protecting it is decisive. For the reason given the protection of this information depends not only on the performance of methods and means, but also on its value and social character. Therefore, the more the functional and social value of economic information is on the rise, what is natural and continuous for it, the more complicated and varied are the attempts to "alter" it and "liquidate" it as a product of supreme social importance. Contrary to these attempts, the means and methods of data protection are developed.

As previously established, the methods and means of ensuring the protection of data in the informational system are of a manual nature and limited by the properties of a single type of media - the document. For this reason, for the most part, they are physical and are carried out in an organizational manner. Some of them relate to the protection of the informational system as a whole (localities, auxiliary means, special furniture and other equipment for storing, organizing and handling documents), and others - to the protection of the functional content of this system (various cartridges, shops, cabinets and document storage shelves). As a rule, completed documents are organized in packages according to their training (perfection) deadlines (one day, five days, decade, month, quarter, semester, year, etc.) and on objects and activities (for example, documents on material value entries, their outputs, or on the fulfilment of certain volumes of works, a.s.o.). The protection of the informational content of the prepared documentation shall be ensured by the signatures of the persons responsible for the fullness and authenticity of the values of the recorded data.

Access to information is protected through various regulatory documents (regulations, regulatory, legal, administrative documents, service instructions, a.s.o.) of informational activities, functional obligations of users, a.s.o. In this way, apart from the physical and organizational means and methods, the protection of data is also ensured by the legal ones.

With the elaboration, implementation and functioning of economic informatics systems, the composition of their specific means and methods of protection has also changed. For example, the technical means of calculation must be distributed and exploited in such areas of buildings, which would ensure that they are protected from various destructive intentions. The places where these means are found must also be arranged and equipped according to the scientific requirements to ensure the conditions of physical maintenance of the nominated technique in the state of efficient operation and to exclude the possibilities of destroying or stealing them (iron doors, complicated padlocks a.s.o.).

It is also necessary to take a number of organizational measures to exclude access of unauthorized users to files and programs or the causes of their destruction. For this purpose, the release of media (tapes, floppy disks, C.D.) with files may be organized only on the basis of special approvals of authorized persons. Computer rooms and file storage sites must be protected against fire, dust, excess temperature and humidity, as well as other causes that may affect the retained data.

In the environment of economic informatics systems at large, the labelling of files (internal, external) is applied, which is considered as a means of protecting data from misuse.

File protection can also be done through the software, by entering certain parameters (speeches), which provide the possibility only of reading or reading and recording. Certain procedures may be used to restore files or perform destruction or retention operations on them. Copies of data files and resources programmed on media stored in locations other than computers are of significant importance.

In case of processing of data in batches, the protection procedure under the conventional name "grandfather - father - son" and its modifications are recommended. A similar procedure should also be performed if the files are updated online. In the context of the use of database management systems, additional measures may be taken by their administrator by developing and applying data dictionaries, specific forms of confidential control. If the data is strictly

confidential, it is recommended to destroy (even by burning) the initial lists or apply cryptographic protection by using secret data transformation codes. Encryption is recommended for data transmitted via telecommunications lines [2, pp. 126-135; 3, pp. 207-210].

The protection of data shall also be ensured by verifying their fullness, clarity and authenticity in each technological operation of their organization, perfection, preservation and processing. Their control shall be carried out by certain means, methods and procedures.

At the level of the economic informational system, on the basis of the following criteria (principles) of classification, all these methods and means can be systematized in the following groups [1, pp. 213-215; 2, pp. 234-245]:

- 1) complexity of framing (inclusion) – local and complex means and methods;
- 2) functional predestination – means and methods of anticipation (warning), risk detection and neutralization, restitution (recovery) of the system interpreted as an organizational unit of activity;
- 3) the nature of their categories – legal, organizational-administrative and technical-programmatic means and methods;
- 4) spatial area of action - means and methods for uncontrolled (external) areas, controlled territorial areas, for the locations of the operation of the informatics system, its resources;
- 5) operational stages of functioning of the nominated system - means and methods for input controls, during operation (regulation and constraint of redundancy, revision, refund), at exits from the system;
- 6) objectives of protection - means and methods of protection from unauthorized access, assurance of legal value, informational content, protection from the flow of information through system channels, protection from programmatic abuses, unauthorized copying, dissemination of confidential programs and information;
- 7) the character of the opposition - means and methods of active and passive protection.

From the given classification it is obvious that the composition of the methods and means of data security is quite varied and depends on the purposes of their application, the areas of realization, the modalities of execution a.s.o. The content and essence of some of them can be easily judged on the basis of their names. Others, however, require explanation, the latter being motivated by their value.

Off these positions, methods and means of anticipation are predestined to create such conditions, in which the possibility of the occurrence and realization of destabilizing factors (risks) is null or minimal. The methods and means of detection are oriented towards highlighting the hazards or possibilities of their occurrence and collecting additional information in this respect.

Technical-programmatic methods and means of ensuring data security can be active and passive. The premiums (active ones) are intended to delimit access to all informatics system resources (technical, programmatic, informational, etc.); transforming authentic data into unnecessary (false) information for the offender (cryptographic coverage); normal functioning of the system. Among the basic liabilities are considered the methods and means of

monitoring the functioning of the informatics system, processing and analysis of the data collected during monitoring, overhauling and auditing the number and optimal use of the system resources, as well as establishing (checking) the integrity and accessibility of these resources.

The composition of the methods and means of securing the data is subject to the varieties of hazards that may occur in the system. The possibility of achieving hazards depends on the narrow places (vulnerable points) of the system.

Any action contributing to the malfunction of the system shall be considered as a danger. Two types of data breach hazards are highlighted [1, pp. 215-216; 3, pp. 355-366; 4, pp. 53-57]:

- 1) unintentional or occasional;
- 2) intentional actions.

The first type of hazards is external and internal. The external ones refer to natural calamities, techno-genic factors, political, economic, social, the expansion of informational and communication technologies, a.s.o. Internal ones include the dangers caused by stopping the functioning of technical means, errors in scheduled resources, staff work, etc.

The most widespread intentional actions to violate the security of informatics system resources are considered as follows:

- 1) unauthorized access to information;
- 2) elaboration of specialized programmed resources for the purpose of unauthorized access;
- 3) elaboration and dissemination of informatics viruses;
- 4) negligence in the development, support and exploitation of scheduled resources;
- 5) theft of information;
- 6) unwarranted manipulation of data;
- 7) breach (non-compliance) of data privacy;
- 8) denial of the security of system resources and so on.

Knowledge of the theoretical bases, the provision of certain experience in the development, implementation and functioning of data protection systems in the economy will contribute decisively to the increase of the quality of informational resources, which in turn will lead to the performance of the management system, and last - to the improvement of the results of the activities of the economic material units.

Currently of significant importance it has the security of the informational resources of the informatics networks – most suitable for the automatic realization of economic informative processes.

This is extremely valuable for every computer connected to the Internet, or on an intranet, Extranet, and even a local network. Moreover, even for a P.C. stand-alone information security can be a serious problem when it contains personal, secret, certain degree of confidentiality information.

This security protects information from a wide range of hazards related to continuous business provision, minimizing damage and maximizing the recovery of investments and business opportunities. Regardless, the computer is in the office or on the desktop at home, ensuring the security of the information may have the same acuity. Obviously, in the case of

the network, ensuring security is a much more pressing and, at the same time, much more difficult problem. Many of the recent attacks, which have put a few very popular Web sites, some even government, at risk, have managed to cause panic situations to authorities in several countries, even heavily developed. Some voices have come to the fact that such dangers have become much more acute than previously thought by its sometimes unimaginable consequences.

There was enough evidence to support the position of those who believed that the hacker attacks were possible because only poorly protected computers were able to gain access. In other words, burglars are successful there, where rigorous technogenic security is not ensured.

The danger of computer sabotage based on viruses, which can do extraordinary destruction, is today well known and undeniable, not to mention viruses, which can take complete control of a computer in a network, such as the dangerous Trojan horse "Back Orifice".

Despite some rather well-developed legislative systems, the theft of information through the computer has greatly expanded, especially in some countries, which have advanced technologies. It is an extremely delicate area, and huge efforts are being made for data protection and security.

The above could only be a small part of the many reasons why it is necessary to pay particular attention to the security of information in computers.

One could say that most users of the largest and most important institutions in the world are under the cover of company or personal firewalls and that, in their case, security is completely assured. In reality, though, it's not quite like that. And evidence of that, of course, exists. Almost daily information appears on the Internet regarding the breaking of important websites, thefts of information from various networks, some of the best developed, and if it is still taken into account that many of the injured refuse to make public their accidents of this nature, even for the simple reason of not risking the loss of credibility or performance, then, of course, it can be confirmed that the statistics do not provide the real dimension of the phenomenon, and this is far more worrying.

In the context of business information and processes, on which systems and informatics networks are based, are particularly important topics. The three basic characteristics of information (privacy, integrity and availability) are essential for maintaining the competitiveness, profitability, legality and commercial image of an organization.

Increasingly, organizations, systems and their informatics networks are facing the threat of information security caused by a wide spectrum of sources, including fraud, espionage, sabotage, vandalism, fires and floods. A common source of danger is presented by attacks of electronic viruses, which can cause considerable damages and destructions. These means are becoming more aggressive and sophisticated.

Some businessmen and professionals have concluded that a sufficiently competent hacker can penetrate almost any computing system, including those that have been protected by password-based methods and data encryption. Others, more skeptical, argue that even when a system is well protected against outside attacks, it always remains the alternative of insider trading. Many secret data, such as customer lists, employee salaries, investments and budgets,

confidential reports, etc., can simply be copied to a floppy disk or USBFlash, and it can be removed from work, often even without a notice.

Mainframe computers solve the problem of theft through this source by keeping the computer and large data storage media locked. In the case of mainframes, the only way to use the data is by remote terminals, which are equipped with a screen, a keyboard, but not with disk drives. Because of this additional security provided by mainframe systems, some experts argue that local personal computer networks should be configured the same way, forgetting that excessive centralization of mainframes was one of the main reasons why personal computers developed.

Any regular connection to the Internet is not always without risks. The actual connection, absolutely innocent at first sight, could be accompanied by fraudulent sharing by a parasite or spy program, which has a very well-defined role: to steal some of the information manipulated, some of it, of course, of a strictly confidential nature for the owner. In this sense, there is certainly a great deal of distrust in the pessimistic assessments of some, and often, with or without permission, are exaggerated.

The transition to the informational society implies the need for credible information, and technological progress has exponential implications for their evolution. From this point of view, the need to secure information stored and processed through computers stems simply from the need for connection and communication, and globalization and the Internet have completely changed the face of the world to the confluence of millennia.

Personal computers have vulnerabilities because there is generally no hardware protection of internal and external memory: an executable program can have access anywhere in internal memory or on the hard drive. In any informatics system, protection involves providing programs and data against the following actions [1, pp. 220-221; 5, pp. 132-145]:

- 1) accidental losses caused by power failures, failure of hard drives;
- 2) unauthorized access to data and programs through password and encryption actions;
- 3) computer fraud (withdrawal or alteration of data, theft of services);
- 4) virusing of the software.

For effective protection it is necessary to know and secure the following elements:

- 1) identifying access through rules and relationships between users and resources;
- 2) the record (evidence) of access for tracking the use of system resources and for the possibility of restoring data in the event of destruction;
- 3) data integrity and confidentiality;
- 4) functionality of the programs.

The means by which protection can be ensured are:

- 1) organizational measures against destruction due to natural disasters, measures relating to the professional selection of personnel, the organization of an access control system, the organization of the preservation and use of information media;
- 2) legal measures, which include normative documents controlling and regulating the process of processing and using information;
- 3) informatics means consisting of protection programs and information encryption techniques.

The most well-known and used models of protection assurance (access authorization) are:

- 1) The Hoffman model, consists of a set of rules relating to 4 types of objects - users, programs, terminals and files, each with 4 security features:
 - a) authority (non-secret, confidential, secret, top secret);
 - b) category (specific data grouping compartments (limited access, approval access));
 - c) right (group of users, who have access to a particular object);
 - d) regime (crowd of object access modes: read, update, run program).
- 2) The Kent model has 5 dimensions: power of attorney, users, operations, resources, situations. Contains a process of organizing access well defined by an algorithm. Access to data is considered as a series of requests by users for operations to resources at a time when the system is in a certain state [2, pp. 176-183; 4, pp. 20-224; 6, pp. 134-156].

5. Conclusions

- 1) Place, role and functional value in the unitary economic management process dictate the primary concern for the protection of information on informative content.
- 2) Such an approach is justified by the fact that informative data constitute the consequence of the evolution of material processes and the basis for obtaining decision-making products. Therefore, their quality depends on the formulation and decision-making, which directly influences the material compartment.
- 3) At the same time, the isolated protection of information units alone does not ensure the full level of performance of their quality, because in addition to protection, this essential parameter influences the means, methods and resources involved in processing the values of these units.
- 4) For the reason given, full information protection requires it to be elucidated in interconnection and interaction with the means and methods of protecting other informatics resources.
- 5) The complexity of the composition, the unimaginable volumes of informational and informatics resources, caused by the objective course of the processes of globalization of human material and spiritual activities, have led to the complication and aggravation of the issues of protection and efficiency of E.Ic.S.
- 6) In addition to this phenomenon, the issues in question are also caused by the following significant influence factors:
 - a) the unsatisfactory level of the operating parameters of the technical means of information, of decisive value having the informational and informatic media, as well as the display devices;
 - b) the tendency towards private ownership of information, as each user claims to their own informational resources;
 - c) the legal value of economic information, which requires a high degree of authenticity;
 - d) like any other information, economic information is not consumed, which is why the loss may lead to the impossibility of its recovery;

- e) the primitivism of the reliability and security activities of E.Ic.S., the systemic organization of which is at the initial stage.
- 7) As the practice of the functioning of E.Ic.S. in economic units evolves, it is increasingly necessary to demonstrate the obvious specialization of informatics services in the form of certain organizational subdivisions, rarely being carried out as services for the protection of informational and informatics resources, mainly in the banking, state, internal affairs sectors.
- 8) From the positions of integration into a unitary whole and analogous functioning, the existing structuring of the economic managerial process (fig. 2) is caused by the following essential factors:
 - a) excessive dispersion into space and discrete expressive functioning over time, the latter being primarily caused by the insufficient degree and primitivism of carrying out human material and informational activities;
 - b) significant expansion of territorial dimensions and shortening of time limits for human material concerns;
 - c) respectively, and the informational occupations, which are objectively imposed, therefore, undetachable by material ones, in its evolution have transformed from the area of concern of a subject (group of subjects) to the field of interest of society as a whole.
- 9) The exit from the created situation and the prospect of the permanent performance of the elucidated domain can take place by creating and applying means and methods based on the principle of integration.

REFERENCES

1. LEAHU T. Organizarea, structurarea și transformarea informațiilor sistemului managerial economic./ Organizing, structuring and transforming the information of the economic management system. Chișinău, C.E.P. USM, 2009. 431 p. ISBN 978-9975-70-876-0.
2. Considerations on challenges and future directions in cybersecurity. Editors: Ioan-Cosmin Mihai, Costel Ciuchi, Gabriel Costică. Craiova, Romania, Romanian Association Information Security, SITEX Publishing, 2019. 333 p. ISBN 978-606-11-7004-3. eISBN 978-606-11-7004-0.
3. ȘERB A., BARON C., ISAILĂ N., IONESU C., DEFTA C. L. Securitatea informatică în societatea informațională / The informatics security in informational society. București: Editura ProUniversitaria, 2013. 546 p. ISBN 978-606-647-592-1.
4. Ioan-Cosmin Mihai. Procedures for detecting cyber crime activities on websites. Craiova, SITEX Publishing, Romania, 2017. 87 p. ISBN 978-606-11-6119-5.
5. КОВАЛЕНКО Ю. И. Защита информационных технологий цифровой экономики / The protection of informational technologies for digital economy. Москва: РУСАЙНСУС, 2020. 360с. ISBN 978-5-4365-5935-3
6. ВОЙТИК А. И., Прожерин В. Г. Экономика информационной безопасности. / Economy of information security. Санкт-Петербург: Национальный Исследовательский Университет, 2012. 120 с.

Rezumat

Sunt elucidați factorii imperioși, caracterizate circumstanțele și mediile sistemelor informaționale și informatice economice actuale și de perspectivă, care în mod obiectiv au contribuit la necesitatea stringentă de invenție, elaborare și utilizare a diverselor mijloace și metode de protecție a resurselor informaționale. Este accentuată valoarea funcțională a domeniului în cauză în mediul economiei de piață și a sistemelor informatice integrate. Conținutul materialului este structurat și redat de pe pozițiile procesului unitar de gestiune economică, care realizează nu numai activitățile informaționale, dar și materiale în interconectare și interacțiune nemijlocită în regim de timp real. Sunt specificate subdiviziunile lui și în această bază - determinat domeniul aplicării sus-

numitelor mijloace și metode în condițiile existente ale procesării valorilor informaționale de conținut informativ. În contextul dat sunt sistematizate și analizate sub-diviziunile procesului anterior nominalizat, constituentelor lui. Este stabilită și elaborată schema generală a interconexiunii și interacțiunii dintre parametrii protecției și eficacității funcționării sistemelor informatice integrate economice. În dependență de mediile aplicării, sunt evidențiate categoriile protecției unităților informaționale, fizic realizate sub formă de date, pe mediile memorare manual și informatic. Concomitent, în plan de influență reciprocă cu resursele informaționale, sunt elucidate unele aspecte ale protecției celorlalte resurse informatice. Tangențial, este examinată terminologia și efectuată concordanța mijloacelor și metodelor de organizare și realizare a proceselor protejării datelor. Sunt formulate problemele acestui compartiment al informaticii economice și posibilele căi de soluționare a lor.

Cuvinte-cheie: categorii, concordanță, mijloace, metode, probleme, terminologie factori, protecția datelor, sisteme informatice integrate

Аннотация

Рассмотрены настоятельные факторы, охарактеризованы обстоятельства и среды существующих и перспективных информационных и информатических систем, которые объективно привели к насущной необходимости в изобретении, разработке и применении различных средств и методов защиты информационных ресурсов. Выявлено и подчеркнуто функциональное значение данной предметной области в среде рыночной экономики и интегрированных информатических систем. Содержание материала структурировано и изложено с позиций единого процесса экономического менеджмента, реализующего в реальном режиме времени, то есть, в непосредственной взаимосвязи и взаимодействии, не только информационные, но и материальные действия. Специфицированы подразделы данного процесса и на этой основе определена область приложения вышеуказанных средств и методов в существующих условиях процессирования информационных значений экономического содержания. В этом контексте систематизированы и анализированы его подразделения, их составляющие. Определена и разработана общая схема взаимосвязи и взаимодействия между параметрами защиты и эффективности функционирования интегрированных информатических экономических систем. В зависимости от среды применения, выделены разновидности защиты информационных единиц, физически реализованных в виде данных, на материальных пространствах ручной и информатической памяти. Одновременно, в плане взаимовлияния с информационными, рассмотрены некоторые аспекты защиты других информатических ресурсов. Тангенциально, уточнена терминология и установлено соответствие средств и методов организации и реализации процессов защиты данных. Сформулированы проблемы данного раздела экономической информатики и возможные пути их решения.

Ключевые слова: категории, соответствие, средства, методы, проблемы, терминология, факторы, защита данных, интегрированные информатические системы

MECHANISM FOR INTERACTION BETWEEN UNIVERSITIES AND INTERNATIONAL ORGANIZATIONS WITHIN THE FRAMEWORK OF THE INTERNATIONAL UNITWIN / UNESCO CHAIRS PROGRAM

(through the example of the UNESCO Chair on Education for Sustainable Development of Cooperatives of the autonomous non-profit organization for higher education Belgorod University of Cooperation, Economics and Law)

E. E. TARASOVA, Prof., PhD, First Vice-Rector for Research

Belgorod University of Cooperation, Economics and Law, Russian Federation
E-mail: pror-nr@bukep.ru

E. V. ISAENKO, Prof., PhD, First Vice-Rector

Belgorod University of Cooperation, Economics and Law, Russian Federation
E-mail: pror-ur@bukep.ru

E. A. GOMONKO, Assoc. Prof., PhD

Belgorod University of Cooperation, Economics and Law, Russian Federation
E-mail: interdept@bukep.ru

Universal Decimal Classification: 378.1: 001.83 (470)

JEL Classification: F53, O19, I23

Abstract

This article examines one of the key tools for universities' activity development - the mechanism for interaction between universities and international organizations within the framework of the international UNITWIN / UNESCO Chairs Program. The mechanism for interaction between universities and international organizations within the framework of the international UNITWIN / UNESCO Chairs Program is understood as a decentralized complex of interconnected participants in educational and scientific projects of UNESCO, capable of expanding infinitely by including new participants. This mechanism is based on the principles of social partnership contributing to the establishment of strong and effective relationships between the participants in the international UNITWIN / UNESCO Chairs program.

The article reveals theoretical and methodological aspects of the mechanism for interaction between universities and international organizations within the framework of the international UNITWIN / UNESCO Chairs Program. The development of this mechanism is based on a theoretical study of monographic and periodical literature on the research topic, conceptual frameworks on education for sustainable development, institutional foundations for formation and development of the UNESCO Chairs, the assessment of the empirical study findings related to the activities of both the UNESCO Chair on Education for the Sustainable Development of Cooperatives of Belgorod University of Cooperation, Economics and Law and the section on Cooperation in the Global World of the UNESCO Chair on Global Problems and Emerging Social and Ethical Challenges for Large Cities and Their Population at the Faculty of Global Processes of the Lomonosov Moscow State University.

The developed mechanism for interaction between universities and international organizations within the framework of the international UNITWIN / UNESCO Chairs Program can be considered necessary, since it contributes to the rapid and effective exchange of knowledge and research results, ensures the continuity of experience sharing in the field of educational programs development and implementation, expands the range for academic mobility opportunities, uses objects of innovation, social, information and communication infrastructure, enhances the prestige of universities within the international community and motivates the universities' teaching staff to self-development.

Keywords: *mechanism for interaction, higher education, educational services, sustainable development, cooperatives, UNESCO, sustainable development goals, UNITWIN / UNESCO program*

1. Introduction

The adoption of the UN 2030 Agenda marked a new phase of sustainable development where education for sustainable development was proclaimed as the basic mechanism for solving mankind's global problems. Education coordinator is UNESCO, a specialized United Nations organization, which supports developing countries by assisting them in the development of effective policies based on advanced knowledge. UNESCO international program UNITWIN is the most successful project in the field of higher education. It is aimed at strengthening cooperation between universities in different countries.

Currently, more than 700 institutions participate in the International UNITWIN / UNESCO Program, 786 UNESCO Chairs are functioning effectively, and 68 UNITWIN networks have been created in 134 countries. The main objective of this Program is to create specialized mechanisms for interaction between higher educational organizations for rapid and effective exchange of knowledge and research. The UNESCO Chairs act as a tool for the practical implementation of UNESCO's actions in the field of education for sustainable development including the search and development of new educational programs, teaching methods and techniques; reconfiguration of competencies; creation of a sustainable educational environment and application of the sustainable development principles.

The of UNESCO Chairs in Russia is the second largest in the world. Its activities are aimed at ensuring that domestic education meets the real needs of both an individual and the society through the exchange of information and conducting researches in close cooperation with international organizations and foreign universities. Meanwhile, achieving the educational goals is possible only on the basis of an effective mechanism for interaction between all the participants in the UNITWIN / UNESCO Program.

In order to be most effective and ensure adequate action coordination in relation to educational goals accomplishment, it is extremely important to model and determine the mechanism for interaction between Russian universities and foreign institutions of higher education and organizations. Therefore, the relevance of the article is expressed in a detailed content disclosure of the mechanism for interaction between Russian higher educational institutions, foreign universities and international organizations within the framework of the UNESCO Chairs, which should simplify its practical application and further theoretical improvement.

2. Degree of research of the problem, the purpose of study

The analysis of monographic and periodical literature on the research topic showed that at present, various aspects related to the problems of higher education and the UNESCO Chairs' activities are being extensively researched.

Conceptual frameworks on education for sustainable development are determined by international documents adopted in the period from 1965 to 2020, and this is a significant block of documents regulating education development at the international level.

The works of Egorov V.K., Manakhov V.M., Okrepilov V.V., Sayamov Yu.N., Teplov V.I., Ursul A.D. and other scientists are devoted to the shaping of the institutional formation and development of the UNESCO Chairs in Russia.

Despite the fact that a significant number of relative fundamental works and scientific publications have been issued recently, the study of the UNESCO Chairs deserves further learning. The mechanism for interaction between UNESCO Chairs has not been sufficiently elaborated, in particular, there is no holistic model of network interaction focused on expansion in academic mobility and forms of cooperation, exchange of best educational practices and getting access to educational resources scattered around the world.

The purpose of this article is to develop a mechanism for interaction between Russian universities and foreign institutions of higher education and organizations within the framework of the UNESCO Chairs' functioning. It should facilitate the rapid and effective exchange of knowledge and research results as well as continuous sharing experience in the field of educational programs development and implementation; expand the range for academic mobility opportunities; promote objects of innovation, social, information and communication infrastructure; enhance the prestige of universities in the international community and motivate the universities' teaching staff to self-development.

3. Applied methods and materials

Methods of theoretical and empirical research were used to prepare this article. The logic of the research was based on three sequential stages with the use of the appropriate scientific methods.

1. The exploratory stage included the study of the conceptual foundations of the education development and international documents regulating the conditions and procedure for the implementation of the International UNITWIN / UNESCO Chairs Program. The key directions of the mechanism for interaction between universities in the framework of the International UNITWIN / UNESCO Program were formulated on the basis of the UNESCO's methodological recommendations on The UNITWIN / UNESCO Chairs Program: Guidelines and Procedures [1].

2. The information and analytical stage covered performance reviews of the UNESCO Chair on Education for the Sustainable Development of Cooperatives functioning at the autonomous non-for-profit organization for higher education Belgorod University of Cooperation, Economics and Law and the section on Cooperation in the Global World of the UNESCO Chair on Global Problems and Emerging Social and Ethical Challenges for Large Cities and Their Population at the Faculty of Global Processes of the Lomonosov Moscow State University. In this case, the methods of analogy, practical expertise, induction and deduction were applied.

3. The development stage was targeted at the development of a mechanism for interaction between Russian universities and foreign institutions within the framework of the international UNITWIN / UNESCO Chairs Program. This mechanism is seen as a tool to ensure the rapid and effective exchange of knowledge and research results. The methods used at this stage include: modeling, design, visualization, graphic methods of presenting authors' ideas and developments.

4. Findings and discussions

Findings of the study on the conceptual and institutional foundations of the UNESCO Chairs worldwide network functioning showed that natural sciences are the activity subject for most UNESCO Chairs. More than one third of the UNESCO Chairs are involved in conducting research and sharing experiences in natural sciences. Social and human sciences go second (25%). Research activities in the field of education are carried out by 20% of UNESCO Chairs, in the field of culture work 14% of Chairs, communications and information are the activity subject areas of 10% of Chairs (Fig. 1).

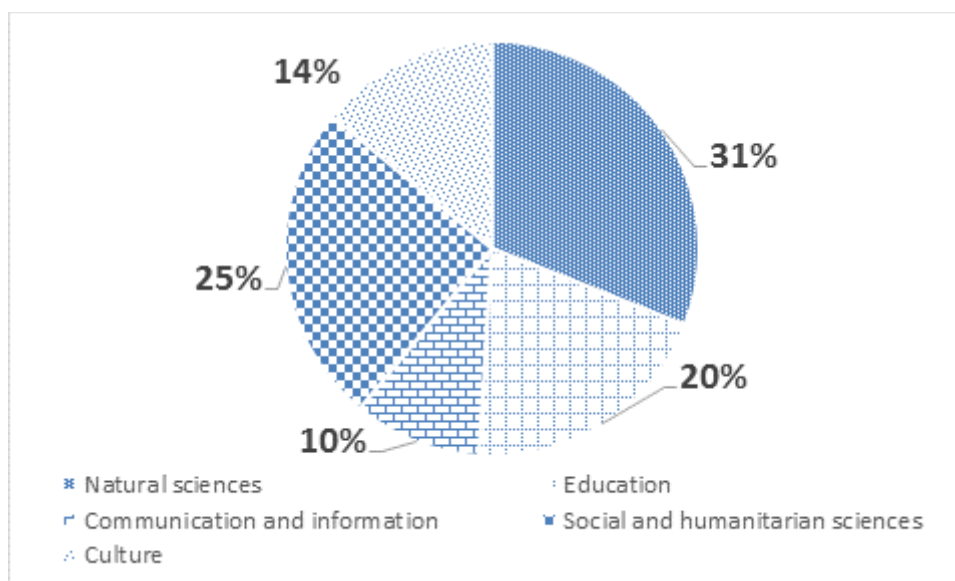


Figure 1. Distribution of UNESCO Chairs in the activity subject areas worldwide

There are 62 UNESCO University Chairs and 6 UNITWIN Networks in Russia. According to the main areas of activity, the topics of the UNESCO Chairs and UNITWIN networks in Russia are distributed as follows:

- natural sciences – 19 units;
- social and humanitarian sciences – 16 units;
- education – 23 units.;
- culture – 3 units;
- communication and information – 7 units.

The distribution of UNESCO Chairs in Russia in the context of the activity subject areas is shown in Figure 2.

As can be seen from the data shown in Figure 2, the most common topic of UNESCO Chairs in Russia is education. 23 UNESCO Chairs in Russia conduct scientific research in the field of education, representing 34% of their total. Every year, the UNESCO Chairs play an increasingly important role in sharing experience, knowledge and information on a wide range of issues related to the development of higher education and science; ensures the inclusion of Russian universities and scientific organizations into the international system of interuniversity cooperation.

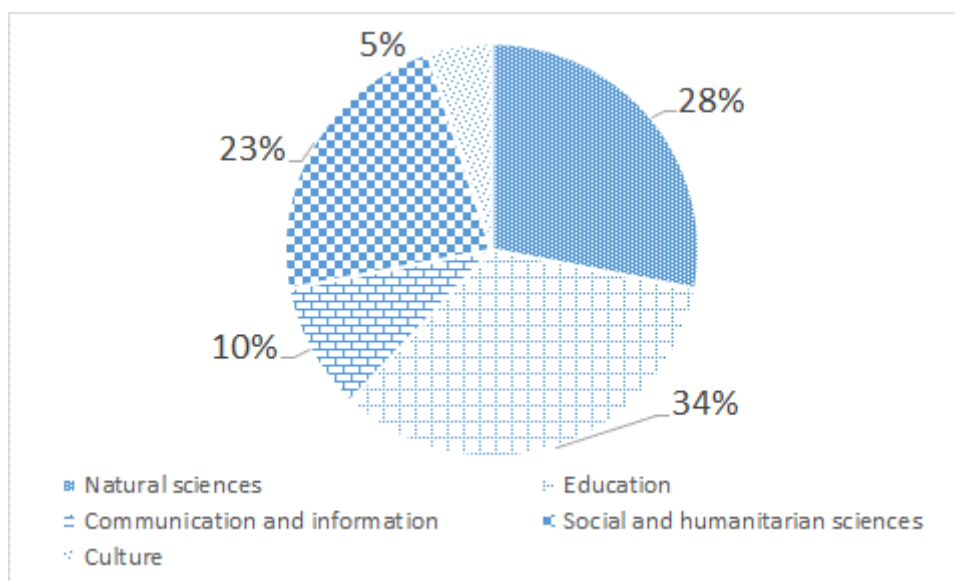


Figure 2. Distribution of UNESCO Chairs and UNITWIN networks in the context of the main activities in Russia

The interaction of UNESCO Chairs within the framework of the UNITWIN / UNESCO Chairs Program is focused on strengthening national potential in the field of education. It requires coordination of efforts to create and strengthen a joint infrastructure for personnel training, develop the most effective management mechanisms for both the educational sector in general and the educational process in particular. An important role in this process is played by the work concerning recognition of diplomas and promotion of cooperation between universities at the international level. A common form of interaction between UNESCO Chairs is organization of joint events: conferences, meetings, forums, working group meetings. Another form of interaction between UNESCO Chairs is implementation of joint research projects and publications. The noteworthy feature is participation of UNESCO Chairs in various projects, international congresses and conferences on educational issues. The framework of this activity includes consideration of UNESCO Chairs representatives' reports, analysis of implementation of the UN recommendations, adoption of new resolutions. UNESCO Chairs are actively involved in finding new strategies of social inclusion, ensuring universal access to education and gender equality, achieving a considerable degree of population's participation in social life in the context of education and science.

The foundations for the UNESCO Chairs' interaction are enshrined in the Khanty-Mansiysk Declaration of International Congress of UNESCO Chairs on Education for Sustainable Development (Khanty-Mansiysk, September 17-19, 2009).

The final document of the round table meeting on Activities of UNESCO Chairs on Education for the Sustainable Development in Modern Society noted that due to the enhanced cooperation between UNESCO Chairs it will be possible to introduce new mechanisms for interaction between different countries; create and implement long-term fellowship programs on the basis of intersectoral platforms; disseminate positive experience in the innovative technologies application in the field of education [11].

From that moment on, the interaction of UNESCO Chairs reached a new level. It is the level of networking where the key tools for education development are: direct interaction of UNESCO Chairs as well as development of partnerships to strengthen this interaction through the implementation of joint programs, teaching staff and student body mobility, conduct of interdisciplinary researches on the basis of university facilities, introduction of inter-sectoral platforms. This required the identification of mechanisms for interaction between UNESCO Chairs united on a regional basis in the interests of sustainable development.

One of the first initiatives that laid the conceptual and institutional basis for the interaction of UNESCO Chairs in Russia was the Network Concept of the UNESCO Chairs developed by prof. Bordovskiy G.A. [2]. The international conference on Improving the Mechanisms of Cooperation between Associated Schools, UNESCO Chairs and UNEVOC Centers for Sustainable Development: Challenges, Projects, Prospects (Kazan, May 13-14, 2013) can be considered as the next stage in the evolution of the mechanism for interaction between UNESCO Chairs [6]. The issues of interaction between UNESCO Chairs were also raised for discussion within the framework of the III All-Russia Congress of UNESCO Chairs (St. Petersburg, December 14-15, 2015) [3, 5]. Improvement of the mechanism and forms of coordination focusing on interaction between UNESCO Chairs is defined as a priority direction of the UNESCO Chairs' activity. According to the results of the study of the UNESCO Chairs' network functioning, it was found out that the mechanism of the UNESCO Chairs' interaction inside the structure, with the participants of other UNESCO educational and scientific programs and projects as well as with international organizations, is the most important condition for improving quality of education.

The mechanism for interaction between UNESCO Chairs is a decentralized complex of interconnected participants in educational and scientific UNESCO projects capable of expanding infinitely by including new participants, which further improves interaction of UNESCO Chairs on the principles of social partnership, promotes strong and effective relationships between its participants. Creation of multilateral relations between UNESCO Chairs allows developing, testing and promoting innovative educational models as well as training personnel with the joint use of resources. These steps contributed to enhancing efficiency and quality of education. Since June 2014, the UNESCO Chair on Education for Sustainable Development of Cooperatives has been functioning at the Belgorod University of Cooperation, Economics and Law. It is a participant of the UNITWIN / UNESCO Program actively interested in developing its own network. The University also created the section on Cooperation in the Global World of the UNESCO Chair on Global Problems and Emerging Social and Ethical Challenges for Large Cities and Their Population at the Faculty of Global Processes of the Lomonosov Moscow State University

The structural diagram of the mechanism for interaction between the Belgorod University of Cooperation, Economics and Law and universities and international organizations within the framework of the international UNITWIN / UNESCO Chairs Program is shown in Figure 3.

The developed mechanism for interaction between the Belgorod University of Cooperation, Economics and Law and universities and international organizations within the framework of the international UNITWIN / UNESCO Chairs Program includes five levels of interaction: global and national levels, the level of inter-university interaction, the network level and the level of intra-university interaction. The designated five levels of interaction are integral

components for universities' participation in the UNITWIN / UNESCO Chairs Program. They set the overall direction for UNESCO Chairs' activities. This sequence of levels of the mechanism for interaction between universities and international organizations within the framework of the international UNITWIN / UNESCO Chairs Program is well-founded, since it is based on the experience gained by UNESCO Chair on Education for the Sustainable Development of Cooperatives of Belgorod University of Cooperation, Economics and Law and the UNESCO Chair on Global Problems and Emerging Social and Ethical Challenges for Large Cities and Their Population at the Faculty of Global Processes of the Lomonosov Moscow State University.

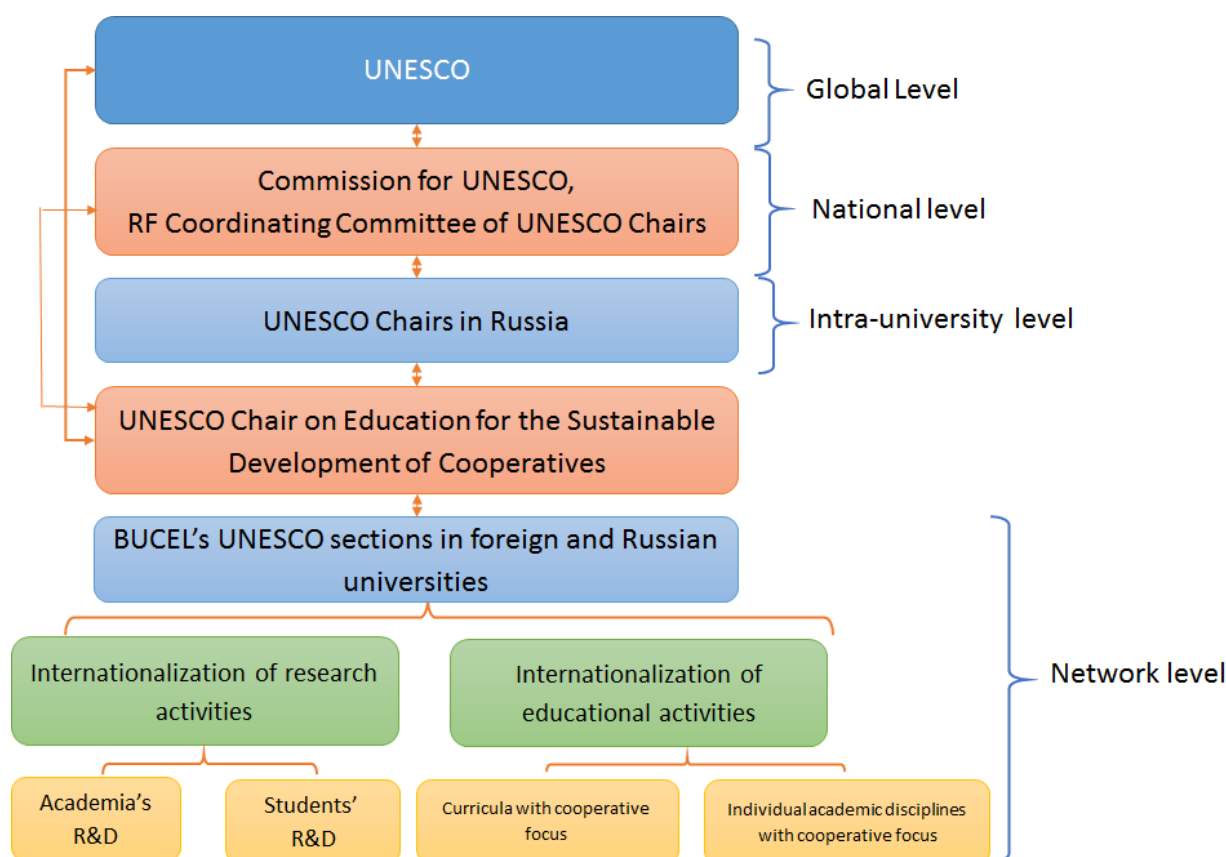


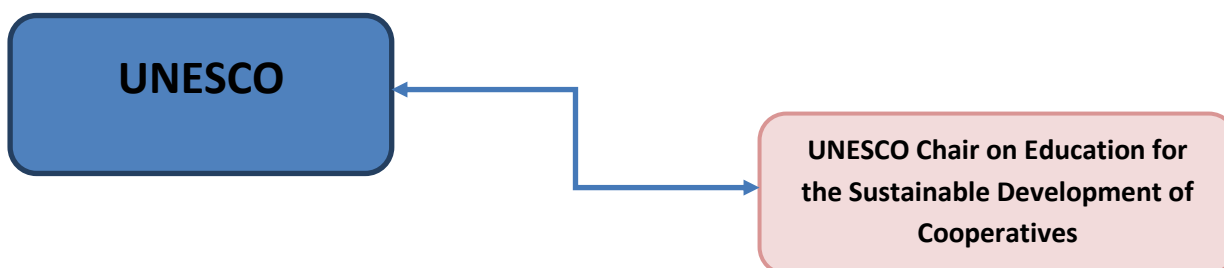
Figure 3. Structural diagram of the mechanism for interaction between the Belgorod University of Cooperation, Economics and Law and universities and international organizations within the framework of the international UNITWIN / UNESCO Chairs Program

Identification of levels of the mechanism for interaction between the Belgorod University of Cooperation, Economics and Law and universities and international organizations within the framework of the international UNITWIN / UNESCO Chairs Program in the given order also facilitates the solution of a number of constructive tasks:

- to provide conditions for improving education quality through sharing of best practices;
- to create an effective infrastructure for the University international activity;
- to develop research activities;

- to improve the University's international authority and image in the global market of educational services.

1. Global level. The first level of interaction of Belgorod University of Cooperation, Economics and Law with universities and international organizations within the framework of the UNITWIN / UNESCO Chairs Program is global in nature (Fig. 4). Interaction at the global level involves implementation of a number of projects and programs of UNESCO and ICA (International Cooperative Alliance). In particular, the UNESCO Futures of Education initiative and a number of international conferences held by ICA should be highlighted, including the ICA-CCR European Research Conference on Cooperatives and the Transformation of Business and Society (Humboldt University, Germany).



- **The UNESCO-Japan Prize on Education for sustainable development. Project Education for Sustainable Development of Cooperatives was presented (April 2019);**
- **UNESCO Futures of Education initiative. Material on the topic Education for purposes of the Sustainable Development of Cooperatives was presented; (June 2019);**
- **UNESCO Survey for Universities. Information on the contribution of Higher Education to the SDGs and to the “leaving no one behind” mandate (April 2020);**
- **ICA-CCR European Research Conference on Cooperatives and the Transformation of Business and Society, Humboldt University, Berlin (August 2019).**

Figure 4. Global level of interaction of Belgorod University of Cooperation, Economics and Law within the framework of the UNITWIN / UNESCO Chairs Program

2. National level. The second level of interaction of Belgorod University of Cooperation, Economics and Law with universities and international organizations within the framework of the UNITWIN / UNESCO Chairs Program is the national level of interaction. At the national level, work is carried out in close cooperation with the Commission for UNESCO and the Coordination Committee of the UNESCO Chairs in Russia (Fig. 5).

3. Inter-university interaction of UNESCO Chairs is focused on the UNESCO Chairs' communicating within the framework of the UNESCO Chairs system in Russia coordinated by the RF Coordinating Committee of UNESCO Chairs (Fig. 6). In particular, Belgorod University of Cooperation, Economics and Law signed Cooperation Agreements with the Astrakhan State University, Peter the Great St. Petersburg Polytechnic University, the University of Management “TISBI”.



Figure 5. National level of interaction of Belgorod University of Cooperation, Economics and Law within the framework of the UNITWIN / UNESCO Chairs Program

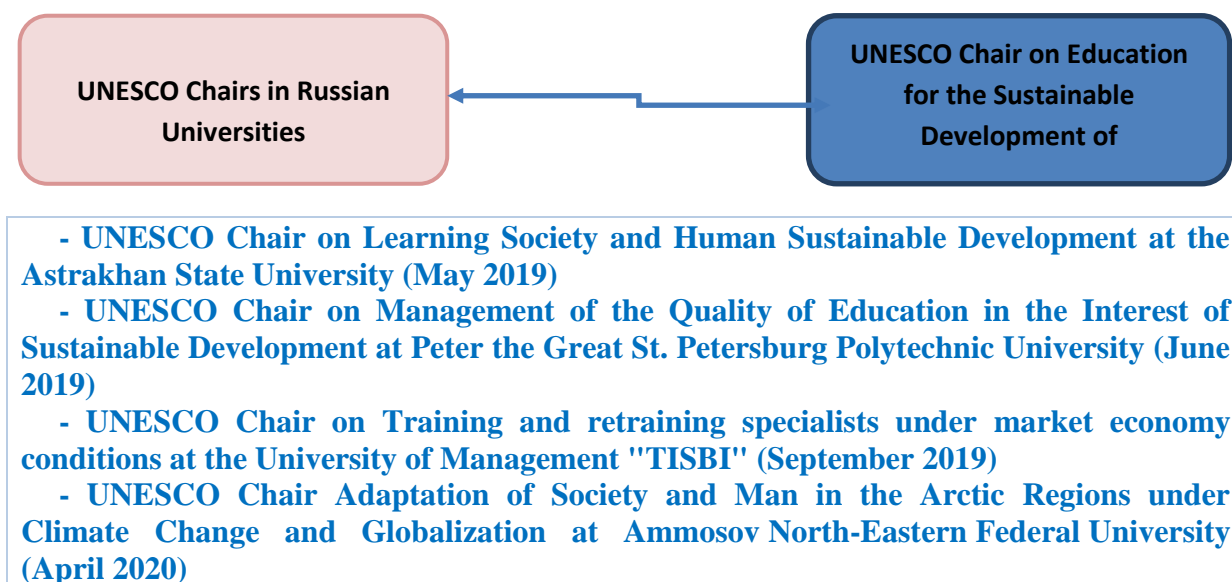


Figure 6. Inter-university level of interaction of Belgorod University of Cooperation, Economics and Law within the framework of the UNITWIN / UNESCO Chairs Program

4. The level of network partnership is the fourth level that implies interaction between the UNESCO Chair on Education for Sustainable Development of Cooperatives functioning at the Belgorod University of Cooperation, Economics and Law and its sections created in

partner universities (Fig. 7). It should be noted that sections of the UNESCO Chair at the Belgorod University of Cooperation, Economics and Law are successfully running both in Russian and foreign universities.

The main emphasis within the network interaction of the Belgorod University of Cooperation, Economics and Law is placed on the cooperative orientation of its UNESCO Chair. In this regard, the first sections of the UNESCO Chair on Education for the Sustainable Development of Cooperatives of the Belgorod University of Cooperation, Economics and Law were opened in cooperative universities in Russia and the CIS countries: Siberian University of Consumer Cooperatives, Belarusian Trade and Economic University of Consumer Cooperatives, Tajik State University of Commerce, Karaganda Economic University of Kazpotreboysouz, Cooperative Trade University of Moldova.

Educational and research activities of the Belgorod University of Cooperation, Economics and Law towards education advancement for the sustainable development of cooperatives is carried out within the network interaction with Abdulatif Alhamad University of Technology (Merow, Republic of Sudan), Ibn Zohr University (Agadir, Kingdom of Morocco) and Avid College (Republic of Maldives).

Upon the authors' analysis it was discovered that both the number of UNESCO Chairs' network level participants and the number of connections between them have a direct impact on the interaction efficiency. It leads to capacity-building and formation of opportunities for further innovative linkages between the UNESCO Chairs.

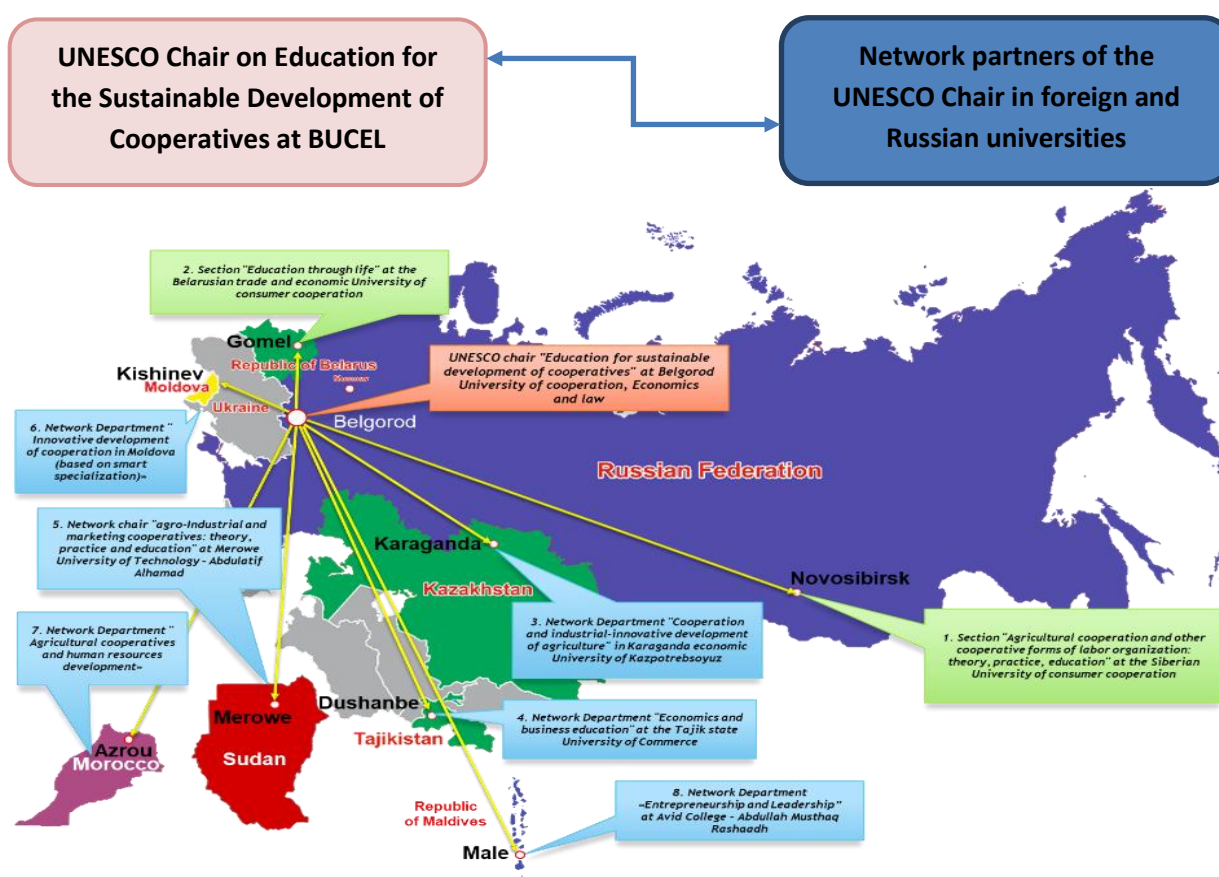


Figure 7. Network level of interaction of Belgorod University of Cooperation, Economics and Law within the framework of the UNITWIN / UNESCO Chairs Program

5. Level of intra-university interaction. Since the mechanism of interaction between universities and international organizations within the framework of the international UNITWIN / UNESCO Chairs Program is aimed at solving two main tasks, namely, internationalization of universities' research and educational activities, then the implementation of initiatives is ensured by building functional links between two priority areas of universities' actions: research activity and the educational process.

In order to facilitate educational internationalization, the Belgorod University of Cooperation, Economics and Law is developing and scaling its own educational programs; holding seminars and master classes on the educational activity issues; popularizing educational systems 3D - stereo visualization among representatives of the pedagogical community, administrative bodies, local authorities, foreign University partners, students and schoolchildren for strengthening youth loyalty to the ideas and values of the cooperative movement in accordance with the UNESCO's action lines.

Cooperation in research initiatives involves the University academia in organizing and holding international conferences both at the Belgorod University of Cooperation, Economics and Law, and at universities with functioning sections of the UNESCO Chair on Education for the Sustainable Development of Cooperatives, namely, Cooperative Trade University of Moldova, Karaganda Economic University of Kazpotrebsoyuz, Belarusian Trade and Economic University of Consumer Cooperatives.

The interrelated cooperation of all action lines of the Belgorod University of Cooperation, Economics and Law makes it possible to create necessary conditions for piloting innovative streams through the use of mechanism for interaction within the framework of the UNESCO Chair:

- availability of the necessary intellectual resources with efforts being made in the area of joint educational programs development;
- availability of material and technical resources;
- availability of financial resources;
- availability of information resources which is a mandatory requirement for network interaction.

It seems evident that only a combination of all five levels of the interaction mechanism creates the basis for a continuous process of generating innovative directions for universities' educational and research activity development. First of all, universities benefit from such interaction, since it provides new knowledge and promising projects.

In the context of a pandemic, the interaction of universities and international organizations within the framework of the international UNITWIN / UNESCO Chairs Program is carried out through the use of distance technologies and online platforms, which made it possible to eliminate such barriers as territorial limitations, narrow mindedness of scientific and pedagogical personnel in mastering key competencies, handling of comprehensive and resource-intensive projects.

The benefits universities receive from such interaction are as follows:

- continuous sharing experience in the field of educational programs development and implementation, expansion of academic mobility opportunities (information benefit);

- possibility to gain access to educational resources of other universities (resource benefit);
- possibility to use objects of innovation, social, information and communication infrastructure (infrastructural benefit);
- speeding up of the process of mobilization and transfer of knowledge and experience (temporal benefit);
- formation of an inter-university highly competent team (managerial benefit);
- wide recognition of university scientists' achievements, credibility of the University, motivation of the University teaching staff to self-development (social benefit).

The aforementioned benefits of interaction make it necessary to search for new teaching methods with the use of distance technologies, while strengthening cooperation in research requires support of interdisciplinary scientific investigations with the fullest possible involvement of all intra-university structures.

The set of performance indicators of the mechanism for interaction between universities and international organizations within the framework of the international UNITWIN / UNESCO Chairs Program may include the following indicators:

- the number of the established sections within the UNESCO Chairs' network;
- the number of developed and implemented joint educational programs on the UNESCO Chair's subject area;
- the number of people trained in educational programs on the UNESCO Chair's subject area;
- the number of joint scientific publications, including scientific publications indexed in the international databases Web of Science and Scopus on the UNESCO Chair's subject area;
- the number of teachers participating in foreign events organized by UNESCO for achieving SDG 4;
- the number of international scientific and practical conferences organized by the UNESCO Chair on the UNESCO Chair's subject area;
- the number of applications for grants on the UNESCO Chair's subject area;
- the number of employees involved in the implementation of joint scientific projects on the UNESCO Chair's subject area.

The set of outlined indicators was selected based on the analysis of the adopted indicators, criteria for international university ranking and characteristics of the world's leading universities and UNESCO.

5. Conclusions

The presented mechanism for interaction between universities and international organizations within the framework of the international UNITWIN / UNESCO Chairs Program allows focusing on key issues of education development, sharing information and replicating best practices, as well as involving network partners with the necessary resource potential in

cooperative action. It acts as a highly effective technology for sharing of experience in the field of education and so allowing UNESCO Chairs to develop dynamically and achieve the stated goals. It is also important to note that due to the UNESCO Chairs' interaction there is an intensive dissemination of innovative educational developments; universities are engaged both in a productive dialogue and exchange of successful cases; better understanding and reflection of the processes that occur in the educational system worldwide.

This is the first paper to describe the mechanism for interaction between universities and international organizations within the framework of the international UNITWIN / UNESCO Chairs Program, which represents five levels of interaction. Scientific work on the development and improvement of the mechanism for interaction between universities and international organizations within the framework of the international UNITWIN / UNESCO Chairs Program will continue. Within the framework of the mechanism for interaction between universities and international organizations involved in the UNITWIN / UNESCO Chairs Program, it is also necessary to form an optimal structure of a universal roadmap from the perspective of the program participants' interaction at all levels.

REFERENCES

1. The UNITWIN / UNESCO Chairs Programme: Guidelines and procedures. Paris: UNESCO, 2017. p. 20.
2. BORDOVSKIY, T. A. Scientific and organizational activity of the UNESCO Chairs' network and the inter-university network of UNITWIN RAO / T. A. Bordovskiy, I. V. Robert, A. V. Khoroshilov // Higher Education in Russia. 2014, No. 4, pp. 145-152. – Text: direct.
3. EGOROV, V. K. Network interaction of UNESCO Chairs / V. K. Egorov, O. V. Novikova // Collection of reports. St. Petersburg International Economic Forum. Section on the basis of Peter the Great St. Petersburg Polytechnic University. Use of new developments of UNESCO Chairs for strategic planning and sustainable development of the metropolis / under the editorship of A.I. Rudskoy, V.V. Okrepilov. SPb.: POLYTECH-PRESS, 2019, pp. 51-56. – Text: direct.
4. ISAENKO, E. V. Directions of digital technologies implementation in educational and marketing activities of universities / E. V. Isaenko, E. E. Tarasova // In the collection: Modern education: topical issues, achievements and innovations: Materials of the international scientific-methodological conference (1-5 April, 2019); autonomous non-profit organization for higher education "Belgorod University of Cooperation, Economics and Law". Belgorod: Published by BUCEL, 2019, pp. 9-21. ISBN 978-5-8231-0940-6.– Text: direct.
5. MONAKHOV, V. M. On the prospects of UNESCO Chairs' networking interaction / V. M. Monakhov // Collection of reports. St. Petersburg International Economic Forum. Section on the basis of Peter the Great St. Petersburg Polytechnic University. Use of new developments of UNESCO Chairs for strategic planning and sustainable development of the metropolis / under the editorship of A.I. Rudskoy, V.V. Okrepilov. SPb.: POLYTECH-PRESS, 2019, pp. 99-103. –Text: direct.
6. Resolution of the International Conference on Improving the Mechanisms of Cooperation between Associated Schools, UNESCO Chairs and UNEVOC Centres for Sustainable Development: Challenges, Projects, Prospects. Kazan: University of Management "TISBI", 2013. Access mode: <https://iite.unesco.org/ru/news/639129-ru/>
7. TEPLOV, V. I. Cooperation and globalization: problems and prospects / V. I. Teplov, E. E. Tarasova, E. V. Isaenko, L. V. Teplova // Actual problems of global research: Russia in a globalizing world : Collection of scientific papers of the participants of the VI All-Russian scientific-practical conference with international participation. Under the editorship of I.V. Ilyin. 2019, pp. 336-344. – Text: direct.
8. TEPLOV, V. I. The role of universities in achieving sustainable development goals / V. I. Teplov, E. E. Tarasova, E. V. Isaenko // Collection of reports. St. Petersburg International Economic Forum. Section on the basis of Peter the Great St. Petersburg Polytechnic University. Use of new developments of UNESCO Chairs for strategic planning and sustainable development of the metropolis / under the editorship of A.I. Rudskoy, V.V. Okrepilov. SPb.: POLYTECH-PRESS, 2019, pp. 80-90. – Text: direct.
9. TEPLOV, V. I. Trends in the development of non-state education in Russia / V. I. Teplov, E. E. Tarasova, E. V. Isaenko // Higher education and science for sustainable development of cooperatives. Materials of the international scientific-practical conference of academia and post-graduate students (April 3-7, 2017);

- autonomous non-profit organization for higher education Belgorod University of Cooperation, Economics and Law. Belgorod: Published by BUCEL, 2017, pp. 9-18. ISBN 978-5-8231-0708-2. – Text: direct.
10. TEPOV, V. I. The role of UNESCO in the development of education: history and modernity / V. I. Teplov, E. V. Isaenko, E. E. Tarasova // The role of higher education in the development of cooperation. Materials of the international scientific-practical conference of academia and post-graduate students. April 5, 2016. Belgorod: Published by BUCEL, 2016, pp. 7-16. – Text: direct.
11. Khanty-Mansiysk Recommendations on the Implementation of the Global Action Program on ESD: adopted at the International Conference on Education for Sustainable Development (Khanty-Mansiysk, Russian Federation, June 8-11, 2015) [electronic resource].
Access mode: <http://www.geogr.msu.ru/science/projects/our/docs/>

Rezumat

În lucrare se examinează unul dintre instrumentele cheie aferente dezvoltării activității universităților - mecanismul de interacțiune a universităților și organizațiilor internaționale în cadrul programului internațional UNITWIN / Catedre UNESCO. Mecanismul interacțiunii dintre universități și organizații internaționale în cadrul participării la programul internațional UNITWIN / Catedrele UNESCO este înțeles ca un complex descentralizat de participanți interconectați la proiecte educaționale și științifice ale UNESCO, capabil să se extindă la nesfârșit prin includerea noilor participanți. Acest mecanism se bazează pe principiile parteneriatului social, contribuind la stabilirea unor relații puternice și eficiente între participanții programului internațional UNITWIN / Catedre UNESCO.

Articolul conține abordări aferente aspectelor teoretice și metodologice ale mecanismului de interacțiune dintre universități și organizații internaționale în cadrul programului internațional UNITWIN / Catedre UNESCO. Dezvoltarea acestui mecanism se bazează pe studiul teoretic al literaturii monografice și periodice la tema cercetării, al bazelor conceptuale aferente evoluției educației pentru o dezvoltare durabilă, al bazelor instituționale privind formarea și dezvoltarea sistemului Catedrelor UNESCO, precum și pe studiul empiric al rezultatelor activităților Catedrei UNESCO „Educație pentru dezvoltarea durabilă a cooperativelor” din cadrul Universității Cooperatiste, Economie și Drept din Belgorod și secțiunii „Cooperare în lumea globală” a Catedrei UNESCO privind cercetarea problemelor globale și provocărilor sociale și etice proprii marilor orașe și populației acestora din cadrul facultății proceselor globale a Universității de Stat Lomonosov din Moscova. Mecanismul de interacțiune creat între universități și organizații internaționale în cadrul programului internațional UNITWIN / Catedrele UNESCO poate fi considerat necesar, deoarece contribuie la schimbul rapid și eficient de cunoștințe și cercetare, asigură continuitatea schimbului de experiență în dezvoltarea și implementarea programelor educaționale, extinderea gamei oportunităților privind mobilitatea academică, utilizarea obiectivelor de infrastructură inovatoare, informațională, de comunicare și socială, creșterea prestigiului universităților pe arena internațională și motivarea personalului didactic al universităților pentru perfecționare.

Cuvinte-cheie: *mecanism de interacțiune, învățământ superior, servicii educaționale, dezvoltare durabilă, cooperative, UNESCO, obiective de dezvoltare durabilă, programul UNITWIN / UNESCO*

Аннотация

В данной статье рассматривается один из ключевых инструментов развития деятельности вузов – механизм взаимодействия вузов и международных организаций в рамках участия в международной программе УНИТВИН / Кафедры ЮНЕСКО. Механизм взаимодействия вузов и международных организаций в рамках участия в международной программе УНИТВИН / Кафедры ЮНЕСКО понимается как децентрализованный комплекс взаимосвязанных участников образовательных и научных проектов ЮНЕСКО, способных неограниченно расширяться путем включения новых участников. В основу данного механизма положены принципы социального партнерства, способствующие установлению прочных и эффективных взаимосвязей между участниками международной программы УНИТВИН / Кафедры ЮНЕСКО.

Статья раскрывает теоретико-методологические аспекты механизма взаимодействия вузов и международных организаций в рамках участия в международной программе УНИТВИН / Кафедры ЮНЕСКО. Разработка данного механизма основана на теоретическом исследовании монографической и периодической литературы по теме исследования, концептуальных основ развития образования в интересах устойчивого развития, институциональных основ становления и развития кафедральной системы ЮНЕСКО, а также эмпирическом исследовании результатов деятельности кафедры ЮНЕСКО «Образование для устойчивого развития кооперативов» при Белгородском университете

кооперации, экономики и права и секции «Кооперация в глобальном мире» кафедры ЮНЕСКО по изучению глобальных проблем и возникающих социальных и этических вызовов для больших городов и их населения факультета глобальных процессов МГУ имени М.В. Ломоносова. Разработанный механизм взаимодействия вузов и международных организаций в рамках участия в международной программе УНИТВИН / Кафедры ЮНЕСКО можно считать необходимым, поскольку он способствует быстрому и эффективному обмену знаниями и исследованиями, обеспечивает непрерывность обмена опытом в направлении разработки и реализации образовательных программ, расширение спектра возможностей академической мобильности, использования объектов инновационной, информационно-коммуникационной и социальной инфраструктуры, повышение престижности вузов на международной арене и мотивацию профессорско-преподавательского состава вузов к самосовершенствованию.

Ключевые слова: механизм взаимодействия, высшее образование, образовательные услуги, устойчивое развитие, кооперативы, ЮНЕСКО, цели устойчивого развития, программа УНИТВИН/ЮНЕСКО

**HIGHLIGHTS OF THE MARKETING MIX STRATEGY ON THE
MARKET OF SEA BUCKTHORN PRODUCTS****Feodosie PITUȘCAN, Assoc. prof., PhD**

Trade Co-operative University of Moldova

E-mail: feodosie_pituscan@yahoo.com

Sergiu MÎRZA, Assoc. prof., PhD

State Agrarian University of Moldova

E-mail: s.mirza@mail.ru

Universal Decimal Classification: 658.8: 664.8**JEL Classification: M31, Q13, L19**

Abstract

In the food and pharmaceutical industry, but also as an ornamental plant sea buckthorn has been used since ancient times. It is also of particular interest in today's conditions due to its valuable food and pharmaceutical qualities. The fruits of sea buckthorn are rich in vitamin C, A, B1, B2, B6, B9, E, K, P, F, cellulose, beta-carotene, microelements and ethereal oils. In recent years, consumption and consumer interest in sea buckthorn fruits and products derived from sea buckthorn are increasing.

The article addresses the problem of consumption of sea buckthorn products through increasing the degree of satisfaction of consumers' desires and expectations. Market study of sea buckthorn products, conducted on the basis of a questionnaire within the research project "Development of technology for the production of sea buckthorn in an ecological system and the processing of fruits and biomass", highlights the problems to be solved by managers and specialists in production and sales to meet the needs and expectations of consumers on the domestic market and not only.

Both producers of sea buckthorn products and wholesalers or retailers must take into account not only their valuable food and therapeutic properties, but also the desires of consumers, the complexity of the marketing mix, the type of measures, methods of promotion, distribution and marketing to the final consumer.

The results of the survey identified the general informative picture about the consumers of the sea buckthorn products and allowed the elaboration of some recommendation for the plant producers.

Keywords: sea buckthorn, consumers, consumer market, market research, marketing mix, strategic landmarks**1. Introduction**

Sea buckthorn – *Hyppophaerhamnoides*, is a shrub known as part of the spontaneous flora of Moldova, which is used in the food industry, forestry, pharmacy, but also as an ornamental plant. Sea buckthorn originates in the steppes of Central Asia, Caucasus region.

Due to its valuable food and therapeutic properties, sea buckthorn has been of particular interest among fruit species since antiquity. The truest source of the use of sea buckthorn dates back to 200 BC during campaign of Alexander the Great. Genghis Khan, the emperor of Mongolia, who created one of the largest empires in the 13th century, relied on three things: a well – organized army; strict discipline and the sea buckthorn that didn't lack in the soldiers' food. At the 29th edition of the Summer Olympics in Beijing (China 2008), the Chinese Olympic team was served at any table with sea buckthorn juice.

Sea buckthorn fruit contains twice as much vitamin C as rosehip and 10 times more than citrus fruits. In ripe fruit the content exceeds 400-800 mg per 100 g of fresh juice. Other vitamins present in the fruit are A, B1, B2, B6, B9, E, K, P, F. we also find cellulose, beta-carotene (in a net percentage higher than the carrot pulp), trace elements such as phosphorus, calcium, magnesium, potassium, iron and sodium, complex oils, etc.

Sea buckthorn is used in the food industry (juices, syrups, jams, sweets, alcoholic beverages, nectar), for the treatment of diseases and joint edema in the pharmaceutical industry, but and in the cosmetics industry.

Both producers of sea buckthorn products and wholesalers or retailers must take into account not only their valuable food and therapeutic properties, but also the desired of consumers, the complexity of the marketing mix, the type of measures, methods of promotion, distribution and marketing to the final consumer.

2. The degree of investigation of the problem and purpose of research

In the Republic of Moldova, sea buckthorn is a species that has not been widespread as in the case of Asian countries or some in Europe. In recent years, with the selection of highly productive varieties, including without thorns, and machines for mechanized fruit harvesting, fruit growers both abroad and in our country show an exceptional interest in sea buckthorn which is becoming one of the most profitable fruit species. In the Republic of Moldova, the first commercial plantation on an area of 40 ha was established in 2014. Later, the number of plantations and areas of this crop increased being at the beginning of 2018 around 180 ha [1].

The marketing activity in the production of white sea buckthorn represents the process of studying the market of this product by white sea buckthorn producers and the subsequent use of marketing- mix elements in order to obtain a profit by satisfying the population with white sea buckthorn products. [2].

The problem of consuming sea buckthorn products in terms of increasing the satisfaction of consumers' wishes and expectations is a current one. At the same time, there are not enough studies on the market of sea buckthorn products and the authors set out to research this important topic.

The purpose of the research is to identify the problems to be solves by managers and specialists concerned with the production and sale od sea buckthorn to meet the needs and expectations of consumers in the domestic market.

3. Applied methods and materials

In this research there were mainly used the following methods of scientific research: the dialectical method and its components: analysis and synthesis, comparison method, presentation of results obtained in graphical form - diagrams and diagrams.

The research was conducted on the basis of a questionnaire, which included 12 questions. The survey was carried out within the Research Project "Development of technology for the

production of white sea buckthorn in an ecological system and the processing of fruits and biomass", with the number 20.80009.5107.13, on a sample of 326 people, aged +18 years, inhabitants of the Republic of Moldova, with a margin of error of +/- 3%. The data were collected between April and September 2020 by the CAPI (Computer Assisted Personal Interviewing) method. The interviewed sample is representative in terms of sex, age, marital status and living environment.

4. Obtained results and discussions

The advantages, set out above, place sea buckthorn and its derivatives at the forefront of a healthy physiological diet. Of course, the share of products in the food set differs from one country to another and it depends a lot on the economic development of the given state formation. All these arguments favored the beginning of the research process on the consumption of sea buckthorn products in the Republic of Moldova.

The results of the questionnaire show that in our country these products are known to consumers, but we are going to carry out thoughtful actions of persuasion to increase the consumption of sea buckthorn products.

From the answers to the question if the respondents are consumers of sea buckthorn, more than a third of the interviewed people answered that they know and consume these products periodically. So, we can say that every third person in the Republic of Moldova is a real consumer of sea buckthorn products.

When asked "What sources did you first learn about sea buckthorn products from?" the results were distributed as follows (Fig. 1).

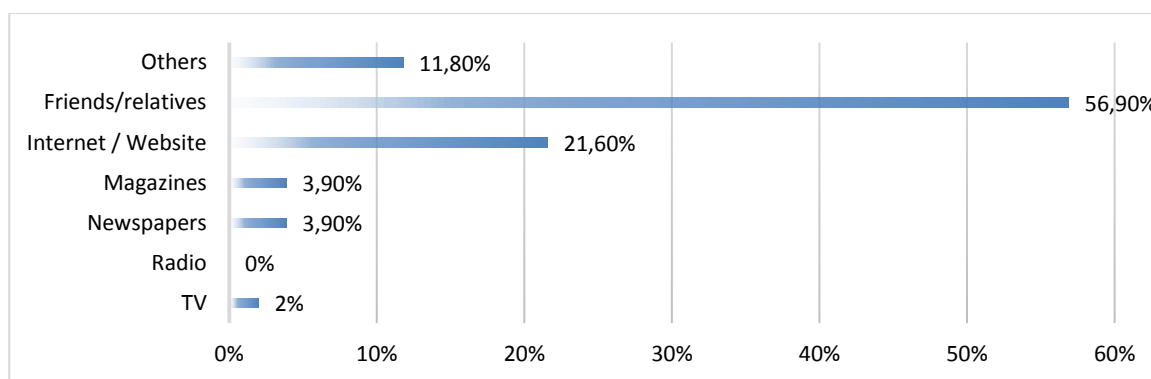


Figure 1. Diagram of the respondents' information sources about sea buckthorn

Source: Developed by the authors based on the study

Thus, consumers of sea buckthorn products learn more about them from friends and relatives (56.9%), who are positioned on the first position being followed by internet sources. There are also new sources of information about the consumer of sea buckthorn products, these being the doctor's prescription and the offer of teas and other sea buckthorn products in public catering establishments and restaurants.

Regarding the question "How long have you been using sea buckthorn products?" the results were distributed as shown in Figure 2.

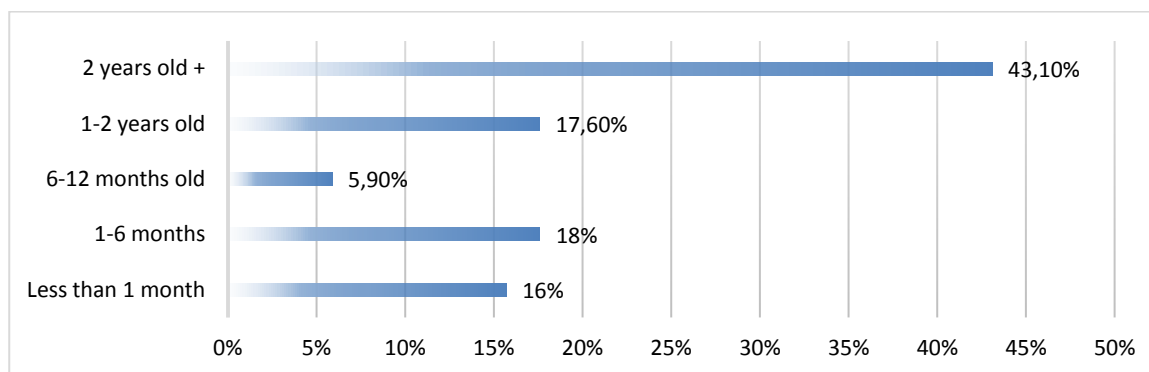


Figure 2. Diagram of the structure of sea buckthorn consumers by duration of use of sea buckthorn in consumption

Source: Developed by the authors based on the study

The vast majority of consumers of sea buckthorn products consume these products for more than a year, constituting over 60% of the respondents. Thus, we can mention that the sea buckthorn products pass from the new products phase to the traditional products phase. However, there is a need to increase production from producers. When asked "Do you know the difference between sea buckthorn products and other products that offer the same utilities?" the results were distributed as follows: 43.1% do not know the difference between sea buckthorn products and other similar products and 56.9% know these differences (fig. 3).

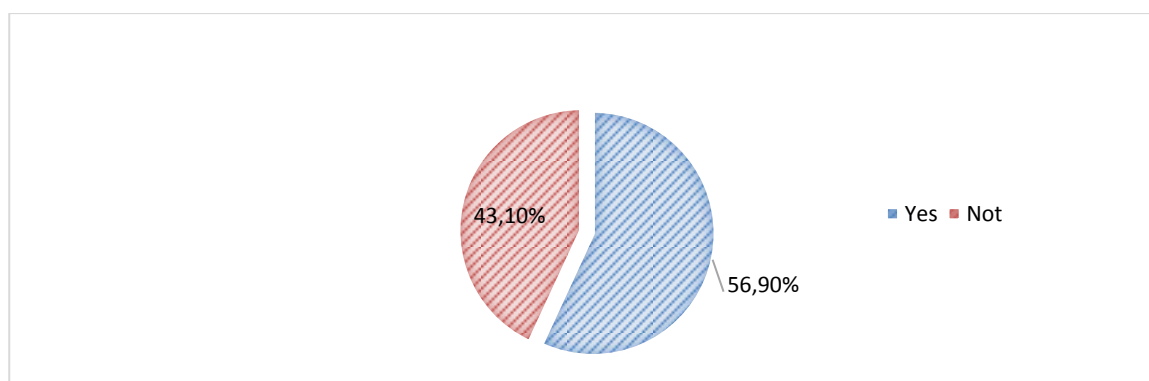


Figure 3. The structure of the respondents with reference to the knowledge of the difference between sea buckthorn products and other products that offer the same utilities

Source: Developed by the authors based on the study

Although most consumers of sea buckthorn products know the benefits of this product, there is a need for permanent information about the importance of consumption of sea buckthorn for human health.

While being asked "How often do you consume sea buckthorn products in general?" 62.7% of respondents answered that less often than once a month, 23.5% consume 2-3 times a week and only 2.0% once a day and more often (fig. 4).

The consumer of sea buckthorn products perceives their need, but the frequency of consumption is still low and this is explained by the fact that the price is not so affordable. In this situation, producers of sea buckthorn products must constantly review their prices.

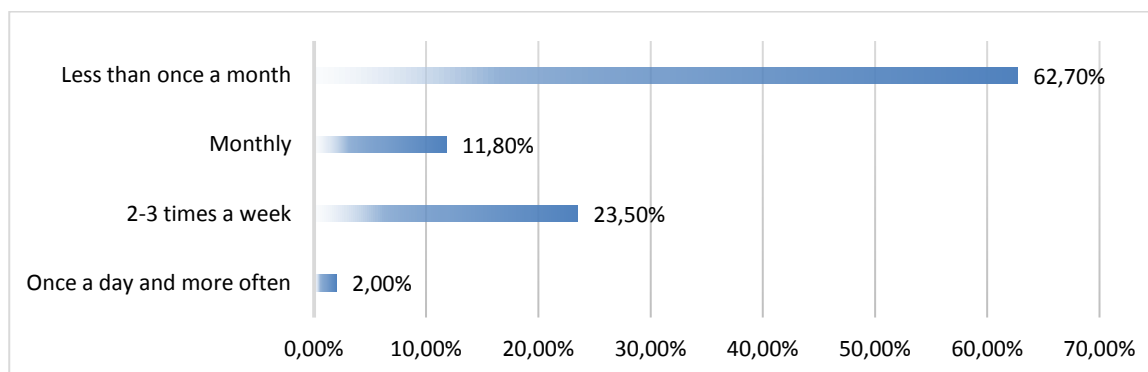


Figure 4. Diagram of sea buckthorn consumption in temporal aspect

Source: Developed by the authors based on the study

When asked “Mark the main features that in your opinion, a quality sea buckthorn product should present:” the results were distributed as follows: 49.0% of respondents focus primarily on an affordable price, and 19.9% on an intense promotion. Consumers who pay attention to the packaging in which sea buckthorn products are sold are also highlighted - 13.7% (fig. 5).

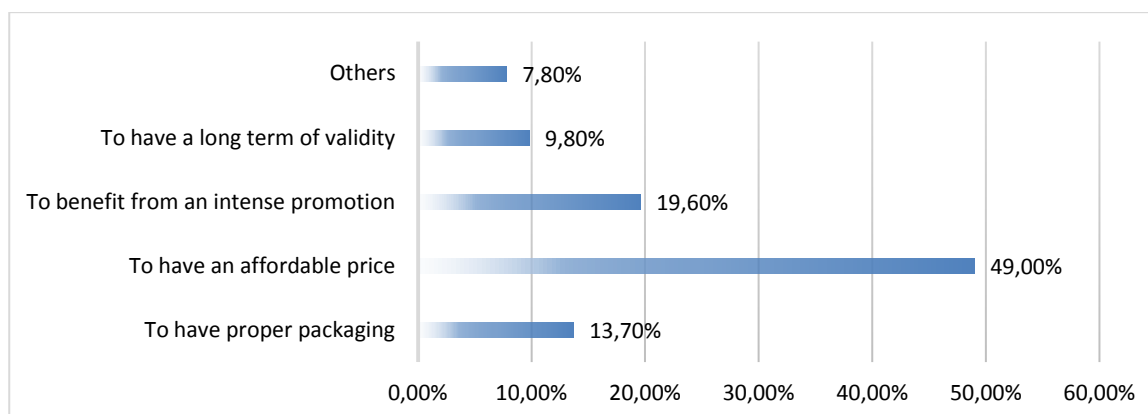


Figure 5. The structure of consumers' opinions with reference to the characteristics of a quality sea buckthorn product

Source: Developed by the authors based on the study

The answers obtained to this question come to argue the results of the previous answer that the consumer of sea buckthorn products wants first of all an acceptable price.

Another question that respondents were asked to answer was "What type of sea buckthorn products do you prefer?".The respondents could choose several products, therefore when totaling the results in% or there was obtained data in the amount exceeding 100%.However, from the obtained data we see that the most requested product of sea buckthorn is tea with 56.9%, followed by jams and jellies with 45.1%, fresh products, juices, oils, etc. (fig. 6).

Thus, we can mention that the assortment of sea buckthorn products purchased by consumers is very varied. The largest share is white sea buckthorn tea and jams and jellies. However, cosmetology products based on sea buckthorn fruits (oils and creams for external use, toothpaste, soap, shampoo) are getting to gain popularity. The main problem of these products is that they are imported, in the Republic of Moldova there is only one producer S.A."Viorica", which has not yet launched its own line of sea buckthorn products.

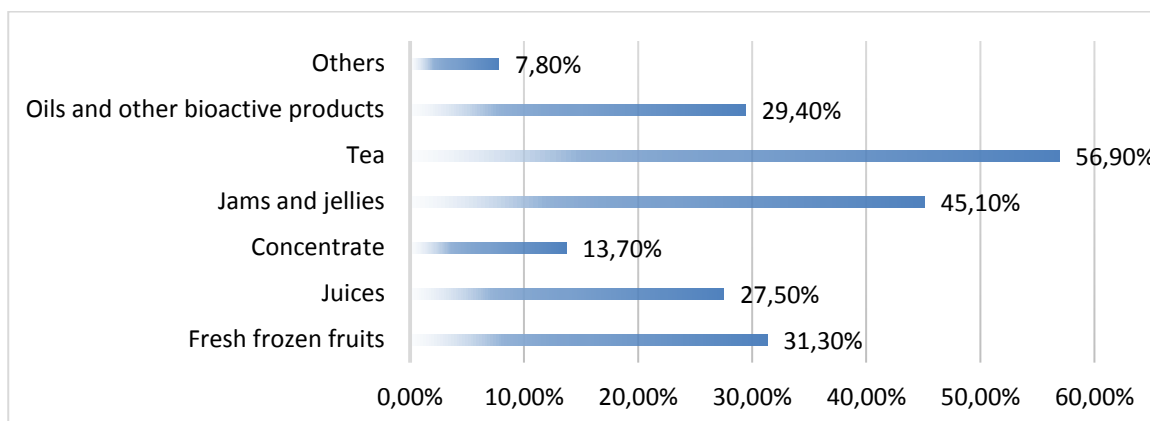


Figure 6. Diagram of consumers' preferences of sea buckthorn products

Source: Developed by authors based on the study

While asked "How much do you spend on average per week on sea buckthorn products?" the answers of the respondents were distributed as follows: over 62.7% spend less than 100 lei for the purchase of sea buckthorn products and only 5.9% more than 300 lei per week (fig. 7).

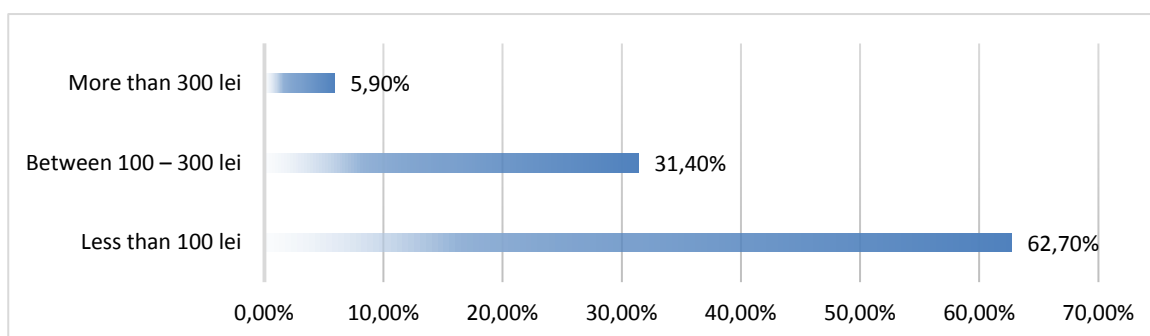


Figure 7. Structure of average expenditures for the procurement of sea buckthorn products

Source: Developed by the authors based on the study

The problem of high prices and low incomes limits consumers to spend more on the purchase of sea buckthorn products. While asked "What percentage of your income are you willing to allocate monthly to your family to consume only sea buckthorn products?" it was found that it could allocate up to 3% of the income - 70.6% of the respondents, and 8% of the income only - 2.0% of the respondents (fig. 8).

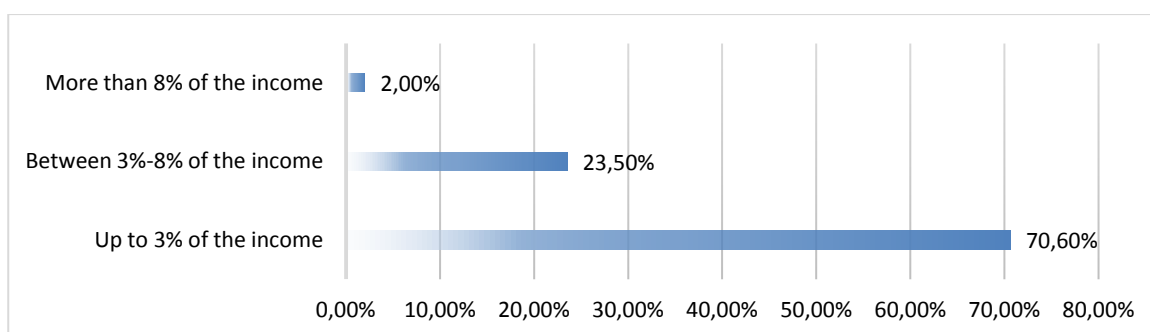


Figure 8. Diagram of assigned revenues for the purchase of sea buckthorn products

Source: Developed by authors based on the study

From the above diagram we see that consumers of sea buckthorn products are largely unwilling to allocate more than 3% of their income to those products, due to their lack of knowledge of the benefits and advantages of consuming these products. While asked "How satisfied are you with sea buckthorn products?" the results were distributed as follows:

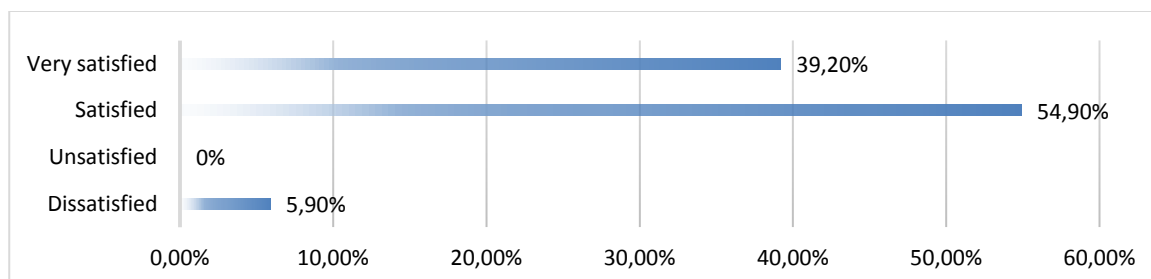


Figure 9. Consumers' satisfaction diagram with reference to sea buckthorn products

Source: Developed by authors based on the study

So, the sea buckthorn products currently existing on the market of the Republic of Moldova satisfy in proportion of over 90 percent the consumers' requirements, which proves that the producers of sea buckthorn products have taken a correct step in order to satisfy the demands with these products. In order to find out the level of satisfaction with the value for money, there was asked the question "How satisfied are you with the value for money for sea buckthorn products in general?", where the answers show that 78.4% are satisfied, 13.7% very satisfied and only 7.8% dissatisfied (fig.10).

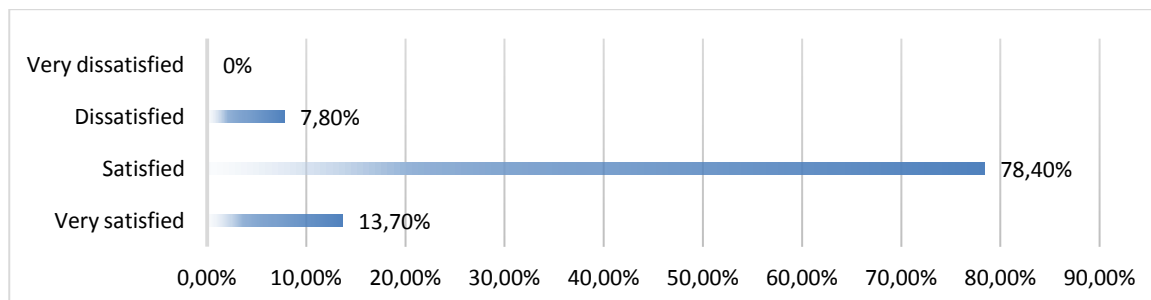


Figure 10. Satisfaction level diagram with reference to value for money

Source: Developed by the authors based on the study

Consumers are also satisfied with the value for money of sea buckthorn products, which inspires a viable perspective for the producers of these products.

When asked "How satisfied are you with the price ratio between sea buckthorn products and other products that have the same utilities?" the respondents in proportion of 88.2% answered affirmatively that they are satisfied (fig. 11).

The answers to this question show that consumers are informed about other products with the same utilities and are satisfied with their price compared to similar products. Respondents were also asked where they prefer to buy sea buckthorn products. Thus, at the question "Where do you prefer to buy sea buckthorn products?" 33.7% answered that they buy sea buckthorn products from a mall, 19.6% - from specialty stores, 15.7% - from online stores, 11.8% from neighborhood stores and 15.7% from other commercial units (fig. 12).

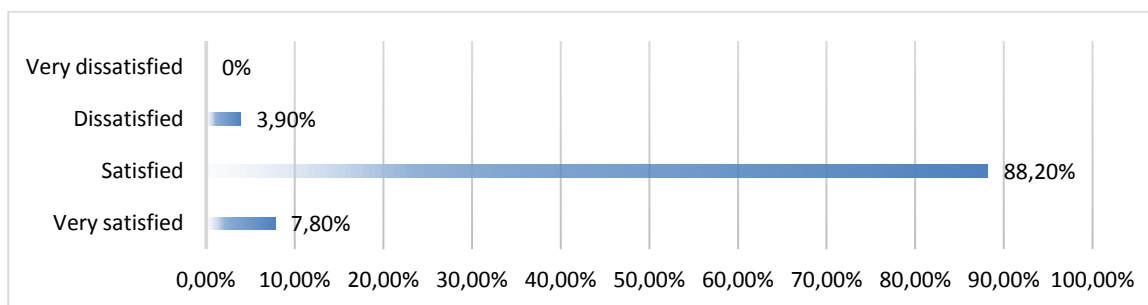


Figure 11. Satisfaction level diagram with reference to value for money

Source: Developed by the authors based on the study

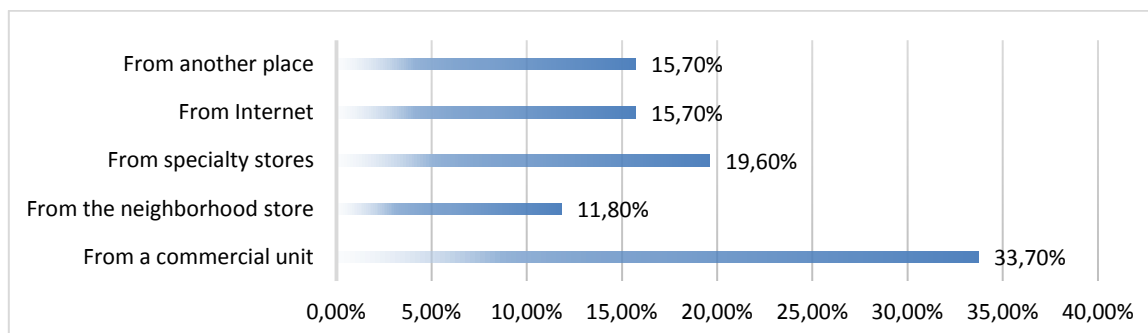


Figure 12. Diagram of purchase preferences for sea buckthorn products

Source: Developed by the authors based on the study

So, consumers of white sea buckthorn products supply white sea buckthorn products especially in shopping malls and specialty stores, but there is a tendency for fresh fruit to be sourced directly from the producer through direct and online sales.

An important question in determining the preferences of consumers of sea buckthorn products was "To what extent does your packaging determine you to buy these products?". The answers to this question were distributed proportionally between the three options: to a large extent - 33.3%, the packaging does not have a great influence - 31.4% and they are indifferent to the packaging - 35.3% (fig.13).

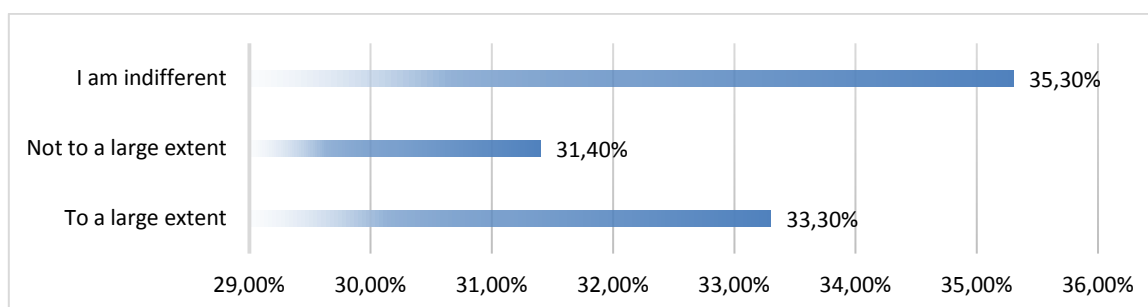


Figure 13. Diagram of the degree of influence of the packaging on the purchase of sea buckthorn products

Source: Developed by the authors based on the study

For sea buckthorn products, the consumer wants their content to be appropriate and he is less interested in its packaging. Thus, producers of sea buckthorn products must take into account the fact that the packaging of these products is a guarantee of the preservation of the quality of these products.

To find out why respondents consume sea buckthorn products, they were asked “What makes you eat sea buckthorn products the most? Analyzing the obtained answers, we observe that 72.5% of the respondents consume the sea buckthorn products for the maintenance of the health of the whole family, 23.5% for their own health (fig. 14).

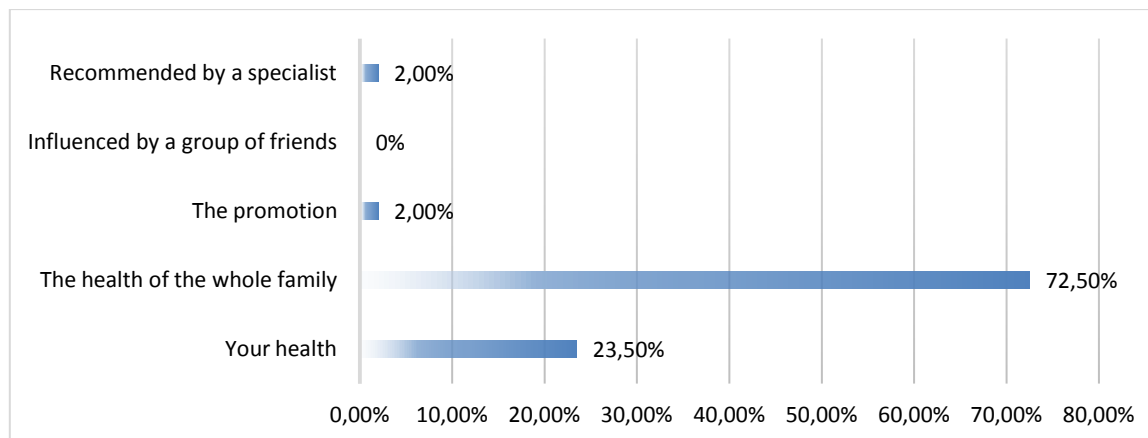


Figure 14. Diagram of the reasons for consuming sea buckthorn products

Source: Developed by the authors based on the study

Therefore, according to the result of the survey, the consumption of sea buckthorn products is determined, as a rule, by the improvement of both the personal health and of the whole family of the consumer who together accumulated 96.0%. So, consumers of sea buckthorn products are aware of the need to use these products. The producers of these products have the task to develop the production and diversify the assortment of sea buckthorn products.

The research process also addressed the issue of the importance of certain variables in making the decision to purchase sea buckthorn products, respondents being asked to establish the order of their importance when choosing such products.

The purchase of sea buckthorn products depends on several factors. Consumers were asked to prioritize the following characteristics of sea buckthorn products: quality, price, quantity, familiarity and brand name. The data shown in Figure 15 show that consumers pay the most attention when making a purchase decision to the quality of the products, the price and the packaging being placed on the second and third position, the other features being on the lower positions. These three characteristics need to be taken into account by sea buckthorn growers in order to be successful in this market.

Quality		clasament 1.5/5
Price		clasament 2.5/5
Packaging		clasament 3.3/5
Familiarity		clasament 3.7/5
Brand's name		clasament 4.1/5

Figure 15. Clasament – ranking. Diagram of the hierarchy of properties of sea buckthorn products in the process of making purchasing decisions

Source: Developed by the authors based on the study

In order to determine what makes them consume sea buckthorn products, the respondents were asked "What do you like and what do you not like about this product?". From the answers of the respondents, we established that most of them like the taste and smell of sea buckthorn products - 65.0%, because of vitamin C as well as other vitamins and chemical elements beneficial to the human body - 24.6% and last but not least that sea buckthorn products are a natural medicine. Of course, there are also some shortcomings related to sea buckthorn products, namely: high price, quality in some cases and their unavailability throughout the year.

5. Conclusions

The results of that survey familiarize us with the general picture with information about consumers of sea buckthorn products. It gives us the opportunity to develop some recommendations for producers of sea buckthorn products, namely:

- 1) It is necessary to increase the production of sea buckthorn fruit in order to ensure the current consumption of the final consumer, as well as the needs of the processing industry of these products.
- 2) Diversify the assortment of local products obtained from sea buckthorn to replace their import. To a large extent, this depends on the supply of raw materials which is at a very low level.
- 3) Permanent information to the consumer about the importance of sea buckthorn for this product to be a traditional one in the Republic of Moldova.
- 4) Price formation for sea buckthorn products taking into account the purchasing power of the local consumer. This will increase the consumption of these products.
- 5) Producers of sea buckthorn products must take into account that the packaging of these products is a guarantee of the preservation of the quality of these products.
- 6) In order to be successful on the market for sea buckthorn products, it is necessary to take into account three main variables: quality, price and packaging.

Thus, by introducing sea buckthorn in culture, there are cheap but economically valuable conditions, due to the fact that it does not involve the use of polluting means or methods, to solve the major problems related to lands degradation and exit from the agricultural crisis in the Republic Moldova.

REFERENCES

1. CIMPOIEȘ Gh., POPA S., MANZIUC V., RÎBINȚEV I., BORDUJA V., CVASOV I. Parametrii ansamblului vegetativ ale cătinei albe în funcție de soi, distanță de plantare și modul de conducere al pomilor. http://dspace.uasm.md/bitstream/handle/123456789/2347/vol_47_112-115.pdf?sequence=1&isAllowed=y
2. MÎRZA S., PITUȘCAN F. Substantiation of marketing activity in the production of sea buckthorn for agricultural enterprises in the Republic of Moldova. In: Journal of Research on Trade, Management and Economic Development. TCUM, 2020. no. 2, pp. 43-53. ISSN 2345-1424. EISSN 2345-1483.

Rezumat

În industria alimentară și farmaceutică, dar și ca plantă ornamentală cățina albă se utilizează din cele mai vechi timpuri. Aceasta prezintă interes deosebit și în condițiile actuale datorită calităților valoroase alimentare și farmaceutice. Fructele de cățină albă sunt bogate în vitamina C, A, B1, B2, B6, B9, E, K, P, F, celuloza, betacaroten, microelemente și uleiuri eterice. În ultimii ani crește consumul și interesul din partea consumatorilor față fructele de cățină albă și produsele derivate din cățină.

În lucrare se abordează problema consumului produselor din cățina albă prin prisma sporirii gradului de satisfacere a dorințelor și așteptărilor consumatorilor. Studiul pieței produselor din cățină albă, realizat în baza unui chestionar în cadrul proiectului de cercetare „Elaborarea tehnologiei de producere a cătinii albe în sistem ecologic și a prelucrării fructelor și biomasei”, a scos în evidență problemele care urmează a fi rezolvate de către manageri și specialiști în producere și vânzări pentru a satisface nevoile și așteptările consumatorilor pe piața autohtonă și nu numai.

Atât producătorii produselor din cățină albă, cât și vânzătorii angroșiști sau detailiști trebuie să țină cont nu doar de însușirile valoroase alimentare și terapeutice ale acestora, dar și de doleanțele consumatorilor, de complexitatea mixului de marketing, tipologia măsurilor, metodelor de promovare, distribuție și comercializare către consumatorul final.

Rezultatele sondajului a identificat tabloul general informativ despre consumatorii de produse din cățină albă și au permis elaborarea unor recomandări pentru producătorii plantei.

Cuvinte-cheie: cățina albă, consumatori, piața de consum, cercetarea pieței, mix de marketing, repere strategice

Аннотация

В продовольственной и фармацевтической промышленности, а также как декоративное растение облепиха используется из древних времен. И в современных условиях растение пользуется большим интересом благодаря своим ценным пищевым и фармацевтическим качествам. Плоды облепихи богаты в витаминах С, А, В1, В2, В6, В9, Е, К, Р, F, целлюлозе, бета-каротене, микроэлементах и эфирных маслах. В последние годы растет потребление облепихи и интерес со стороны потребителей к плодам облепихи и продуктам из нее.

В работе рассматриваются проблемы потребления продуктов из облепихи относительно роста уровня удовлетворения ожиданий и запросов потребителей. Исследование рынка продуктов из облепихи осуществлено путем анкетирования в рамках научного и исследовательского проекта «Разработка технологии производства и переработки плодов и биомассы облепихи в экологически чистой среде». В результате проведенного исследования выявлены проблемы которые необходимо решить менеджерами и специалистами занимающимися производством и продажей данного продукта для того чтобы удовлетворить потребности и ожидания потребителей на местном и внешнем рынке.

Фермеры, занимающиеся производством, а также торговые предприятия должны учитывать не только ценные питательные и терапевтические свойства продуктов из облепихи, но и ожидания потребителей, комплексность элементов маркетинга, особенности формирования ассортимента, методов продвижения, дистрибуции и продажи конечному потребителю.

В результате опроса составлен обобщенный информационный портрет потребителей продуктов из облепихи, что позволило разработать ряд рекомендаций производителям данной культуры.

Ключевые слова: белая облепиха, потребители, потребительский рынок, исследование рынка, комплекс маркетинга, стратегические ориентиры

Received 09.06.2021

Accepted 12.06.2021

Published 30.06.2021

**RECOMMENDATIONS FOR THE INNOVATION-DRIVEN
DEVELOPMENT OF THE REPUBLIC OF MOLDOVA IN THE
CONTEXT OF SUSTAINABILITY**

Alina SUSLENCO, Lecturer, PhD

“Alec Russo” State University, Bălți, Republic of Moldova

E-mail: alina.suslenco@mail.ru

Marilena DONCEAN, Researcher, 3rd degree, PhD

Romanian Academy – Iasi Branch, “Gh. Zane”, Institute of Economic and Social Research, Romania

E-mail: doncean_m1967@yahoo.com

Universal Decimal Classification: 378:001.895

JEL Classification: O30, O31, O32, O36, O38

Abstract

Exploring a themerelating to the innovation-driven development of the Republic of Moldova in the context of achieving sustainability is a highly topical and important undertaking for scientific research in the present age.

The purpose of the present paper is to conduct an analysis of the innovation-driven development of the Republic of Moldova, given that innovation potential is a decisive factor in achieving economic sustainability. In this context, the original contribution was to perform an extensive research based on documentation and comparative analysis, highlighting the positions of the Republic of Moldova, Romania and Ukraine in the Global Innovation Index. The Global Innovation Index is one of the most important reference studies measuring the performance of countries based on innovation. To prepare this paper the following methods were used: induction, deduction, analysis, synthesis, quantitative research, comparative analysis, scientific abstraction, and modelling. Depending on each country's rank, key conclusions and recommendations were drawn for the Global Innovation Index components. A first finding resulting from the analysis is that the Republic of Moldova must make further efforts to use all ideas and inventions and to market them to the final consumer. Another major problem facing the Republic of Moldova is its ranking drop in the sub-index “human capital and research” since it slid from the 71st spot in 2014 to 64th in 2019 compared to Romania and Ukraine.

Keywords: *innovation, innovation-driven development, sustainability, Global Innovation Index*

1. Introduction

Practice so far has shown that not all countries need to be leaders in the global technological development race, however their innovation capacity must be relevant and constitutes the highest level of technological capacity.

Most often innovation stems from applied research (and sometimes even from fundamental research), continues with design and implementation in practice (which is the most expensive phase), and ends with manufacturing and sale to users. Beyond research and design, the successful completion of the project involves, in practice, the collaboration of all units of an organisation.

Most often we talk about “creativity and innovation”, on the one hand because they condition each other, finding answers to all the problems that emerge in an innovation process requiring creativity, and, on the other hand, because the two activities most often need the same conditions to develop within an economic organisation. Innovation is considered the equivalent of a level three invention, on a value scale from one to five. In order for the *creativity process* to unfold in good conditions, the following is required [1; p. 38]:

- *good circulation of information* (finding the disparate elements that need to be converge).
- *good knowledge of the market and its requirements;*
- *close contact with the research community* (source of new knowledge in the fundamental field);
- *accepting the “out of the ordinary, strange” ideas*, whose proponents are very fond of;
- *creating small teams, each made of several very open-minded (inventive)members;*
- *properly motivating those who are concerned with creativity;*
- *providing “training” in the area of creativity.*

Innovation is further conditioned by a number of specific factors, such as:

- *clear strategy;*
- *clearly formulated objectives;*
- *proper financing, doubled by sound management of the entire innovation activity;*
- *the existence of a competent team that can solve the problems that appear throughout the course of the new project;*
- *the existence of a clear and correct procedure for evaluating the results and work of employees;*
- *the existence of a competitive climate, both inside and outside the organisation.*

Intellectual property has a long history, originating in human creation, due to humans’ tendency to develop working tools, to improve living conditions and to satisfy vital needs that are constantly growing and improving.

Human creation is a product of the human intellect that emerges in the subconscious, seeking to solve problems that have already arisen or might arise in the future. The creative process cannot be stopped or subjected to quantitative or qualitative norms, as it is triggered by the environment in connection with a person’s ability to perceive this environment, in any particular way.

The impossibility of interfering in human thinking to control its outcomes, in addition to the need to safeguard such outcomes, which forms the object of intellectual property, has contributed to the emergence of legal rules designed to regulate the procedure for obtaining protection of intellectual property over objects, setting certain criteria in particular as regards material form and content, absent which the notion of object of intellectual property and its protection could not exist.

2. The extent of research into the matter

Innovation-driven development is a necessity and one of the fundamental factors in the new economy. The Moldovan, Romanian and Ukrainian societies, respectively, are advancing towards a knowledge-based economy, an economy in which *the use of human capital takes the priority compared to other forms of capital*. The contribution that a person can make by applying in practice the skills they acquired in order to improve processes, products and services becomes more important than physical work. Knowledge incorporated in a product will become a key element of economic activities. The European Commission's "Innovation & Technological Transfer" paper defined innovation in October 2012 as the "*Converting new knowledge into economic and social benefits, as a result of complex interactions between numerous actors in a system consisting of an environment (local, national, regional) which involves businesses, research bodies, financial backer, as well as the networks in which all of them come into contact*". An innovation process is a systematic, general process involving four phases:

- *formulating a scientifically-grounded idea (generated by creative spirit, inspiration, copying, research and development);*
- *industrial transposition through a skilled research-industry (preferably private) partnership, involving financing and a certain technological process, a new form of presentation, a new functional structure, a new organisational form, new work management and organisation methods etc;*
- *robust, efficient and extensive protection of intellectual property elements;*
- *the successful market impact of the end result of the innovation process (a new product or service, a new form of presentation, a new functional structure, a new organisational form, new work management and organisation methods, etc.) through a capitalisation network, national and/or international.*

According to the Organisation for Economic Co-operation and Development (OECD), innovation is the creation of a newproduct-market-technology-organisation-combination. This definition suggests that there are three key elements [17; p. 139]:

- *innovation is a process and should be managed as such.* The key activities in innovation management are: formulating objectives, designing and organising the process, monitoring progress and, if necessary, adjusting objectives, process and / or organisation.
- *the result is at least a new element in the technology mix of the organization.* Product innovation, for example, involves the development, production and marketing of new products and may require the development of new process technologies or market segments. Technological innovation, i.e. the development of new process technologies in the household or the adoption and implementation of technologies developed elsewhere usually also requires organisational adaptation, but does not need to be related to new products or new market development.
- *the extent to which innovation is new can range from progressive, limited gradual innovation, achieved through synthetic innovation, i.e. the creative recombination of existing techniques, ideas or methods, to discontinuous, radical innovation.*

Ensuring sustainability has already begun to transform the competitive landscape and force economies to rethink products, services, processes and business models. This requires innovation, considered the key to progress. Sustainability is seen as the new frontier of innovation, and both exert a major impact. Sustainability is a concept focused on achieving human development goals while simultaneously supporting the capacity of ecosystems by providing natural resources and protecting life and nature, without diminishing opportunities for future generations.

This is a significant concept in ensuring social and economic development, first defined by the United Nations World Commission on Environment and Development (WCED) in 1987.

The “Our Common Future” report defined “*Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs*” [14; p. 49].

WCED sought to explore the causes of environmental degradation, as well as the interconnections between social equity and economic growth. Sustainability objectives integrate the three economic, social and environmental aspects to ensure the development of future generations. In view of current activities at international level, the United Nations Agenda for Sustainability was adopted in 2015 based on the document “Transforming our world: the 2030 Agenda for Sustainable Development”. The New Sustainability Goals, targeting the year 2030, emphasise, among others, the relevance of higher education in efforts for a better future [14; p. 51].

The inclusion of UN sustainability goals in the curriculum will support the development of future-oriented skills. This can be achieved by promoting social, economic and political change, which can be supported by professional leaders and experts.

Recent developments also show that the European Union’s *Europe 2020: A Strategy for Smart, Sustainable and Inclusive Growth*, adopted in 2010, emphasises the crucial importance of innovation, education, the digital society, training and lifelong learning in this context [16].

According to the Global Action Programme on Education for Sustainable Development, adopted by UNESCO in 2014, one can argue that political agreements, financial incentives and modern technologies are not enough to achieve sustainability.

The sustainable university harmoniously combines education and research in a complex process of ensuring an interdisciplinary balance in the context of optimal use of the natural, social and economic environment by collaborating with stakeholders involved in the process.

According to Velazquez’s definition, a sustainable university always focuses on the environmental, economic and social concerns of its activities and the obligation to “lead by example”. The researcher states that “a university should minimise the ecological, economic, social and health effects on the environment”. Cole contends that “*a university has a responsibility to protect the health and welfare of people and ecosystems and to use the knowledge produced in the university to address environmental and social challenges*” [4, p. 814].

On the other hand, the illustrious researchers Alshuwaikhat and Abubakar state that “*the effort to conserve energy and resources, reduce waste, promote social justice and the notion of equity, must be transferred to society*” [5; p. 178].

From the theoretical approaches presented, we observe the urgent need to provide a sustainable and balanced development of higher education institutions in order to ensure a synergy of sustainable development of the whole society.

3. Applied methods and materials

The aim of this research is to conduct an analysis of the innovation-driven development of the Republic of Moldova in the context of achieving sustainability, considering that innovation potential is a decisive factor in achieving economic sustainability. In order to obtain valid results from the research, in addition to the aim of the research, it was necessary to define several objectives, focusing on the attributes necessary for the research.

The *objectives* set to achieve our goal are the following: researching the relevant literature (documentary research of local and foreign literature); obtaining the necessary information by conducting complex research using statistical data for 2020; provided by the National Bureau of Statistics; statistical and mathematical modelling; comparative analysis.

The *research methodology* focused on the use of research methods such as analysis, synthesis, induction, deduction, comparative analysis, documentation, scientific abstraction, mathematical modelling.

4. Obtained results and discussions

Intellectual property refers to the creations of the mind: inventions (patents), literary and artistic works, symbols, names, images, designs, used in commercial activities. The owner of intellectual property can control and must be rewarded for its use, as this encourages innovation and creativity for the benefit of humanity [19; p. 54].

During the first transition period (1990-1999), the GDP of the Republic of Moldova decreased by 64%. During this period, public funding for research and development fell sharply from 0.73% of GDP in 1990 to 0.22% in 2004 (exacerbated by a sharp decline in GDP). Funding returned to 0.6% of GDP in 2008 and fell again to 0.4% in 2011 and 0.37 in 2014, due to the international economic and financial crisis that imposed new constraints on the national public budget [16].

In recent years, the share of GDP allocated to the R&D sector has decreased from 0.37 in 2014 to 0.35 in 2015 and to 0.24 in 2019 (Figure 1). This has had a negative influence on the country's innovation-driven development as most of the expenditure for the research and development sector is derived from research grants.

Innovation activity is highly complex and includes a series of other activities in the scientific, technical, technological, organisational, financial, commercial areas, etc. It concerns both the use and marketing of scientific research results, as well as the diversification, efficiency and improvement of the manufacturing quality of goods and services, the improvement of manufacturing technology, followed by its efficient implementation in domestic and foreign markets.

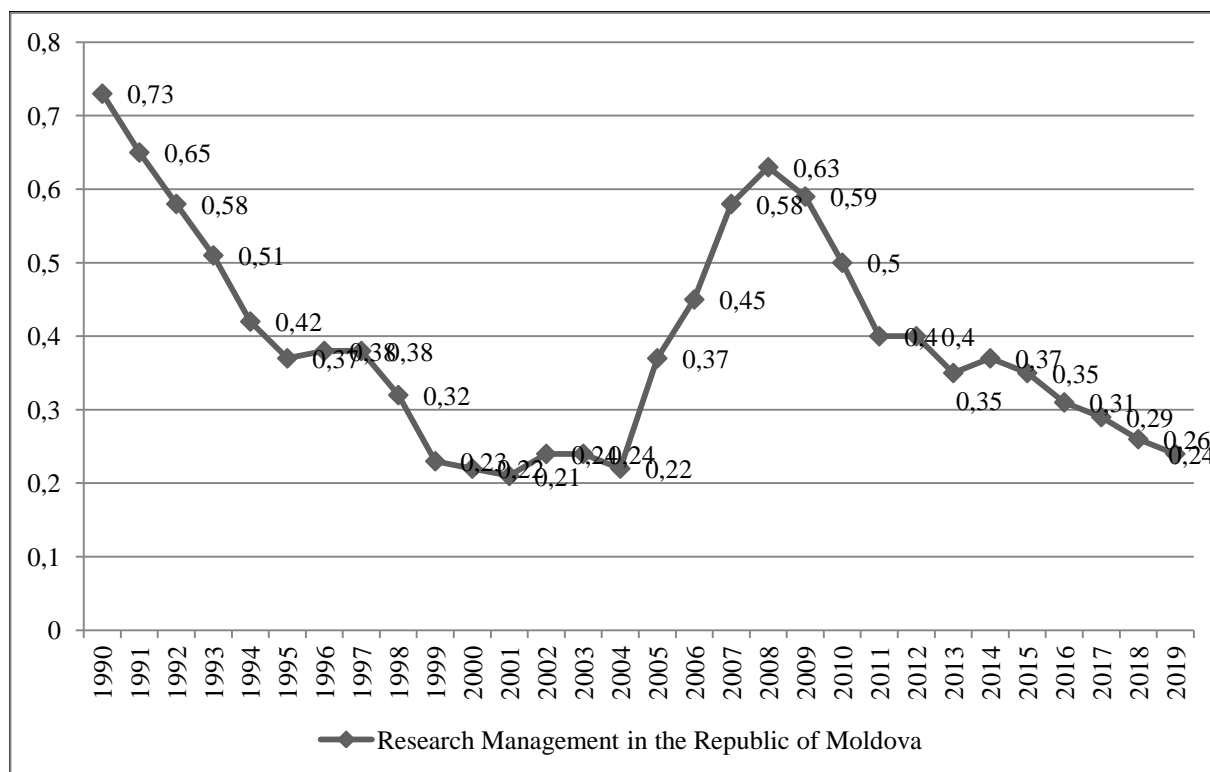


Figure 1. Research Management in the Republic of Moldova, % share of GDP

Source: National Statistical Bureau, 2020

<https://statistica.gov.md/newsview.php?l=ro&idc=168&id=6541>

The issue has been addressed in various seminar and symposia, and numerous studies have been conducted both nationally, in different countries and internationally aiming to highlight the problems that persist in the area of innovation. All of them more or less complete analyses of the innovation systems, or of some aspects related to the innovation activity and highlight both the deficiencies and ways to foster the innovation process.

For the Republic of Moldova, the experience of countries that are relatively in the same socio-economic and cultural situation is of interest in this respect. Thus, one research on barriers to bringing to the market the research results in Ukraine led to the following preliminary conclusions: the main cause of the emergence of such barriers is the lack of a systemic approach to innovation in general and its management at all stages of the innovative product life cycle - from the birth of the innovative idea up to deriving profit from innovation, in particular. At least 50 barriers to the transformation of research results into innovative products were identified, estimated on a five-point scale. The barriers were systematised in five large groups, having approximately the same incidence on the innovative activity:

- *lack of competence of the subjects of the innovation activity* (3.68 ± 0.84);
- *insufficient funding of innovation* (3.67 ± 0.71);
- *shortcomings of the legal framework for innovation* (3.52 ± 0.87);
- *lack of proper innovation infrastructure* (3.39 ± 1.00);
- *inefficient innovative management* (3.31 ± 1.01).

The most important group of barriers refers to the lack of skills of innovation subjects in terms of marketing their research results. According to the authors, this is precisely where the work of dismantling and further removing existing barriers should begin [16].

In terms of companies' contribution to the development of an innovation, several categories of businesses can be identified as providers of innovations:

- dominated supplier – a company that contributes minimally through its own research, preferring to import new technological elements;
- intensive supplier – a company that contributes noticeably to innovations through its own research;
- specialised supplier – a company that focuses on generating new complementary innovative products (which contribute to the manufacturing process of its core product) to be used in other sectors;
- scientific suppliers – companies that develop new innovative products in partnership with institutions in the field of science and innovation;
- information and capital providers – companies in the areas of finance, retail and editing / publishing;
- software providers – companies that develop innovative information technology products used in the process of manufacturing and / or providing services [16].

To calculate the Global Innovation Index, 143 economies from around the world were studied, using 81 indicators including: human capital and research, infrastructure, loans, investments, interconnections, innovation and the results of creative activity. According to these metrics, the Republic of Moldova accumulated 40.5 points out of 100.

In order to identify the dynamics of the components of the Global Innovation Index and to reiterate the most suggestive developments, we performed an analysis of the sub-indices of the Global Innovation Index of the Republic of Moldova, Romania, Ukraine for the 2014-2019 period. Figure 2 shows the dynamics of the Global Innovation Index in a cross-border context in 2014-2019.

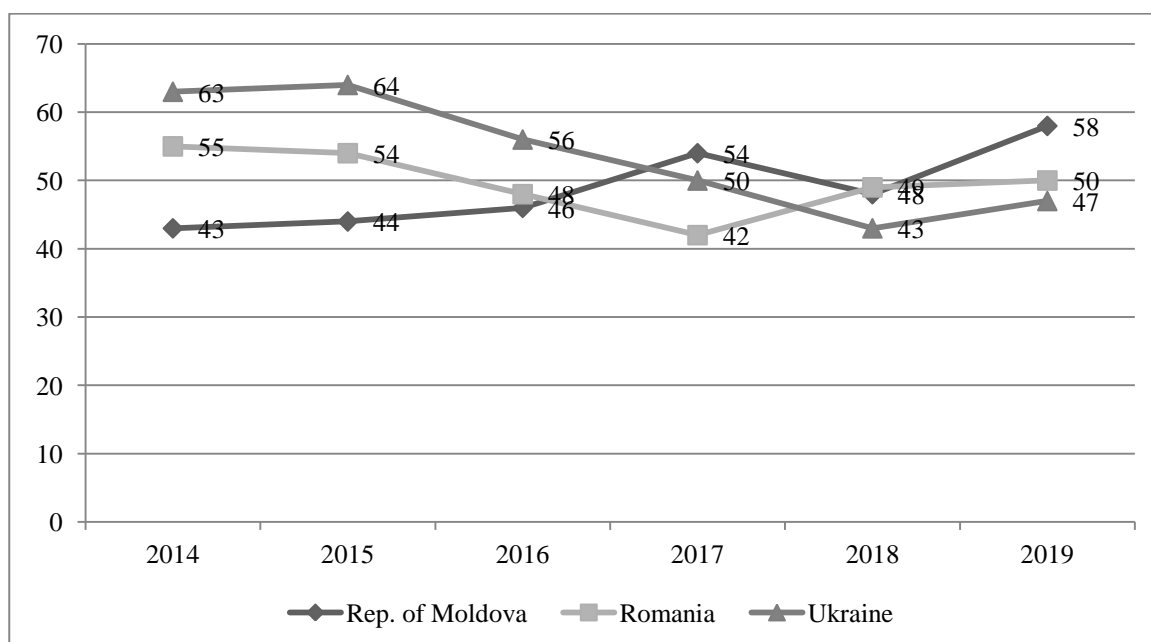


Figure 2. Dynamics of the Global Innovation Index in the cross-border context of the Republic of Moldova, Romania and Ukraine for the 2014-2019 period

Source: Developed based on the Global Innovation Index reports, 2014-2019.

https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2019.pdf

Based on the data in Figure 2, we can note that the Republic of Moldova underwent practically the same evolution trend as Romania and Ukraine, ranking closely in the Global Innovation Index in the 2014-2019 period. Thus, analysing Moldova's rankings, we can notice that over the analysed period, by 2019, ranked 58th, it had lost 15 spots compared to 2014. On the other hand, Romania in the 2014-2019 period improved its standing by climbing 5 spots from 55 in 2014 to 50 in 2019.

On the other hand, Ukraine, in the 2014-2019 period proposed for analysis, climbed 15 spots in the ranking from the 63rd place in 2014 to the 47th in 2019. In this context, we note that the countries neighbouring Moldova had a positive development, gaining places in the overall ranking of the Global Innovation Index. Conversely, Moldova, in recent years, due to the instability of policies applied at state-wide level, has lost several places, recording a declining trend over the 2014-2019 period.

We considered it useful to present the dynamics of the basic sub-indices that contribute to the formation of the Global Innovation Index in the 2014-2019 period for the Republic of Moldova. We presented the data schematically in Figure 3.

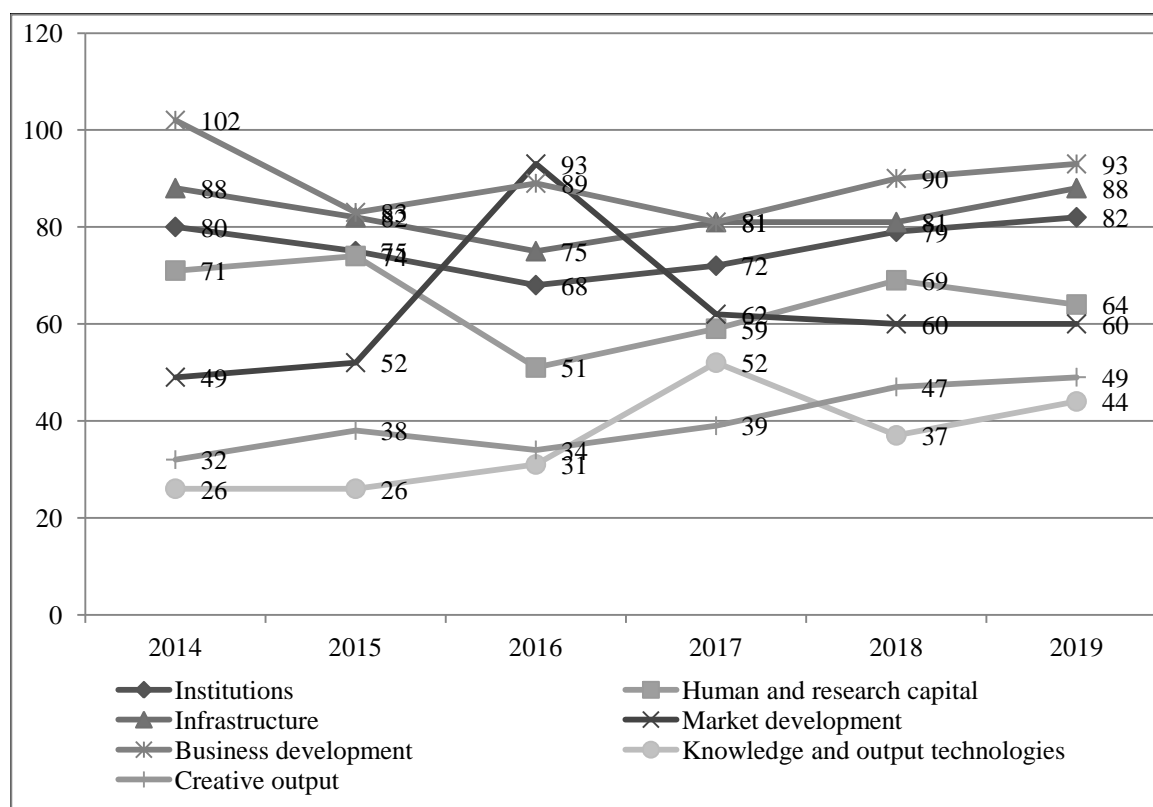


Figure 3. Dynamics of the core sub-indices that contribute to the Global Innovation Index of the Republic of Moldova for the 2014-2019 period

Source: Developed based on the Global Innovation Index reports, 2014-2019

https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2019.pdf

Analysing the key sub-indices of the Global Innovation Index for the Republic of Moldova over the 2014-2019 period, we can see that its ranking declined for virtually all the sub-indices that make up the Global Innovation Index. Thus, in the first sub-index, "institutions", the Republic of Moldova in 2019 occupied place 82 and lost 2 positions compared to 2014.

On the other hand, in the sub-index “infrastructure”, although during the period under analysis the values of this sub-index changed essentially, the Republic of Moldova kept the 88th spot which it had occupied in 2014. As for the “business development” index, the Republic of Moldova in the reference period 2019 held the 93rd spot, having climbed 9 places compared to 2014 when it was ranked 102nd.

As regards the sub-index “human capital and research”, the Republic of Moldova climbed 7 positions in the 2014-2019 period from the 71st spot achieved in 2014 to 64 in 2019. This is gratifying and demonstrates the effects of efforts to develop the education and research sector.

On the other hand, in terms of the dynamics of the sub-index “market development”, the Republic of Moldova in the 2014-2019 period lost 11 places in the ranking, being placed 60th in 2019 compared to 49th in 2014.

The sub-index “knowledge and input technologies” in the 2014-2019 period underwent a negative evolution losing 18 spots in the ranking, dropping from the 26th spot occupied in 2014 to the 44th spot in 2019. Improvements are needed in this sector and further efforts to strengthen the position of the Republic of Moldova.

In addition, we presented briefly Romania’s positions in the Global Innovation Index ranking over the 2014-2019 period so as to perform a comparative analysis. The data are shown in Figure 4.

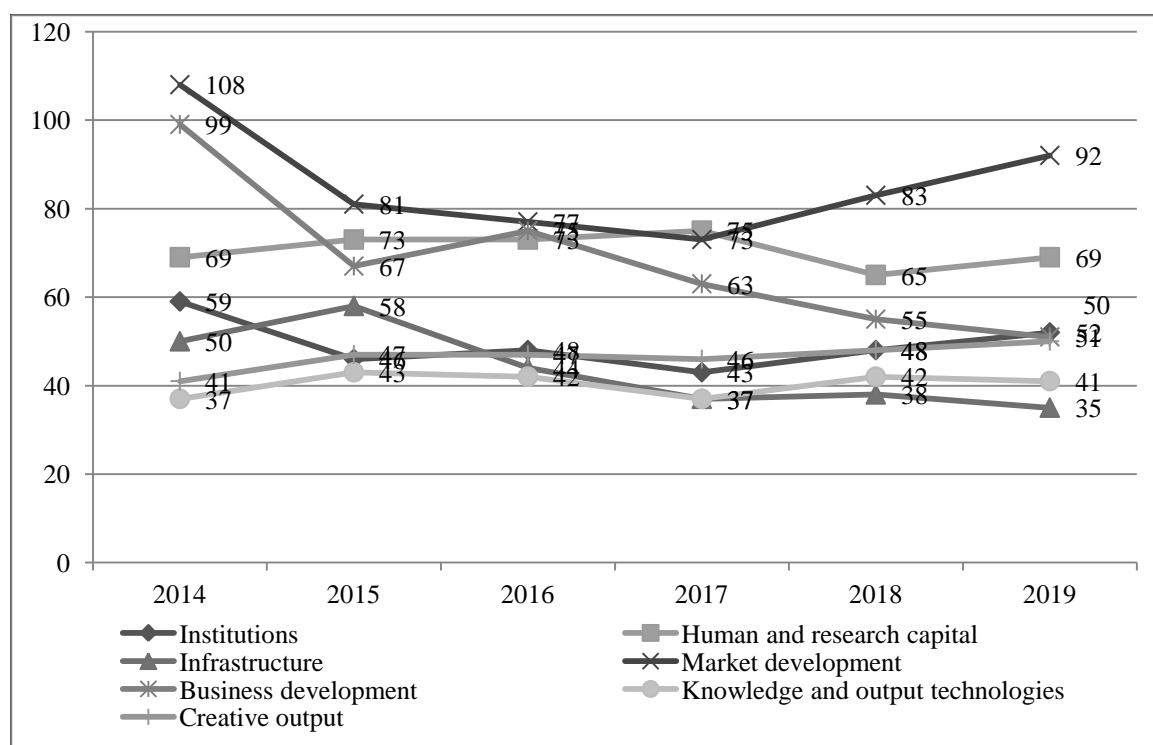


Figure 4. Dynamics of the core sub-indices that contribute to the Global Innovation Index of Romania for the 2014-2019 period

Source: Developed based on the Global Innovation Index reports, 2014-2019

https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2019.pdf

Analysing the data summarised in Figure 4, we can note that in the 2014-2019 period Romania’s efforts were directed towards improving its ranking position, consequently the

values of the sub-indices rose. If we consider the first sub-index, “Institutions”, we can reiterate that Romania climbed 49 spots in the ranking to the 50th place in 2019 compared to 99 in 2014. Another spectacular development for sub-index “infrastructure” where in analysed period, Romania climbed 10 spots, being ranked 97th in 2019.

As regards the “business development” sub-index, Romania in the 2014-2019 period saw a spectacular rise in the ranking from 87th spot in 2014 to 47 in 2019.

Also, there was a stabilisation of Romania’s position in the sub-index “market development” where in the 2014-2019 period Romania remained at the 90th spot.

In addition to these spectacular increases, Romania saw a decrease in the sub-index “human capital and research” as in the 2014-2019 analysis period it lost 6 places occupying the 51st spot in 2019 compared to 45 in 2014.

A decrease in the ranking of Romania is also noticeable in the sub-index “knowledge and output technologies” where it lost 4 spots, placing 41st in 2019 compared to 37 in 2014.

Ukraine’s ranking in terms of the dynamics of the sub-indices of the Global Innovation Index for the 2014-2019 period is presented in Figure 5.

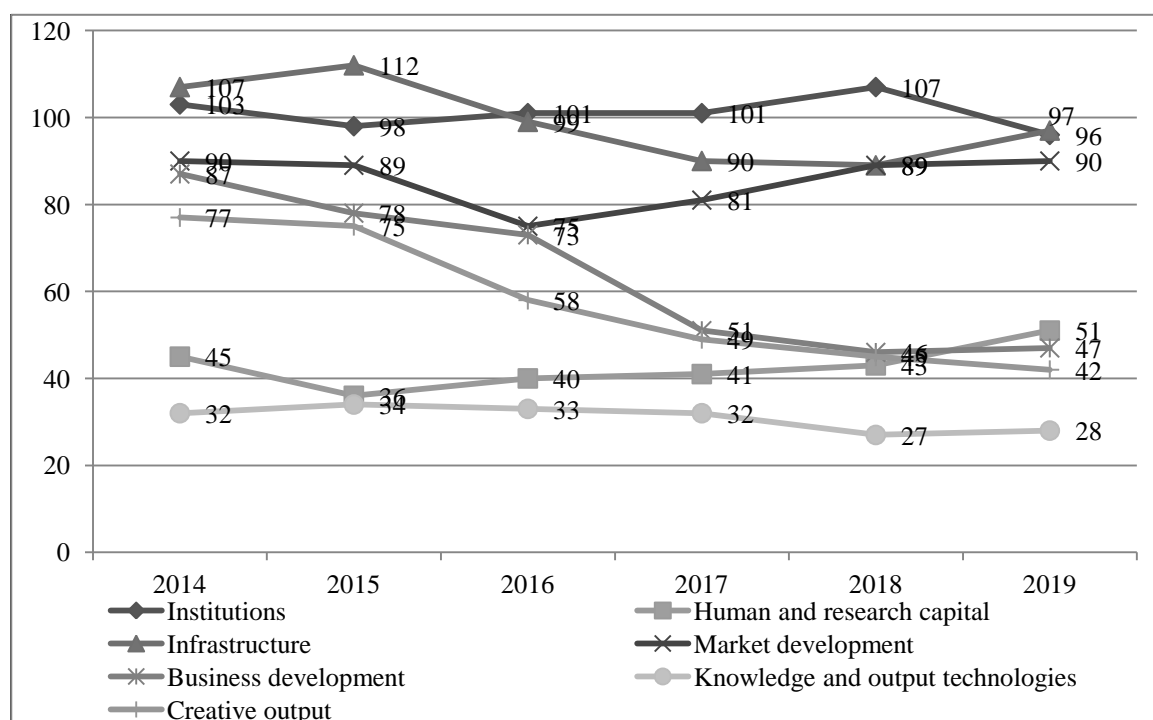


Figure 5. Dynamics of the core sub-indices that contribute to the Global Innovation Index of the Ukraine for the 2014-2019 period

Source: Developed based on the Global Innovation Index reports, 2014-2019

https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2019.pdf

Analysing the data in Figure 5, we may see that Ukraine in the 2014-2019 period consolidated its positions in virtually all sub-indices analysed by us. Thus, in the analysed period Ukraine saw spectacular growth regarding the sub-index “business development”, with a rise from the 87th spot in 2014 to 47 in 2019. In addition, Ukraine had spectacular growth in the “institutions” sub-index from 103 in 2014 to 96 in 2019.

Moreover, Ukraine saw spectacular increases regarding the “infrastructure” sub-index from 107 in 2014 to 97 in 2019. Also, in the creative output sub-index Ukraine rose from 32 in 2014 to 28 in 2019.

In the human capital and research sub-index, Ukraine saw a decrease in the 2014-2019 period from 45 in 2014 to 51 in 2019, losing 6 positions.

Next, we will provide a comparative analysis of the evolution of the basic components of the human capital and research sub-index for Moldova. The data are summarised in Figure 6.

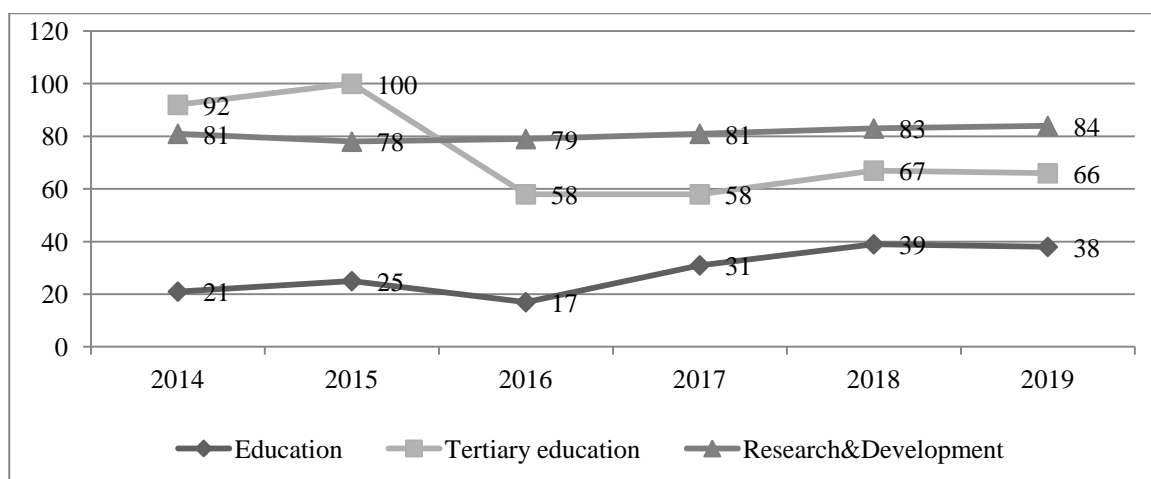


Figure 6. Evolution of the components of the sub-index Human capital and research in the cross-border context of Moldova, for the 2014-2019 period

Source: Developed based on the Global Innovation Index reports, 2014-2019

https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2019.pdf

The analysis of the components of the human capital and research sub-index of Moldova for the 2014-2019 period shows that Moldova lost 16 positions in the “education” component, placing 38th in 2019 compared to 21st in 2014. On the other hand, in another component of human capital and research, i.e. “tertiary education” Moldova saw a rise of 26 place in the rankings being placed at 66 in 2019 compared to 81 in 2014. Moldova also saw a declining trend in the research-development component where in the 2014-2019 period it lost 3 spots, ranking at 84 in 2019 compared to 81 in 2014. The dynamics of the components of the human capital and research sub-index for Romania is summarised in Figure 7.

Analysing the components of the “human capital and research” sub-index for Romania, we notice that in the 2014-2019 period Romania climbed 39 positions in terms of the “tertiary education” component, being placed in the 31st spot in 2019 compared to 70 in 2014.

In addition, for the two other components, Romania dropped in the rankings during the analysed period. Thus, in the “education” component, in the analysed period, Romania lost seven positions in the ranking from 75 in 2014 to 82 in 2019. In the other component, “research and development”, Romania in the analysed period lost 15 places, ranking in 2019 at 77 compared to 62 in the year 2014. The dynamics of the components of the human capital and research sub-index for Ukraine is summarised in Figure 8.

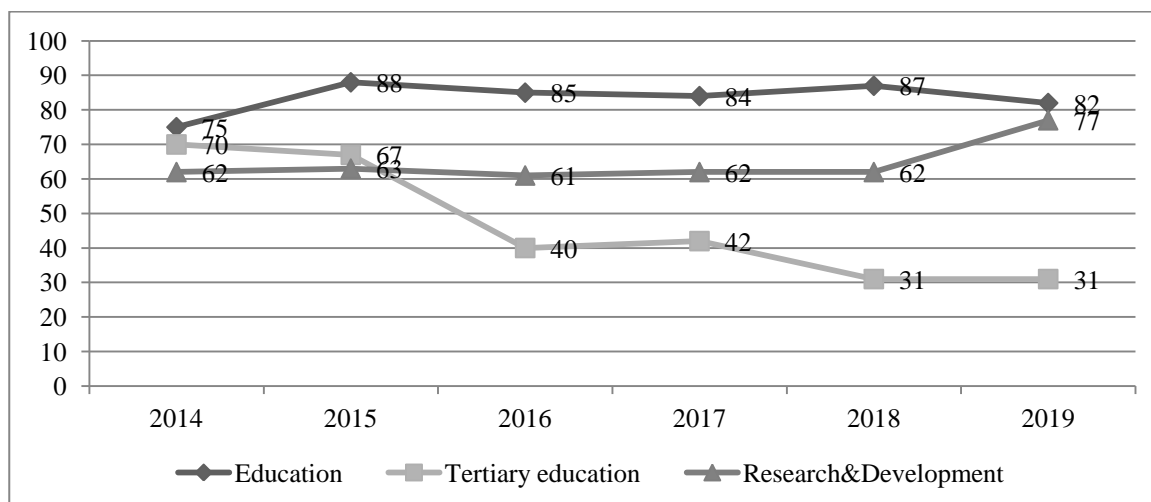


Figure 7. Evolution of the components of the sub-index Human capital and research in the cross-border context of Romania, for the 2014-2019 period

Source: Developed based on the Global Innovation Index reports, 2014-2019
https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2019.pdf

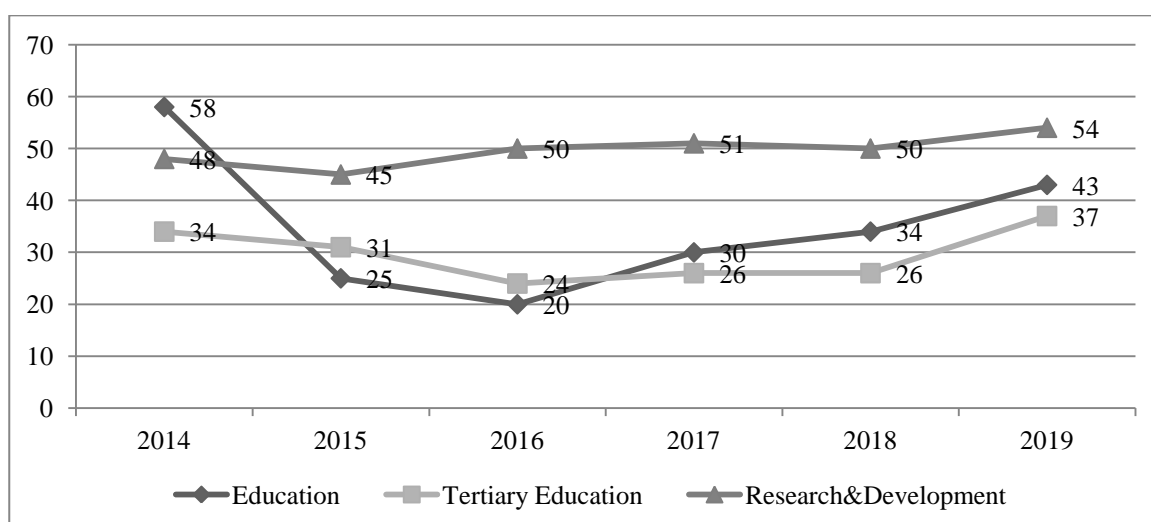


Figure 8. Evolution of the components of the sub-index Human capital and research in the cross-border context of Ukraine, for the 2014-2019 period

Source: Developed based on the Global Innovation Index reports, 2014-2019
https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2019.pdf

Analysing the dynamics of the components of the “human capital and research” sub-index of Ukraine in 2014-2019, we can note that Ukraine in this period saw an upward trend in the “education” component rising from the 58th place in 2014 to 43rd in 2019. In the other two “tertiary education” components, Ukraine lost three places from 34 in 2014 to 37 in 2019. In the “research and development” component, Ukraine lost six spots going from 48 in 2014 to 54 in 2019.

Through the comparative analysis of all three components of the “human capital and research” sub-index we can highlight that for the “education” component Moldova was best placed in the ranking in 2019 at 38, while Romania held the lowest position at 83.

In the “tertiary education” component in 2019 among the three analysed countries, Romania ranked best at 31, while Moldova ranked lowest at 66.

In the “research and development” component, in 2019, for the three analysed countries, Ukraine ranked best at the 54th spot, Moldova placing lowest in the 84th position in the ranking. Next, we will provide a summary presentation of the rankings of Moldova, Romania and Ukraine in terms of the environmental sustainability component of the Global Innovation Index for the 2014-2019 period. The data are summarised in Figure 9.

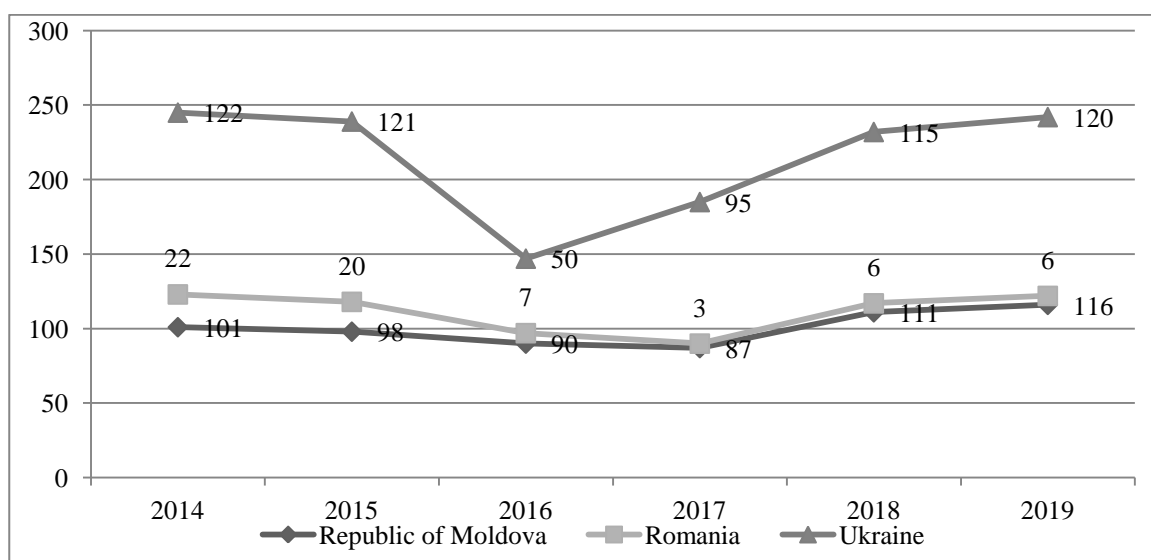


Figure 9. Ranking of Moldova, Romania and Ukraine in terms of the environmental sustainability component in the Global Innovation Index for the 2014-2019 period

Source: Developed based on the Global Innovation Index reports, 2014-2019

https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2019.pdf

The comparative analysis of the ranking of Moldova, Romania and Ukraine in the “ecological sustainability” component of the Global Innovation Index for 2014-2019 indicates that Moldova in this period recorded a drop in rankings of 15 places, from 101 in 2014 to 116 in 2019.

On the other hand, Ukraine during this period saw a slight improvement in the ranking from 122 in 2014 to 120 in 2019.

One ought to emphasise the spectacular improvement of Romania during the 2014-2019 period of as it climbed 16 places, being one of the leaders in the ranking at the 6th spot in 2019.

5. Conclusions

Innovation is a process of uniqueness that involves research, funding, development, acceptance and demand by customers, profit making and dissemination of results. Innovation “represents a result, being the finality of the innovation process”. The purpose of this research was to conduct an analysis of competitiveness at country level, recognising the fact that the innovation potential is a decisive factor in achieving economic sustainability. In this context,

the original contribution was to conduct extensive research based on the documentation and analysis of the position of the Republic of Moldova in the Global Innovation Index. The Global Innovation Index is one of the most important reference studies measuring the performance of countries based on innovation.

In conclusion, we may note that a major problem still confronting the Republic of Moldova is that very few of the creations, ideas and inventions that are created end up as a new product presented to the final consumer. Accordingly, we can argue, based on the research results that the Republic of Moldova faces major problems in the “market development” respectively “knowledge and output technologies” sub-indices, respectively. The Republic of Moldova must make further efforts to use all ideas, inventions and market them to the final consumer. One needs therefore to strengthen efforts to improve the position of the country in these areas.

Another major problem confronting Moldova is the decrease in the ranking in terms of the “human capital and research” sub-index where it slid from 71st spot in 2014 to 64th in 2019 compared to Romania and Ukraine. The Republic of Moldova has a special human potential that can be capitalised in the context of ensuring the increase of competitiveness of the domestic economy. It is necessary to foster the development of the sectors of the economy by orienting them towards sustainability in order to increase the quality of life in the country, but also in order to achieve a sustainable development of the domestic economy. It would be beneficial to implement cross-border projects, to collaborate in order to learn from the experience of Romania and Ukraine as Moldova country is less well placed in terms of the analysed indicators. It is necessary to implement sustainability strategies and policies in the development of the domestic economy that would ultimately contribute to the development of the country’s human potential.

Considering the importance of promoting the profit-generating advantages of the protection and capitalisation of intellectual property rights, we consider that the following are required:

- currently in the EU Member States and not only, the emphasis on this form of collaboration is quite strong, which would also be recommended to the Republic of Moldova;
- the contribution of scientific research in higher education to the development of the business environment is a permanent objective that justifies any efforts;
- the cooperation of universities and research centers with SMEs must be in line with the economic, social and political transformations of Romania, Ukraine and the Republic of Moldova;
- economic progress is achieved exclusively through the development of Moldovan, Romanian and Ukrainian research (which also includes university research);
- creating a favourable environment for starting and developing innovative businesses;
- extracting from the research effort the maximum innovative benefit, at the level of each SME but also more generally;
- identifying obstacles to the innovation process, characterising these obstacles and determining ways to remove them.

Obviously, such a presentation does not aim to exhaustively cover the topic of innovation or to find solutions to current innovation problems, yet it can open up several avenues along

which beneficial discussions can begin between all those interested the progress through innovation of the Republic of Moldova, Romania and Ukraine.

REFERENCES

1. BELOUSOV V., DONCEAN Gh. Ghidul inventatorului. Iași, Editura Performantica, 2002, vol. 2-4, p. 38.
2. TURBAN, E., SHARDA, R., and al. Business Intelligence: A Managerial Approach. 2nd edition, Canada, Pearson Education Canada, 2010.
3. URBANIEC, M. Kształtowanie kompetencji studentów zgodnie z zasadami odpowiedzialnej edukacji menedżerskiej. Horyzonty Wychowania, 17, nr. 14, 2018, pp. 167-176.
4. VELAZQUEZ, L., MUNGUIA, N., and al. Sustainable university: what can be the matter? In: Journal of Cleaner Production. 2006, Vol. 14, No. 9/11, pp. 810-819.
5. WILLIAMS, P. M. University Leadership for Sustainability – A Dendritic Framework for Enabling Connection and Collaboration, PhD Thesis at Victoria University of Wellington, 2008. [accessed on 20.01.2021]. Available at: http://www.futuresteps.co.nz/PhD_University_Leadership_for_Sustainability.pdf
6. Higher education sustainability initiative. 2018. [accessed on 25.01.2021]. Available at: <https://sustainabledevelopment.un.org/sdinaction/hesi>
7. Global Innovation Index, 2014 [accessed on 21.01.2021]. Available at: https://www.wipo.int/edocs/pubdocs/en/economics/gii/gii_2014.pdf
8. Global Innovation Index, 2015 [accessed on 21.01.2021]. Available at: https://www.wipo.int/edocs/pubdocs/en/wipo_gii_2015.pdf
9. Global Innovation Index, 2016 [accessed on 21.01.2021]. Available at: https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2016.pdf
10. Global Innovation Index, 2017 [accessed on 21.01.2021]. Available at: https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2017.pdf
11. Global Innovation Index, 2018 [accessed on 21.01.2021]. Available at: https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2018.pdf
12. Global Innovation Index, 2019 [accessed on 21.01.2021]. Available at: <https://www.globalinnovationindex.org/gii-2019-report>
13. Manualul UNESCO. Educație pentru obiectivele dezvoltării durabile. 2014. [accessed on 12.01.2021] Available at: <http://dezvoltare.durabila.gov.ro/web/wp-content/uploads/2017/12/manual-UNESCO.pdf>
14. Report of the World Commission on Environment and Development: Our Common Future. 2020. [accessed on 25.01.2021]. Available at: <https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf>
15. Strategia de cercetare-dezvoltare a Republicii Moldova pînă în 2020. Retrieved from: [https://idsi.md/files/Strategia_CD_a_RM_2020_cu_Anexe\(2\).pdf](https://idsi.md/files/Strategia_CD_a_RM_2020_cu_Anexe(2).pdf)
16. Strategia UE privind Dezvoltarea Durabilă. 2010, pp. 19-111. [accessed on 12.01.2021]. Available at: http://publications.europa.eu/resource/cellar/8d8026dc-d7d7-4d04-8896-e13ef636ae6b.0014.02/DOC_5
17. SUSLENCO, A. Innovation as a source of competitive advantage of the Republic of Moldova. In: Revista „Economia Contemporană”. 2017, vol.1, nr.1, pp. 139-149. Pitești, Independența economică publishing. ISSN 2537-4222. Available at: <https://ideas.repec.org/a/brc/brcej/v2y2017i2p136-151.html>
18. SUSLENCO, A. The development of the innovative potential in the academic environment of the Republic of Moldova - a wish or a necessity? In: Rethinking Social Action. Core Values in Practice, Iași, 2017, pp. 876-888. Available at: <https://doi.org/10.18662/lumproc.rsacvp2017.80>
19. Studiu inovare, AGEPI, 2015 [online], p. 54. Available at: http://agepi.gov.md/sites/default/files/2015/11/Studiu_inovare.pdf
20. UI GreenMetric World University Rankings, 2020. Wageningen University and Research, Netherlands –The World’s Most Sustainable University [accessed on 25.01.2021]. Available at: <http://greenmetric.ui.ac.id/wp-content/uploads/2015/07/press-release-UI-GreenMetric-World-University-Rankings-2020.pdf>
21. <https://euraxess.ec.europa.eu/europe/career-development/training-researchers/research-profiles-descriptors>

Rezumat

Abordarea unei teme privind dezvoltarea inovațională a Republicii Moldova în contextul atingerii sustenabilității, reprezintă un demers de mare actualitate și importanță pentru cercetarea științifică în etapa actuală.

Scopul cercetării în prezenta lucrare este efectuarea unei analize proprii privind dezvoltarea inovațională a Republicii Moldova, dat fiind faptul că potențialul inovațional este factor decisiv în atingerea

sustenabilității economice. În acest context, contribuția originală a fost efectuarea unei ample cercetări pe baza documentării și analizei comparative, în care au fost evidențiate pozițiile Republicii Moldova, României și Ucrainei la Indicele Global de Inovare. Indicele Global al Inovației este unul dintre cele mai importante studii de referință pentru măsurarea performanței țărilor în baza inovării. Pentru a elabora această lucrare am utilizat în calitate de metode: inducția, deducția, analiza, sinteza, cercetarea cantitativă, analiza comparativă, abstracția științifică, modelarea. În funcție de pozițiile ocupate au fost trasate cele mai importante concluzii și recomandări pentru fiecare țară în parte la componentele Indicelui Global de Inovare. O prima constatare ce rezultă din aceasta analiză este că Republica Moldova trebuie să mai depună eforturi în vederea utilizării tuturor ideilor, invențiilor și a scoaterii lor pe piață, în fața consumatorului final. O altă problemă majoră a Republicii Moldova este descreșterea în clasament la sub-indicele „capital uman și de cercetare” unde a pierdut pozițiile de la 71 în 2014 la 64 în 2019 comparativ cu România și Ucraina.

Cuvinte-cheie: inovații, dezvoltare inovațională, sustenabilitate, indicele global de inovare

Аннотация

На данном этапе научных исследований тематика инновационного развития Республики Молдова в контексте достижения устойчивости является особенно актуальной.

Цель исследования авторов заключается в проведении анализа инновационного развития Республики Молдова, учитывая, что инновационный потенциал является решающим фактором в достижении экономической устойчивости. Посредством документирования и сравнительного анализа выявлены позиции Республики Молдова, Румынии и Украины в отношении Глобального индекса инноваций. Глобальный индекс инноваций позволяет провести важные справочные исследования для измерения достижений стран на основе инноваций. В процессе разработки статьи авторами использованы методы: индукция, дедукция, анализ, синтез, количественное исследование, сравнительный анализ, научная абстракция, моделирование. В зависимости от уровня показателей были сделаны надлежащие выводы и рекомендации по компонентам Глобального индекса инноваций для каждой страны. Первый вывод, сделанный в результате этого анализа, заключается в том, что Республика Молдова должна прилагать дальнейшие усилия для использования всех идей, изобретений и их сбыта конечному потребителю. Другой серьезной проблемой Республики Молдова является снижение рейтинга страны по сравнению с Румынией и Украиной по подиндексу «Человеческий и исследовательский капитал». По данному показателю потеряны 7 позиций, с 71-ой в 2014 году до 64-ой в 2019 году.

Ключевые слова: инновации, инновационное развитие, устойчивость, глобальный индекс инноваций

Received 17.02.2021

Accepted 29.03.2021

Published 30.06.2021

THE PARTICULARITIES OF THE SOCIAL CAPITAL CHANGES OF JOINT STOCK COMPANIES ACCORDING TO NATIONAL LEGISLATION

Liliana DANDARA, Assoc. Prof., PhD

Trade Co-operative University of Moldova

E-mail: lilianadandara@gmail.com

Universal Decimal Classification: 658.114.4:347.72.034

JEL Classification: F15, K00, K33

Abstract

The joint stock company is the most complex and, at the same time, the most evolved form of the company. In this form of organization of the company the contributions of the associates matter the most. The associates are coming with contributions to the formation of the social capital, without carrying out an activity in the society. Contributions to the social capital represent interest for both the company and third parties, as the partners are liable for the obligations assumed within the limit of the size of the contributions in the social capital of the joint stock company. The joint stock company is intended for large businesses, which require significant capital. The joint stock company is thus designed to aspire to modest financial contributions for the formation of large capitals, necessary for the development of large-scale projects.

Due to the important role that the joint stock company has in the economic life of the Republic of Moldova, the Civil Code and Law no. 1134/1997 on joint stock companies ensures a regulation corresponding to this form of business organization. The joint stock company is the company whose obligations are guaranteed with the company's patrimony, the shareholders being obliged to subscribe and pay contributions in the social capital within the term provided by law. During the economic activity, the joint stock company, depending on the share of the registered turnover, as well as on the company's capacity to participate in the commercial and civil circuit, can change the social capital by reducing or increasing it.

Keywords: joint stock company, social capital, change, capital increase, capital reduction

1. Introduction

The joint stock company represents the most complex form of legal organization of the economic entity, and, at the same time, the most evolved and prosperous of the commercial companies. In this form of company, such as the joint stock company, the contributions of the partners matter more than their personal qualities. However, joint stock companies are also called public limited companies. Therefore, it is of great interest that the partners contribute with their contributions to the formation of the share capital, without carrying out any activity in the company. These contributions are of interest, including to third parties, as the liability of the partners (shareholders) for their obligations is limited to the amount of the contributions paid into the share capital of the joint stock company.

Due to the importance of the contributions to the formation of the share capital and the blurring of the personal qualities of the associates (shareholders), the joint stock company is also known as a joint-stock company.

The evolution of companies shows that this form of company is intended for large businesses, which require significant capital. The joint stock company is thus designed to raise monetary contributions for the establishment of share capital, the amount of which is capped by law, in order to generate large capital, necessary for large investments. In order to achieve this purpose, the joint stock company is authorized to use the public subscription of securities.

The shares represent fractions of the share capital and, at the same time, securities representing the contributions of the associates to the formation of the social capital. In this article we aimed to approach the institution of share capital from the perspective of changes in the Civil Code of the Republic of Moldova, as well as the full republishing of the Law of the Republic of Moldova no. 1134/1997 on joint stock companies. Also, the motivations of this topic are the new regulations contained in the above-mentioned legislative act.

The proposed theme is characterized by an element of novelty, given the latest legislative changes in the field of joint stock companies. Papers that analyze this aspect, after the substantial modification of the applicable regulations, are practically non-existent, which amplifies the increased significance of the chosen subject.

The actuality and importance of the issue are determined by the importance of the subject investigated in both national and international legislation, or from the content of the study we deduce the commitments of the Republic of Moldova to adjust the national regulatory framework to the European *acquis* in the field of companies, ratification by the Republic of Moldova in 2014 of the Association Agreement with the European Union.

Starting from the definition of the social capital of the joint stock company, we note that it has a double legal and accounting meaning. As a result, the social capital of the company represents the value expression of all contributions in cash or in kind, with which the participants in the formation of the company contribute to the formation of its patrimony, to ensure the material means necessary to carry out the activity and achieve statutory goals.

According to art. 158 Civil Code of the Republic of Moldova the social capital of the joint stock company is formed by placing the shares between the shareholders and represents the value of the cash and in kind contributions paid in proportion to the number and value of the subscribed shares. The share capital will be equal to the sum of the nominal value of the placed shares, if it was established in the articles of incorporation of the company, according to the provisions of art. 40, Law no. 1134/1997 on joint stock companies. If the company has placed shares whose nominal value has not been established, the social capital will be equal to the summary value of all contributions deposited in the share payments. It should be noted that the value of the shares authorized for placement of the company, but not placed, is not included in the share capital of the joint stock company. If the amount of the contributions made on account of the payment of the shares exceeds the nominal value of the shares placed, this excess represents the additional capital of the company and can only be used to supplement, including the increase, the share capital of the joint stock company.

In view of the above, it is clear that the social capital includes the value of all cash and goods contributions made to the incorporation of the company or through subsequent subscriptions. The contribution may have as object any goods with economic value, which represents economic value and which is of interest for the company's activity. The law on joint stock

companies does not require that the contributions of shareholders be equal in value or that they have the same content and object, or be a unitary object.

As a reference rule, the Law on joint stock companies stipulates that contributions to social capital may be money, securities, other assets, including property rights or other rights that can be valued in cash, as well as the company's obligations/debts payable to creditors with assets. Non-monetary contributions to share capital may be transferred to the company with the right of ownership or right of use.

At the same time art. 41 of the Law on joint stock companies establishes restrictions regarding the limit of contributions, namely there can be no contributions to share capital: a) monetary assessment of the activity of the founders for setting up the company, as well as the work of shareholders working in the company; b) the obligations (debts) of the founders, shareholders of the company and of other persons; c) unregistered securities and real estate, including the products of intellectual activity, subject to registration in accordance with the legislation; d) the goods belonging to the purchaser of shares with the right of economic administration or operative management, without the consent of the owner of these goods; e) goods intended for the current consumption of the civilian population, goods whose circulation is prohibited or limited by legislative acts.

During the activity of the joint stock company, the share capital is fixed and represents the limit of the general pledge of the company's creditors. Therefore, the value of the company's net assets must not be less than the size of its share capital. In this sense, art. 158 of the Civil Code of the Republic of Moldova stipulates that, if the assets of the joint stock company have been reduced below the minimum established by law, and the shareholders' meeting has not decided to cover losses or reorganize the company, it is dissolved. Also, art. 39 the Law on joint stock companies stipulates that if, at the expiration of 3 consecutive financial years, except for the first financial year, the value of the company's net assets, according to the company's annual balance sheet, will be less than the social capital, any shareholder of the company is entitled to request the annual general meeting of shareholders to adopt one of the following decisions: a) regarding the reduction of the social capital; b) regarding the increase of the value of the net assets by making additional contributions by the company's shareholders in the manner provided by the company's statute; c) regarding the dissolution of the company; d) regarding the transformation of the company into another legal form of organization.

If, according to the latest balance sheet, the value of the company's net assets is less than the size of the social capital, unless the value of the net assets is negative, the company is entitled to issue additional shares only by closed issue. The company whose net assets, according to the latest balance sheet, have a negative value is obliged to publish a notice in this regard in the Official Gazette of the Republic of Moldova and has no right to issue securities. Non-execution of the provisions provided in art. 39 paragraphs (6) and (7) of the Law on joint stock companies constitute the basis for the dissolution of the joint stock company based on the decision of the court. Any shareholder has the right to appeal to the court with a request for the dissolution of the company.

Another cause of discrepancy between the value of net assets may be non-payment of subscribed shares or an overestimation of in-kind contributions. In these situations, actions are

to be taken to enforce the subscribers who did not make the contributions in the company's capital or, in the case of an overestimation of the contributions in kind, to supplement them and implicitly the capital, or reduce the capital to the real value of the contributions.

2. The degree of investigation of the problem and purpose of research

As mentioned above, the joint stock company is considered one of the most advanced and complex forms of organization of companies, operating in areas as diverse as possible, having the ability to develop large and profitable businesses. In such situations, it is necessary to carry out research on the regulations related to the size of the social capital, which gives the company mobility in activity, safety and financial stability, on the one hand, and in another sense is the guarantee of the company's creditors. We reiterate that the issue of changing the social capital of joint stock companies is appropriate, given the latest legislative changes in the field of joint stock companies. Papers that analyze this aspect, after the substantial modification of the applicable regulations, are practically non-existent, which amplifies the increased significance of the chosen subject.

3. Applied methods and materials

Quantitative and qualitative research methods were used to carry out this study, as well as the induction and deduction method, the logical and comparative method. The article is made as a result of national and international bibliographic research, consultation of official sites, as well as virtual libraries, with the ultimate goal of determining the main theoretical and practical objectives of the research topic. The means considered are various bibliographic sources mentioned at the end of the paper, following the best possible documentation, including the literature related to the field accessible on the Internet and using/interpreting the ideas of the most important authors in the field of civil and commercial law in the Republic of Moldova. Romania, which through their practical and theoretical works have created useful concepts and models for those interested, in order to document, improve and inform.

4. Results and analytics

The premise of setting up and operating a joint stock company is its share capital. In this respect, the social capital is the foundation of that company.

The social capital of a company, in particular of the joint stock company, represents the legal basis of its activity, on the one hand, and on the other hand, ensures the patrimonial interests of creditors and shareholders. And in turn, shareholders bear the risk of losses within the value of the shares to which they belong.

The social capital is an element of the social patrimony that is expressed, in currency, the total value of the contributions in cash and in kind subscribed by the associates at the incorporation of the company. The original patrimony, the one with which the society starts on the road, is formed through the contributions of the associates. Through such contributions, the social capital is increased during the social life.

The share capital is included in the articles of incorporation of the company. However, it is not enough to enter only the global figure of the social capital, other elements must be specified in order to configure it as accurately as possible. Thus, the constitutive act of a joint stock company will be reflected: the subscribed and paid-in social capital, mentioning the contribution of each partner, in cash and in kind, the value of the contribution in kind and the valuation method, as well as the date on which it will be paid in full subscribed social capital.

The social capital of a joint stock company is not to be confused with the company's assets. The patrimony includes the totality of the rights and obligations of the collective entity, so active and passive, the liabilities being formed by the share capital and the other own capitals, i.e. the debt towards the associates, on the one hand, and the debts to third parties, on the other hand. In other words, the share capital and the other own capitals form, together with the social debts, the patrimonial liability, and the latter, together with the asset, make up the reflected patrimony in the form of the balance sheet. Following the subscription of shares, the company retains the value of the contributions in the share capital, as an element of liabilities, i.e. debts to the associates, while the assets and rights are recorded in the balance sheet assets (active side of assets), along with other assets and rights in society in other ways (purchase, exchange, own development). Therefore, the social capital doesn't include goods, sums of money or receivables, but values representing debts of the company to the associates, corresponding to the goods, sums of money and receivables contributed by each of them, which entered into subscription in the company's patrimony, in this case social asset. The company's patrimony is dynamic, continuously modifiable as a result of the company's operations, while the share capital, being a value entered in the articles of incorporation, is fixed, unchangeable, only by amending the articles of association. In conclusion, the social capital is not the sum of the assets, amounts and receivables contributed, but the sum of their values from the date of contribution, value which, after subscription, is no longer in any correlation with the respective amounts, assets or receivables which, being social assets, are available to the company and are, in addition, the subject to market fluctuations [1].

When the joint stock company is set up, equity and social capital are relatively close. Later, however, the proximity disappears with the appearance of profits or losses. The result of the profit and loss account, once entered in the balance sheet, increases (when the result is positive), respectively erodes (when it is negative) the company's capital.

Law on joint stock companies no. 1134/1997, art. 50 paragraph (3) letter b), enshrines the exclusive right of the general meeting of shareholders to decide on the change of social capital. A change of social capital may have as its object both the size of the social capital and its reduction.

In practice, the capital increase will most often be preceded by a capital reduction, an operation designated by the formula "accordion". The practical interest of this operation is obvious especially if the capital increase is achieved through contributions made by new partners, they will not agree to participate in the capital increase if the losses are not borne by the old partners [2].

The modification of the social capital is made in compliance with the necessary conditions for any modification of the constitutive act of the joint stock company. Decision on the amount by which the share capital of the company will be increased or reduced, the method of

increasing or the procedure for reducing the social capital, the amounts paid by each shareholder or the method of payment, the deadline for exercising the pre-emption right of shareholders, notification of creditors, the number and nominal value of the new shares assigned to each subscriber will be taken by the ordinary or extraordinary general meeting of shareholders, the executive body of the joint stock company being the one that concretely executes the decision taken at the general meeting.

4.1. Increase of the social capital of the Joint Stock Company

The increase of the capital of a company can be determined by various causes, as well as the development and consolidation of the economic strength of the company, the removal of financial difficulties, the accumulation of important reserves or the need to revalue the company's assets, between the carrying amount of the assets and their present actual value, offering for subscription the shares of the company's employees to become its shareholders, etc. [3]. In such cases, the share capital is increased by incorporating the benefits (profit) that exceed the reserve capital, or as the case may be, the differences from the revaluation, thus achieving a balance of the balance sheet.

The capital increase may also become necessary to achieve the expansion and diversification of a company's shareholders by giving other persons outside the company to subscribe for new shares.

Also, the increase of the social capital may constitute a legal obligation, when the raising of the minimum limit of the share capital of the joint stock company occurs with the operation of changes in the legislation.

In the literature, among the ways to increase the social capital is listed the merger. However, it must be borne in mind that, although the merger produces, among other effects, the capital increase of the acquiring company, it is nevertheless a complex operation, with multiple consequences, with a well-defined eventuality and which, both legislatively and statutory, finds its own regulation, distinct from that of capital increase [4].

According to the provisions of art. 43 paragraph (3) of the Law on joint stock companies no. 1134/1997, sources of the size of the social capital may be both the company's own capital, within the limit of the part exceeding its social capital and the reserve capital, and/or the contributions received from the purchasers of new shares.

In terms of the economic source, the capital increase through new contributions, regardless of the holder of the subscription: shareholders, employees of the company, or people outside the company, is a source of external financing. New funds or new assets enter the company's patrimony, increasing the assets and invigorating the economic capacity of the joint stock company. The latter is a true source and an important way to increase social capital. The other ways, not involving external contributions, are considered a self-financing of the company, by incorporating in its capital some available resources.

According to the provisions of the Law on joint stock companies no. 1134/1997, the social capital of the company can be increased by: a) increasing the nominal value (fixed) of the placed shares and/or b) placing shares of the additional issue.

The increase of the social capital by increasing the nominal value of the shares is done by mobilizing the available resources or mobilizing the favorable differences from the revaluation of the patrimony.

The capital increase by incorporating the available resources, which appear in the liabilities of the balance sheet, having the character of own capitals, represents a way of self-financing of the company. This procedure represents an increase of the share capital without contributions, but also without an increase of the social asset. In the doctrine this is called nominal or free increase.

The resources available for the capital increase come from the company's profit, which is usually segmented into different funds. Thus, in addition to the fund that constitutes the reserve capital and which is mandatory for the company according to the provisions of the Law on joint stock companies, the companies aim to, by statute or decision of the supreme body, to constitute other funds. All these funds are constituted as a result of the payment of cash as a result of the registration of the profit by the company, and are used in accordance with the law and the statute.

The existence of significant reserves strengthens the material condition of a company and the ability to pay / market solvency. They represent an additional guarantee for third parties that enter into business relations with the company, in the sense that the reserves join the share capital or are likely to replace its small size or the "decapitalization" of the company in periods of monetary depreciation.

It's an expression of the spirit of foresight, the reserves open to society increased opportunities to cope with unfavorable economic conditions and possible losses. It's a kind of "white money for dark days." At the same time, reserves can be a source of self-financing in case of urgent needs, such as when the company's progress requires new investments [5].

As in the case of social capital, reserves must be reflected in the company's assets. Therefore, the reserves do not remain blocked, they do not represent a sum of money in a bank account, but are invested in securities and real estate.

The Law on joint stock companies does not regulate the reserve fund and only the reserve capital, which is formed from annual breakdowns of net profit until reaching the amount provided by the company's statute. The volume of the breakdowns is established by the general meeting of shareholders and constitutes not less than 5% of the net profit of the company. The reserve capital can be used only to cover the company's losses and / or to increase the company's social capital. However, the reserve fund may be constituted by the decision of the general meeting of shareholders on account of the net profit recorded by the company. The decision of the general meeting of shareholders to set up such reserves, and respectively to reduce dividends, is usually in favor of the majority shareholders, who seek to reinvest profits, to compete and to achieve higher profits in the future.

In conclusion, we increase that the social capital increase by increasing the nominal value of the placed shares is carried out in equal proportion for all shares of the company, unless the company's statute provides that the increase in nominal value extends to shares of a certain class of shares. At the same time, the share capital cannot be increased and the shares cannot be issued until the issuer's treasury shares have been alienated, in accordance with art. 13

paragraph (9) of the Law on joint stock companies, and/or will not be completed all the stages related to the increase of the social capital, previously approved.

In this context, we mention that, for the application of this procedure to increase the company's social capital, there is nothing to prevent shareholders from contributing additional contributions to the increase in the nominal value of the shares.

As mentioned above, the capital increase can also be made by a supplementary issue of shares, under the terms of the Law on joint stock companies, the Capital Market Law, the company's statute and the decision of the general meeting of shareholders and the decision of the board on the additional issue of shares.

The additional issue of shares may be carried out by means of a public offer of shares - public issue or closed offer - closed issue. Public offer of securities is the communication addressed to persons, made in any form and by any means, which presents sufficient information about the terms of the offer and about the securities offered, so as to allow the investor to make a decision on the purchase or subscription of these securities [6]. Closed bid (closed issue) is the placement of securities in the additional issue between the issuer's shareholders and/or in a limited circle of persons, approved by the general meeting of shareholders [7].

The additional issuance of shares is carried out after the state registration of the shares placed at the establishment of the company. The conditions for issuing additional shares, including the cost of placing them, will be the same for all purchasers of shares. The cost of placing shares of the same class will be not less than their nominal value or fixed value. Under the terms of the Law on joint stock companies, the joint stock company has the right to issue shares by closed or public issue. The shares of the additional issue paid in full with the net assets (equity) of the company are distributed among the shareholders of the company without payment, in accordance with the classes and in proportion to the number of shares belonging to them. The entries in connection with the additional issue of shares are made in the register of shareholders based on the Certificate of state registration of securities and the list of subscribers of shares in the respective issue.

4.2. Reduction of the social capital of the Joint Stock Company

The deficient activity of the company caused by a bad administration or, simply, by an unfavorable conjuncture leads, in most cases, to patrimonial losses, in which case the value of the net assets of the social patrimony is lower than the value of the nominal capital of the company. Therefore, in such cases, it is necessary either to replenish the patrimonial asset, up to the limit of the share capital, or to reduce the social capital to the level of the existing asset.

The reduction of the social capital is that legal-accounting operation through which the associates diminish the registered level of the social capital on the background of some losses or to make refunds to the associates. The reduction of the social capital falls within the competence of the general meeting of shareholders, in this case the extraordinary meeting, and cannot be the subject of delegation to the board of directors, the executive body of the company. When it is motivated by losses, recognized by the balance sheet, the method is a consolidation one by which the social capital is equaled with the own capitals (net assets), in order to establish the value of the new corporate pledge (lower). As it is not the share capital

but the net assets that are eroded as a result of accounting losses, the intervention of the shareholders meeting in a general meeting is necessary to decide the reduction of the social capital and its alignment to the new value of net assets [8].

Another cause of reduction of the social capital is the overvaluation of some contributions in kind, a situation that requires either the completion of the contribution and, implicitly, of the capital, or the reduction of the capital to the real value of the contributions.

Therefore, the reduction of the social capital can occur even in the situation when the joint stock company is prosperous, but its capital exceeds the necessary resources to achieve the objective of establishing the company. In order to unblock this excess capital and restore the balance between assets and liabilities, the social capital is reduced.

According to art. 45 of the Law on joint stock companies, the social capital of the company may be reduced by: a) reducing the nominal (fixed) value of the shares placed and/or b) canceling the treasury shares.

The reduction of the nominal value of the placed shares consists in the decrease of the nominal value of the shares while maintaining their number. The reduction of the social capital below the limit provided in art. 40 paragraph (2) of the Law on joint stock companies, i.e. 20,000 lei, is not allowed. Thus, if a joint stock company has a social capital of 50,000 lei, divided by 10,000 shares, the value of a share will be 5 lei, correlatively the social capital will be reduced from 50,000 lei to 40,000 lei, the number of shares will remain unchanged - 10,000, the value of the shares will be reduced to 4 lei. As a consequence, the operation of reducing the social capital registers the value of 40,000 lei, which falls within the limit of the regulated capital of 20,000 lei.

The second procedure for reducing the social capital is performed by canceling the existing treasury shares or by acquiring its own shares by the company by acquiring by the company the placed shares, according to the procedure provided in art. 78 of Law no. 1134/1997, the redemption to the company of the placed shares, under the conditions provided by art. 79 of the Law on joint stock companies, or in another way, followed by the cancellation of the treasury shares.

As mentioned above, the reduction of the social capital of the joint stock company is decided by the decision of the general meeting of shareholders, with the quorum and the majority provided in art. 58, in conjunction with art. 50 of the Law on joint stock companies. The decision of the general meeting must be a reasoned one, the procedure used to reduce the social capital, as well as data on the number of canceled shares or the nominal value of the shares. Following the described procedure, the transparency of the operation of reduction of the share capital towards the creditors is ensured, which must be informed as complex as possible, considering that the reduction of the social capital affects the guarantee it represents for the execution of their claims.

In the context of the provisions of the Law on joint stock companies, the decision on the reduction of social capital is to be published by the company within 15 days from its adoption by the general meeting, usually in the Official Gazette of the Republic of Moldova, to be opposable to third parties.

From the date of publication of the decision on the reduction of the social capital, the company's creditors have the right within one month to request from the company (i) the granting of guarantees or the guarantee of the obligations assumed by it or (ii) the premature execution or premature termination of obligations of the company and repairing the damages caused by it. In case of lack of requirements towards the company from the creditors, the decision to reduce the share capital will enter into force after 30 days from the date of publication, and in case of existence of requirements from the creditors mentioned above, the decision to reduce the share capital will enter in force after their satisfaction.

Some authors consider that, art. 45 of the Law on joint stock companies is to be amended, in the sense that, if the reduction of the social capital is caused by financial losses registered by the partners, the creditors lose their right to request the company to provide guarantees or early execution of their claims [10].

The reduction of the social capital will be reflected in the state of the company and will be subject to registration at the National Commission of the Financial Market, in accordance with the legal provisions in force. The change in the social capital will also be reflected in the company's balance sheet, in the shareholders' register and on the company's header sheet.

If the purpose of the reduction of the social capital is to return to the shareholders a part of the contributions, representing the company's net assets, this payment will be made only after the registration of the changes in the company's statute.

By derogating from the provisions of paragraph (6) art. 45 of the Law on joint stock companies, in case of free transfer of public property, according to the regulations contained in art. 14 of Law no. 121/2007 on the administration and denationalization of public property, if the reduction of the share capital has as finality the restitution to the shareholders of a part of the contributions, the payment will be made after the adoption of the respective decision by the general meeting of shareholders.

4.3. Procedure for recording changes in the company's social capital

As mentioned above, the increase of the social capital of the joint stock company is done through two procedures: (1) public offering of securities and (2) issue or closed offer of securities.

The increase of the social capital of the joint stock company through public offering has as object the securities that are offered by the issuer for the first time to be subscribed by the public to which such offer is addressed.

The public offer is made only through investment companies licensed in category "B" (only in the placement of securities without firm commitment), category "C" and accepted persons, which according to the Regulation on licensing and authorization on the capital market, approved by the Decision of the National Commission no. 56/11 of November 14, 2014, are entitled to provide financial investment services and activities on the territory of the Republic of Moldova.

The issue of securities carried out through public offering includes the following stages:

- 1) the adoption by the issuer of the decision regarding the issue of securities;

- 2) the completion by the issuer and the investment company of the contract for the provision of financial services;
- 3) preparation and approval by the issuer of the public offer prospectus;
- 4) the opening by the issuer of the provisional account for the accumulation of the funds obtained in the process of placing the securities;
- 5) approving the prospectus of the public offer of securities at the National Commission of the Financial Market, with the assignment of the securities of the state registration number, as the case may be, the multiplication of the prospectus of the public offer;
- 6) disclosing the information contained in the prospectus of the public offer, in the manner established by the prospectus;
- 7) placement of securities;
- 8) the preparation and approval by the issuer of the report on the results of the issue and the qualification of the issue as performed or not performed;
- 9) the registration at the National Commission of the Financial Market of the report on the results of the issue;
- 10) the operation of the modifications and completions determined by the results of the issue in the issuer's statute (in case of the issue of shares);
- 11) closing the provisional account and transferring the funds from this account to the current account of the issuer - in case the National Financial Market Commission has registered the report on the results of the public issue of securities;
- 12) withdrawal of the Certificate of state registration of securities from the National Commission of the Financial Market, of the issuer's decision regarding the issue of securities (2 copies) and of the list of subscribers to the given issue (2 copies);
- 13) entering in the register of holders of securities the data about holders of securities, issuing to the subscribers the extracts from the register/from the account.

The public offer of securities may be initiated by any issuer only after the publication of an offer prospectus, approved by the National Financial Market Commission, under the conditions established by the Capital Market Law no. 171/2012, the Instruction on stages, deadlines, the manner and procedures for the registration of securities, approved by the NFMC decision no. 13/10 of 13.03.2018 and other normative acts of the National Commission.

The initiation and conduct of the public offer without publication of the offer prospectus, approved by the National Financial Market Commission under the conditions established by Law no. 171/2012 and the Instruction, mentioned above, is prohibited and void and, in turn, attracts the responsibility of the guilty persons and application of the sanctions provided by the legislation in force. The issuer, which carries out such an offer, is liable for any damages caused to investors, it being obliged to investors to refund payments arising from the nullity of transactions concluded on the basis of such a public offer.

The obligation to publish a prospectus does not apply in the cases provided in art. 13 paragraph (2) of Law no. 171/2012, namely: a) the offer is addressed exclusively to qualified investors; and/or b) the offer is addressed to a number of less than 100 natural or legal persons, other than qualified investors; and/or c) the offer is addressed to investors who purchase these securities in the amount of the RON equivalent of at least 50,000 euros

calculated at the official exchange rate of the National Bank of Moldova per investor; and/or d) the offer in which the nominal value of a security is equal to or higher than the RON equivalent of 50,000 euros calculated at the official exchange rate of the National Bank of Moldova; and/or e) the offer whose total value, during 12 months, is less than the RON equivalent of 100,000 euros calculated at the official exchange rate of the National Bank of Moldova, also, the prospectus is not drawn up in cases where they are met the conditions set out in Article 16 paragraph (5) of the same Law, as follows: the public tender prospectus is not drawn up if the tenderer makes public a document containing information equivalent to the information in the public tender prospectus, if: a) are offered shares issued to replace previously issued shares, as a result of conversion, fractionation or consolidation, provided that this does not imply an increase in the share capital; b) securities are offered that appear as a result of a merger; c) the shares are or are to be transferred free of charge to the existing shareholders or the dividends are paid in the form of shares of the same class as the shares granting the right to these dividends, provided that the published document will contain information on the number and nature of these actions, as well as about the reasons and conditions for offering them; d) the securities are transferred or are to be transferred to the members of the board, the sole executive body or to the members of the executive body, existing or former, or to employees by their employer, provided that these securities are admitted to trading on a regulated market and the issuer will disclose information about the number and nature of these securities, as well as about the reasons and conditions for offering them.

According to the provisions of art. 14 of the Law on the capital market, the public offering prospectus may be drawn up in the form of a single document or a set of 3 separate documents, and shall contain: a) information on the issuer and securities offered publicly or to be admitted to trading on a regulated market; b) all information enabling investors to make an informed assessment of assets and liabilities, financial position, profit or loss, prospects of the issuer or guarantor of the issue, if any, and related rights these securities; c) a summary of the prospectus.

The public offer must be initiated on the date indicated in the prospectus, but not later than 60 working days from the date of approval of the prospectus by the National Financial Market Commission. The date of initiation of the offer is considered the first working day on which the intermediary can accept subscriptions for the securities that are the object of the public offer. The issuer is liable in accordance with the legislation in force for not initiating the offer within the term established according to the prospectus approved by the National Commission.

The decision to approve the prospectus by the National Financial Market Commission becomes null and void if the public offer is not initiated within a maximum of 60 working days from the date of approval by the National Commission of the offer prospectus (drawn up in a single document) or the last of the above documents.

The final number of securities, which are the subject of a public offer (if indicated in the prospectus), after the date of approval of the prospectus by the National Commission cannot be changed.

The criteria for allocating the securities subscribed in the public offer must be explicitly specified in the offer prospectus, which may be one of the following:

1. pro-rata allocation - the number of shares allocated to an investor will be determined as the product of the number of shares indicated in the investor's subscription application and the ratio between the total number of securities offered and the total number of securities subscribed in the framework of the offer;
2. allocation "first come, first served" - the shares will be allocated in the order of registration of subscription requests;
3. discretionary allocation (arbitrary) - the shares will be allocated according to the decision of the management bodies of the issuer.

One or more criteria for the successful closing of the public tender may be established in the tender prospectus. If the criteria for successful closing of the public offer are not met, the funds will be returned in full to the subscribers and the securities, object of the offer, are considered not to have been placed.

Any significant new fact, any error or substantial inaccuracy in the prospectus, which may influence the decision of investors or potential investors to subscribe for the securities subject to the public offer, occurred within the approval of the prospectus until the conclusion of the public offer, shall be communicated by the tenderer by means of a supplement to the prospectus. In this sense, any request to modify the prospectus, already approved, is submitted to the National Commission in the form of a supplement, according to the provisions of art. 18 of Law no. 171/2012.

The supplement to the prospectus shall be approved by the National Commission within a maximum of 7 working days from the date of submission of the issuer's application and shall be published by the issuer within a maximum of 3 working days from the date of approval of the supplement to the National Commission, the prospectus has been published.

If the National Commission approves a supplement to the prospectus, the person who has accepted the purchase or subscription of the securities until the publication of the supplement, is entitled to refuse their purchase or subscription within at least 2 working days from the publication of the supplement, on the conditions set out in the prospectus. Withdrawal of the subscription by an investor is made by submitting the request to revoke the subscription within a maximum of 2 working days from the publication of the supplement.

The subscriptions within a public offer will be validated only on the condition of observing the provisions registered in the offer prospectus approved by the National Commission of the Financial Market.

The investment company, through which the subscriptions are made within an offer, has the obligation to inform the clients about the conditions of the offer and is responsible for non-compliance with the provisions of the prospectus.

The public offer is considered closed on the date of expiration of the development period, provided in the notice and prospectus, or on the date of early closure according to the provisions of the prospectus.

The public offer may be closed in advance if all the securities that are the subject of the offer have been subscribed until the expiration of the term mentioned in the prospectus, and the

chosen allocation method is "first come, first served", provided that the possibility of early closing of the public offer be expressly mentioned in the prospectus. The Issuer notifies the National Financial Market Commission regarding the results of the public offer within 10 working days from its closing date.

At the expiration of the term for placing the securities or at the date of early closing, according to the provisions of the prospectus, the issuer approves the report on the results of the issue of securities placed through the public offer.

The request regarding the registration of the securities according to the report on the results of the securities issue through the public offer is submitted to the National Commission of the Financial Market within maximum 15 working days from the date of concluding the placement of the securities.

For the purpose of registering with the National Commission the report on the results of the issue of securities through the public offer, the issuer will present the following documents:

- 1) the application, according to the requirements provided in the Instruction, approved by the NCFM decision no. 13/10 from 13.03.2018;
- 2) the minutes of the body that approved the report on the results of the issue of securities through the public offer, drawn up and presented in accordance with art. 64 paragraph (3) or, as the case may be, art. 68 paragraph (9) and paragraph (10) of Law no. 1134/1997;
- 3) the confirmation issued by the banking institution regarding the deposit / transfer by the subscribers of the funds on account of the payment of the securities until the approval of the issuance results (the original bank certificate);
- 4) reporting on the results of the additional issue of securities (in original);
- 5) the list of subscribers to the securities, approved by the authorized management body of the issuer, in 3 copies (in original);
- 6) proof of disclosure of information on events and actions affecting the economic and financial activity of the issuer according to the provisions of Law no. 171/2012 and the Regulation on the disclosure of information by issuers of securities;
- 7) the draft amendments to the company's statute related to the size of the share capital and the securities issued;
- 8) the decision of authorization of the Competition Council in the cases provided by the legislation in the field of competition or the Declaration on its own responsibility as if the operation does not constitute an economic concentration within the meaning of the legislation in the field of competition;
- 9) the payment order (s) regarding the payment of taxes and fees for the registration of securities, collected in accordance with the Law on the National Commission of the Financial Market no. 192/1998.

Within 15 working days from the date of presentation of the last document in support of the application, the National Financial Market Commission examines the documents related to the registration of the report on the results of the additional issue of securities through public offer and issues an appropriate decision, made in the State Register of the securities of the respective entries in case of satisfaction of the submitted request.

If the securities placed by the issuer have not been subscribed in the minimum volume indicated in the prospectus and the issuer has qualified the issue as not carried out, within 10 working days from the date of approval of that decision, the issuer submits an opinion to the National Financial Market Commission, annexing the minutes of the authorized body of the issuer that qualified the issue as not performed.

If the issue of the securities is classified as unrealized, the means obtained by the issuer following the placement of the securities shall be returned to the investors. At the same time, the issuer reimburses to the investors the benefit obtained as a result of using the means attracted in the process of placing the securities or the lost gain, in case the conditions of the issue contain such a clause.

Within 5 working days, after the expiration of the term of 10 days from the date of approval of the decision to qualify the issue as not made, the issuer will present to the National Commission the confirmatory documents regarding the refund of the funds deposited by the subscribers.

In the same context, we will set out below the steps for issuing additional closed bid shares which are as follows:

1. the adoption by the issuer of the decision regarding the issue of shares;
2. the placement of securities in a determined period of time that ensures the exercise of preemption rights, in accordance with art. 27 of Law no. 1134/1997. According to paragraph (2) art. 27 of the Law on joint stock companies, the right of preemption is exercised within a period which may not be less than 14 working days from the date of publication of the offer or from the date of sending to shareholders the letters for placement of securities by public offer or from the date of adoption of the decision for their closed additional issue, except for the cases provided in paragraph (7) art. 27, which provides that the term of realization of the preemption right according to paragraph (2) does not apply if 100% of the voting shares of the company participate in the general meeting of shareholders and/or all shareholders subscribe to the securities of the respective class in proportion to the share held in the share capital, and/or the closed issue of the securities it takes place following the reorganization of the company by merger.
3. the approval by the competent body of the issuer of the report on the results of the additional issue of shares and the qualification of the issue as performed or not performed;
4. registration with the National Commission of the report on the results of the additional issue of shares, issued through a closed offer;
5. the operation of the modifications and completions, determined by the results of the issue, in the issuer's statute;
6. entering in the register of securities holders the data about the subscribers to shares and issuing the extracts from the register/account.

When the issuer adopts the decision on the issue of securities, it will ensure compliance with the requirements of Law no. 1134/1997, art. 39 paragraph (71), which provides that, if, according to the latest balance sheet, the value of net assets of the company is smaller than the size of the share capital, unless the value of the net assets is negative, the company is entitled to additionally issue only shares by closed issue and art. 43 paragraph (5), according

to which, the share capital cannot be increased and the shares cannot be issued until the treasury shares of the issuer have been alienated, according to art. 13 paragraph (9), and/or all the stages related to the previously approved share capital increase will not be completed.

Subsequently, the issuer, after the approval of the report on the results of the additional issue of shares, within 15 working days from the date of concluding the placement of the securities, will present to the National Commission the request for the registration of the respective report.

We mention that, when the social capital is increased by additional issue of shares, the types of contributions to be deposited are established in the decision regarding the additional issue of shares in compliance with the provisions of art. 41 of Law no. 1134/1997.

The contributions to the increase of the social capital will be paid within the term established by the general assembly, but not later than 2 months from the adoption of the decision to increase the social capital. The value of the non-monetary contribution to the company's social capital is approved by the general meeting, or by the decision of the company's board.

The state registration of the amendments and completions to the incorporation documents of the issuers, related to the registration of the results of the additional issue of shares or the restructured issue as a result of the increase of the nominal value of the shares, are introduced in the incorporation documents of the company, on the results of the issue of the additional share.

For the purpose of registering with the National Commission of the Financial Market the report on the results of the share issue, the issuer will present the following documents:

- 1) the application, in accordance with the provisions of the Instruction, approved by the decision of the National Commission of the Financial Market no. 13/10 of 13.03.2018;
- 2) the minutes of the general meeting of shareholders, at which the decision regarding the increase of the share capital was approved, with all the annexes provided in art. 64 paragraph (3) of Law no. 1134/1997. Issuers with more than 5,000 shareholders will present the list of shareholders who had the right to participate in the general meeting in electronic format, on a digital medium;
- 3) the decision on the issue of securities approved at the general meeting of shareholders, in 3 copies (in original);
- 4) the minutes of the authorized management body of the issuer that approved the report on the results of the additional issue of the securities and the list of subscribers to the securities, prepared and presented in accordance with art. 64 paragraph (3) or, as the case may be, art. 68 paragraph (9) and paragraph (10) of Law no. 1134/1997;
- 5) reporting on the results of the additional issue of securities (in original);
- 6) the list of subscribers to the securities approved by the authorized management body of the issuer, in 3 copies (in original);
- 7) the incorporation documents of the issuer and/or the modifications to them (copies legalized by the notary);
- 8) the statement on the issuer's own responsibility, (in original);

- 9) the confirmation issued by the banking institution regarding the deposit / transfer by the subscribers of the funds on account of the payment of the securities (the original bank certificate);
- 10) the act of receiving-handing over the non-monetary contributions on account of the payment of the subscribed securities (in original) and the evaluation report of the non-monetary contributions, drawn up by an evaluation enterprise - in case of paying the securities with non-monetary contributions;
- 11) the documents confirming the origin of the company's debts, including the statement from the account and/or the act of verification of the mutual settlements in case of their conversion into the shares of the additional issue;
- 12) the financial statements of the issuer, at the last reporting date (copy);
- 13) the agreement of the Public Property Agency or, as the case may be, the decision of the central/local public administration authorities in the case of the companies included in the list of goods subject to privatization according to the provisions of Law no. 121/2007;
- 14) the decision of authorization of the Competition Council in the cases provided by the legislation in the field of competition or the Declaration on its own responsibility as if the operation does not constitute an economic concentration within the meaning of the legislation in the field of competition;
- 15) proof of disclosure of information on events and actions affecting the economic and financial activity of the issuer according to the provisions of Law no. 171/2012 and the Regulation on disclosure of information by issuers of securities, approved by National Commission Decision no. 7/11 of February 12, 2016;
- 16) the payment order (s) regarding the payment of taxes and fees for the registration of securities, collected in accordance with the Law on the National Commission of the Financial Market no. 192/1998.

In case of issuance of shares of one class for the purpose of paying dividends for shares of another class, the decision taken by the holders of that class of shares to whom the dividends approved in accordance with the legislation will be presented will be presented. In case of restructuring the issue of previously placed shares by increasing the nominal value, the share of shares held by shareholders will remain unchanged.

For the situation in which the source of the social capital increase by increasing the nominal value of the shares serves the issuer's own capital, the increase of the nominal value is made for all classes of shares placed by the issuer, if the statute does not provide that this increase of value extends over the shares, class or several classes. If the source of the share capital increase by increasing the nominal value are the contributions made by the shareholders, they are deposited by each holder in proportion to the share held.

Within 15 working days from the date of presentation of the last document in support of the submitted application, the National Commission will examine the documents related to the registration of changes related to the share capital increase and issue an appropriate decision, with the execution in the State Register of the Securities of the respective registrations in case of satisfaction of the submitted application.

In order to obtain the Certificate of State Register of the Securities, the issuer will present to the National Commission a copy of the decision of the state registration body on the

registration of changes in the statute and the addendum on the introduction of changes in the articles of incorporation, authenticated by law.

The certificate of state registration of securities, the list of subscribers (2 copies) and the decision on the issue of securities (2 copies) will be collected by the issuer from the National Commission within 15 working days from the date of registration of changes to its statute and sent within 1 working day to the registry company/Central Depository for making entries in the register/accounts of the holders of securities.

For the registration in the State Register of securities of the changes related to the reduction of the social capital, the requirements established in art. 45 of the Law on joint stock companies no. 1134/1997.

For the registration in the State Register of securities of the changes related to the reduction of the social capital of the joint stock company, the issuer will present to the National Commission of the Financial Market the following documents:

- a) the application for registration of the amendments, in accordance with the requirements provided by the Instruction, approved by the decision of the National Commission of the Financial Market no. 13/10 from 13.03.2018;
- b) the minutes of the general meeting of shareholders, with all the annexes provided in art.64 paragraph (3) of the Law on joint stock companies no. 1134/1997;
- c) the copy of the opinion on the reduction of the share capital, published in the Official Gazette of the Republic of Moldova;
- d) confirmation of the lack, satisfaction or granting of guarantees to satisfy the creditors' requirements;
- e) the statement from the issuer's account regarding the existence of treasury shares, issued by the registry company, in case of reduction of the share capital by canceling the treasury shares;
- f) the original (s) of the Certificate of state registration of securities;
- g) the authorization of the specialized central body that performs the management of the package of state shares in the share capital of the issuer, in accordance with the legislation in force;
- h) copy of the issuer's financial statements, at the last reporting date;
- i) copy of the payment orders regarding the payment of taxes and payments for the registration of securities, collected in accordance with the Law on the National Commission of the Financial Market no. 192/1998.

The documents listed above are presented to the National Financial Market Commission after one month from the date of publication of the opinion on the reduction of social capital in the Official Gazette of the Republic of Moldova, in case of lack of receivables from creditors or after their satisfaction in case of requirements.

The National Financial Market Commission, within 15 working days from the date of submission of the application, will examine the documents related to the registration of changes related to the reduction of the share capital of the joint stock company and will issue a corresponding decision, as appropriate with registration in the state register of securities of those entries. The certificate of state registration of securities will be collected by the issuer

from the National Commission of the Financial Market, within maximum 15 working days from the date of entry into force of the decision of the National Commission.

In order to obtain the Certificate of State Registration of Securities, the issuer will submit to the National Commission a copy of the decision of the State Registration Body (Public Services Agency) on registration of changes in the statute and the addendum on changes in the articles of incorporation of the joint stock company, authenticated in accordance with applicable law.

5. Conclusions

As a general conclusion, we can say that, starting from the definition of the joint stock company, as one of the legal persons, a collective subject of rights and obligations, we can affirm the usefulness of this company, by representing the main actor or link of trade, especially by providing people with a framework through which they can associate and carry out joint economic activities, supporting each other and maintaining at the same time the individuality of the contribution, remuneration and losses they will bear in case of failure of the company. However, the joint stock company differs from the general framework of commercial companies by distinct elements such as: the anonymity of the subsidiaries and the share capital. As shown, the joint stock company has the role of managing large businesses, of being the framework through which large-scale investments can be made, attracting and managing private investments. The joint stock company manages to bring together capital and investors to carry out its commercial industrial activity, without incurring unlimited risk.

REFERENCES

1. BODU S. Treaty of corporate law. Bucharest, Rosetti International Publishing House, Vol.1, 2014.
2. IVANOV E. Patrimony of companies. Bucharest, Hamangiu Publishing House, 2008.
3. MĂMĂLIGĂ S. Joint stock companies. Commentary on Law no. 1134/1997. Chisinau, Museum Publishing House, 2001.
4. BODU S. Reduction of social capital. Romanian Journal of Private Law. 2015, no. 5.
5. MIHALACHE I. Business Law. Chisinau, "Print Caro" Printing House, 2016.
6. Stanciu P. Cârpenaru, Cătălin Predoiu, Sorin David, Gheorghe Piperea. Commercial companies - Regulation, doctrine, jurisprudence. Bucharest, Ed. AllBeck, 2002.
7. Civil Code of the Republic of Moldova. Commentary Volume I. Chisinau, Central Printing House, 2006. 313 p.
8. Civil Code of the Republic of Moldova no. 1107 from 06.06.2002.
https://www.legis.md/cautare/getResults?doc_id=125043&lang=ro
9. Law on joint stock companies no. 1134 from 02.04.1997.
https://www.legis.md/cautare/getResults?doc_id=124769&lang=ro
10. Law on the capital market no. 171 from 11.07.2012.
https://www.legis.md/cautare/getResults?doc_id=121985&lang=ro
11. Law on the National Financial Market Commission no. 192 from 12.11.1998.
https://www.legis.md/cautare/getResults?doc_id=121984&lang=ro
12. Competition law no. 183 from 11.07.2012.
https://www.legis.md/cautare/getResults?doc_id=121240&lang=ro
13. Law on the administration and denationalization of public property no. 121 from 04.05.2007.
https://www.legis.md/cautare/getResults?doc_id=24966&lang=ro
14. The instruction regarding the stages, terms, manner and procedures for registration of securities, approved by the decision of NCFM no. 13/10 from 13.03.2018
15. Regulation on licensing and authorization on the capital market, approved by NCFM decision no. 56/11 of 14.11.2014.

16. The Regulation on the disclosure of information by issuers of securities, approved by CNPF decision no. 7/11 from 12.02.2016.

Rezumat

Societatea pe acțiuni este forma cea mai complexă și, totodată, cea mai evoluată a societății comerciale. În această formă de organizare a societății comerciale cel mai mult contează aporturile asociaților. Asociații contribuie cu aporturi la formarea capitalului social, fără să desfășoare o activitate în societate. Aporturile la capitalul social reprezintă interes atât pentru societate, cât și pentru terți, deoarece asociații răspund pentru obligațiile asumate în limita mărimii aporturilor în capitalul societății pe acțiuni. În același timp, asociații nu răspund pentru obligațiile sociale și juridice ale societății. Societatea pe acțiuni este destinată marilor afaceri, care necesită capitaluri însemnate. Societatea pe acțiuni este astfel concepută ca să aspire contribuții bănești modeste pentru formarea unor capitaluri mari, necesare dezvoltării proiectelor de anvergură.

Datorită rolului important pe care societatea pe acțiuni îl are în viața economică a Republicii Moldova, Codul Civil și Legea nr. 1134/1997 privind societățile pe acțiuni asigură o reglementare corespunzătoare acestei forme de organizare a societății comerciale. Societatea pe acțiuni este societatea ale cărei obligații sunt garantate cu patrimoniul societății, acționarii fiind obligați să subscrie și să verse aporturi în capitalul social în limita termenului prevăzut de lege. Pe parcursul activității economice societatea pe acțiuni, în dependență de ponderea cifrei de afaceri înregistrată, precum și de capacitatea societății de a participa la circuitul comercial și civil, poate modifica capitalul social prin reducerea sau majorarea acestuia.

Cuvinte-cheie: societate pe acțiuni, capital social, modificare, majorarea capitalului, reducerea capitalului

Аннотация

Акционерное общество это наиболее сложная и в то же время наиболее развитая форма коммерческих обществ. При такой форме организации наибольшее значение имеет вклад акционеров. Акционеры вносят вклад в формирование акционерного капитала, не осуществляя никакой деятельности в обществе. Вклады в уставной капитал представляют интерес и для акционерного общества, и для третьих лиц, поскольку вкладчики несут ответственность по взятым обязательствам в пределах размера вкладов в уставной капитал акционерного общества. При этом акционеры не несут ответственность по обязательствам акционерного общества. Акционерное общество предназначено для крупного бизнеса, требующего значительного капитала. Таким образом, акционерное общество призвано стремиться к скромным финансовым взносам для формирования крупных капиталов, необходимых для развития крупномасштабных проектов.

Имея в виду важную роль, которую акционерное общество играет в экономической жизни Республики Молдова, Гражданский кодекс РМ и Закон № 1134/1997 об акционерных обществах обеспечивают надлежащую регламентацию этой юридической формы коммерческого общества. Обязательства акционерных обществ гарантируются имуществом общества, а акционеры обязаны подписаться и внести взносы в уставный капитал в течение срока, установленного законом. В ходе хозяйственной деятельности акционерного общества, в зависимости от коммерческого оборота, а также от способности акционерного общества участвовать в коммерческом и гражданском обороте, уставной капитал может быть изменён, уменьшен или увеличен.

Ключевые слова: акционерное общество, акционерный капитал, изменение, увеличение капитала, уменьшение капитала

Received 01.06.2021

Accepted 28.06.2021

Published 30.06.2021

REVIEWERS

Eugenia COJOCARI, Professor PhD, Trade Co-operative University of Moldova

Marilena DONCEAN, Main Researcher III PhD, „Gh. Zane” Institute of Economic and Social Research, Romania

Elena FUIOR, Professor PhD, Trade Co-operative University of Moldova

Oxana LIVITCHI, Associate professor PhD, Trade Co-operative University of Moldova

Simion MORARU, Associate professor PhD, Trade Co-operative University of Moldova

Feodosie PITUSCAN, Associate professor PhD, Trade Co-operative University of Moldova

Nicolai ROMANDAȘ, Professor PhD, Trade Co-operative University of Moldova

Vladislav SEICIUC, Associate professor PhD, Trade Co-operative University of Moldova

Tatiana ZAVATKI, Associate professor PhD, Trade Co-operative University of Moldova

Inga ZUGRAV, Associate professor PhD, Trade Co-operative University of Moldova

NOTES FOR AUTORS

The „Journal of Research on Trade, Management and Economic Development” (JRTMED) welcomes the submission of original research papers for publication that meet the general criteria of scientific excellence.

Topics covered by JRTMED include, but are not limited to the following areas:

- Strategies and policies for domestic trade development
- Domestic trade regulation
- The impact of government policies on the development of trade
- Anti-dumping and unfair trade practices issues
- Development of internal market and consumer protection
- Challenges, performances and tendencies in the organization management
- Management Reengineering and streamlining of business
- Management of change, innovation and quality
- Management and marketing of commercial enterprises
- Issues of quality and competitiveness of the products within the global economy
- Business policies, strategies and performances
- Innovation and product development
- Policies for economic growth and development: problems and solutions
- Strategies and models of sustainable economic growth and development
- The evolution of accounting, auditing, finance as practical activities and economic science
- Issues of the educational - economic sector
- Training and professional development of specialists in the economic-commercial field.

Technical and editorial issues:

- Papers will only be submitted in English;
- Total content of the articles should be 6-15 pages (references included);
- A good correspondence between title and content of the article is necessary;
- The paper will have the following structure: title, name(s) of author(s), abstract, keywords, JEL classification, expanded content of the paper, references;
 - The main elements of the scientific paper will be: the summary (in Romanian, English and Russian), the keywords (in Romanian, English and Russian), 1. Introduction, 2. The degree of investigation of the problem currently, and purpose of research, 3. Methods and materials applied, 4. Results obtained and discussions, 5. Conclusions, References;
 - A clear definition of the terms used is recommended;
 - Do not use page numbering, inserting lines, headers and footnotes;
 - The text must be typed in one column format;
 - Decision regarding publishing of the article in the review is approved at the meeting of the Editorial Board;
 - The article must be written exclusively in Microsoft Word and it will be sent to the Editorial Board by e-mail at jrtmed@uccm.md.

The paper must respect the following *Template* (<http://jrtmed.uccm.md/files/Template.doc>)
Editorial Board JRTMED

**Journal of Research
on Trade, Management and Economic Development**

Signed for printing on 30.06.21

Format 60 X 84/8. Printing sheets 12,55. Editorial sheets 7,68. Order 29/2021.

Edition 100 copies.

Trade Co-operative University of Moldova Publishing House
8, Gagarin Avenue,
Chisinau, Republic of Moldova, MD-2001
Phone (+373) 22-815-620