

**MANAGEMENT OF SOCIO-ECONOMIC
TRANSFORMATIONS OF BUSINESS
PROCESSES: CURRENT REALITIES,
GLOBAL CHALLENGES, FORECAST
SCENARIOS AND DEVELOPMENT
PROSPECTS**

Scientific monograph



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The authors of the scientific monograph have come to the conclusion that management of socio-economic transformations of business processes requires the use of mechanisms to support of entrepreneurship, sectors of the national economy, the financial system, and critical infrastructure. Basic research focuses on assessment the state of social service provision, analysing economic security, implementing innovation and introducing digital technologies. The research results have been implemented in the different models of costing, credit risk and capital management, tax control, use of artificial intelligence and blockchain. The results of the study can be used in the developing of policies, programmes and strategies for economic security, development of the agricultural sector, transformation of industrial policy, implementation of employment policy in decision-making at the level of ministries and agencies that regulate the management of socio-economic and European integration processes. The results can also be used by students and young scientists in the educational process and conducting scientific research on global challenges and creation scenarios for the development of socio-economic processes.

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INTRODUCTION

The efficiency of business processes by economic entities is achieved through the optimal use of available resources and an appropriate strategy. Current realities and global challenges have a negative impact on the realization of business processes, which leads to a deterioration in economic results and requires the development of mechanisms to counteract the destructive impact, introduce appropriate support areas and strengthen the resource potential of economic entities.

The consequences of the covid pandemic, military actions in Ukraine, and geopolitical changes in the world have significantly affected the transformation of business processes of economic entities both within the national economy and in global markets. As a result, there is a need to develop forecast scenarios for managing resource potential, study the impact on social processes and the environment, and search new ways to ensure sustainable development of economic entities.

The purpose of writing this scientific monograph is to justify the theoretical and methodological foundations for ensuring effective management of economic processes in the context of socio-economic transformation.

The object of the authors' research was current challenges and threats caused by the pandemic, military operations on the territory of Ukraine, transformation of geopolitical processes through current mechanisms of European integration, economic security, risk management, application of state and international support instruments for entrepreneurship, sectors of the national economy, the state budget and critical infrastructure.

The subject of the study was decision-making models, forecast scenarios and prospects for the development of business processes in current realities, mechanisms and systems of risk management, development of innovative ensure and implementation of digital technologies.

The practical significance of the obtained results lies in the use of the developed proposals by various economic entities and public authorities in the elaboration of long-term development strategies.

Chapter 1

THE IMPACT OF GLOBALIZATION CHALLENGES ON THE MANAGEMENT OF SOCIO-ECONOMIC TRANSFORMATIONS OF BUSINESS PROCESSES

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THE ASPECTS OF PROVISION OF SOCIAL SERVICES FOR ELDERLY PERSONS IN CARE FACILITIES

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Abstract

The article discusses the features of provision of social services for elderly persons in care facilities. As a result of rapidly ageing population and the growing number of elderly persons, the states must pay attention on quality of life, health promotion and socialization of elderly people, thus, properly provided social services for the elderly would help to solve social problems, maintain social relations with society, and ensure adequate quality of life at the client's home and organizations of social services.

The article analyses the influence of ageing factors on elderly people, taking into account the aspects and possibilities of provision of social services in care facilities. The article aims to highlight the efficiency of social services and to assess the services, provided for elderly persons in care facilities, on the basis of the completed theoretical analysis and empirical research. The article revealed the problems, faced by employees of care facilities, while providing social services, and the social services, expected to be received by relatives of elderly persons at

care facilities. The research also identified the possibilities for organizing and improving social services in care facilities.

Keywords: *elderly persons, social services, provision of services, care facilities.*

Introduction

The number of elderly people is increasing in the EU countries: it is stated that the elderly, i.e., aged 65 and over, account for 19,2 percent. One of the aspects of population ageing is gradual ageing of elderly persons. It is noticed that a relative segment of elderly population is growing faster than any other segment of EU population. It is projected that elderly population will account for an increasing share of the total population: in 2080, people aged 65 and over will account for 29,1 percent of the EU population (<https://ec.europa.eu/eurostat/statistics-explained/index.php>). The increasing life expectancy of people is a major achievement of humanity, defined by positive achievements in medical, economic and social fields, however, population ageing causes some social and economic changes that need to be assessed and foreseen, in order to take timely actions to address the issues of population ageing, covering a wide range of activities, in a complex way.

Nowadays, ageing population demands to develop the social services for elderly persons, while the growing need of social services promotes to improve their quality. By expanding the network of social services, the state seeks to ensure the wellbeing for elderly citizens, focusing on attempts to maintain independence of elderly people, to develop and implement social and nursing care at home. It should be mentioned that the social policies of welfare states emphasize the maintenance, promotion and support of independence of elderly persons, and follow the principle of staying home as long as possible. Demographic changes and ageing trends also result in certain challenges for service sector: increase of public spending; implementation of various forms of service provision in institutions, day care centres, home; cooperation of health and social services sector; support for informal services, e.g., involvement of relatives, family members, neighbours, friends, volunteers from non-governmental organizations; adequate health promotion by supporting healthy ageing.

Ageing is analysed by many authors. For example, the influence of ageing on the state economy and social policy was examined by Kanopienė and Mikulionienė (2006), Harper (2014), Urmanavicius (2021). Meanwhile, the factors and conditions of successful ageing were researched by Mockus and Žukaitė (2012), Mikulionienė et al. (2018), Hopf et al. (2021); Mitchell, (2021), the principles of living of old and elderly persons were analysed by Fredvang and Biggs (2012). Orlova (2014a, 2014 b), Orlova and Gruževskis (2014) examined the factors of quality of life, Garlauskaitė and Zabarauskaitė (2015), Belo et al. (2020), Saxon et al. (2021), presented the analysis of ageing factors (Čepėnaitė 2008, Lee et al. 2013, Jankūnaitė & Naujanienė 2012). Social changes of ageing were researched by Jankūnaitė and Naujanienė (2015), while the ageing challenges were identified by Gedvilaitė-Kordušienė (2013), Rodriguez-Blazquez et al. (2012), Thomas et al. (2013) ; Hopf et al. (2021); Mitchell, (2021). It is worth noting that Žalimienė (2007), Toliušienė and Virbalis (2021) analysed social care services, and Čižikienė and Urmanavičienė (2018), Čižikienė (2020) examined reasonable provision of social services.

The article analyses the aspects of ageing factors, as well as the possibilities of adaptation of social services for elderly persons and their families in the context of Lithuania, discusses the suitability of services in care facilities. It is aimed to highlight the efficiency of social services and to assess the services, provided for elderly persons in care facilities, on the basis of the completed theoretical analysis and empirical research.

Aspects of ageing factors

The World Health Organization defines elderly persons as the persons aged from 60 to 74 years, oldest-old persons – from 75 to 90 years, while people aged 90 and over are considered as centenarian persons. (<http://www.who.int/healthinfo/survey/ageingdefnolder/en>). On 16th of December, 1991, the General Assembly of the United Nations adopted resolution No. 46/91, laying down its attitude towards old age, and stating that each year of an old person should be full-fledged. This can be achieved only by allowing elderly persons to stay independent, participate in public life, have access to social, legal and medical protection, express themselves, be respected in

social policy and security system (Kanopienė, Mikulionienė, 2006). The United Nations have identified the main life principles of old and older persons, which are directly associated with human rights and their implementation, and guarantee the opportunities of elderly persons to get services and use the rights to live in safety and dignity (Table 1.1) (Fredvang, Biggs, 2012; Hopf, Previtali, Georgantzi, 2021; Mitchell, 2021).

Table 1.1

Proper life principles of old and older persons

Principles	Rights
Independence	<p>Older persons should have access to adequate food, water, shelter, clothing and health care through the provision of income, family and community support and self-help.</p> <p>Older persons should have the opportunity to work or to have access to other income-generating opportunities.</p> <p>Older persons should be able to participate in determining when and at what pace withdrawal from the labour force takes place.</p> <p>Older persons should have access to appropriate educational and training programmes.</p> <p>Older persons should be able to live in environments that are safe and adaptable to personal preferences and changing capacities.</p> <p>Older persons should be able to reside at home for as long as possible.</p>
Participation	<p>Older persons should remain integrated in society, participate actively in the formulation and implementation of policies that directly affect their well-being and share their knowledge and skills with younger generations.</p> <p>Older persons should have the opportunities to form movements or associations of older persons.</p>
Care	<p>Older persons should benefit from family and community care and protection in accordance with each society's system of cultural values.</p> <p>Older persons should have access to health care to help them to maintain or regain the optimum level of physical, mental and emotional well-being and to prevent or delay the onset of illness.</p> <p>Older persons should have access to social and legal services to enhance their autonomy, protection and care.</p> <p>Older persons should be able to utilize appropriate levels</p>

	<p>of institutional care providing protection, rehabilitation and social and mental stimulation in a humane and secure environment.</p> <p>Older persons should be able to enjoy human rights and fundamental freedoms when residing in any shelter, care or treatment facility, including full respect for their dignity, beliefs, needs and privacy and for the right to make decisions about their care and the quality of their lives.</p>
Self-fulfilment	<p>Older persons should have the opportunities for the full development of their potential.</p> <p>Older persons should have access to the educational, cultural, spiritual and recreational resources.</p>
Dignity	<p>Older persons should be able to live in dignity and security, free of exploitation and physical or mental abuse.</p> <p>Older persons should be treated fairly irrespective of their age, gender, racial or ethnic background, disability or other status, and be valued independently of their economic contribution.</p>

Source: created according to Fredvang, Biggs, 2012; Hopf, Previtali, Georgantzi, 2021; Mitchell, 2021

Taking into account the proper life principles for old and older persons, it is necessary to understand the challenges of ageing, seeking that elderly persons would have access to social services, thus, improving their autonomy, security and care. While analysing the changes caused by ageing in person's life, Garlauskaitė, Zabarauskaitė (2015); Saxon, et al., (2021) identifies the ageing factors, which give both positive and negative aspects to ageing. These factors also reveal social changes, evidencing as social roles, social relationships in society and family, as well as attitude towards yourself change in the course of psychosocial changes (Table 1.2).

According to Garlauskaitė, Zabarauskaitė (2015), Carmel, 2019; Moody, Sasser, 2020; Saxon, et al., 2021, ageing can be described in several ways, while the factors, influencing ageing, cover various areas of personal life, giving both positive and negative aspects. Thus, in order to understand this process comprehensively, it is necessary to identify as many ageing factors as possible (Nyberg, Pudas 2019, Belo et al., 2020). It is well known that old age is not only an indicator of age that describes a position of a human being in

Table 1.2

Ageing factors

Factor	Positive aspect	Negative aspect
Age	Movement from one social status to another.	Increasing number of elderly persons causes additional troubles.
Spirituality	Religion, inner peace, faith, self-esteem and unselfish (altruistic) behavior.	-
Financial security	It is important to keep earned capital in order to help family members and secure a calm old age.	The size of pensions does not allow you to live a full life.
Physical activity	Health, diet, exercise, activity, physical appearance.	Injuries.
Declining birth rate	-	Difficult to find a job, expensive housing. Lack of incentives.
Cognitive aspect	Acquisition of new knowledge, high cognitive activity - creativity, learning.	Isolation, alcohol abuse, suicide.
Leisure activities	Physical education, holidays.	Lack of leisure due to the stereotype of hurrying society.
Migration	Positive net migration is perceived as an increase of the total population.	Unemployment, low salary, need of immigrant labor.
Mortality	Decreasing mortality is understood as a positive aspect.	Changes in mortality are differentiated according to socioeconomic and sociodemographic groups.
Pathological factor	-	Mental and nervous diseases, dysfunctional mental and behavioral moments.
Psychological factor	Emotional functioning, subjective experience. Independence. Emotions, body. Satisfaction with life.	Alcohol abuse, suicide rate, recorded crime rate. Fear of losing work.

Social factor	Relaxation, entertainment, social roles, socially acceptable behavior. Social activity in the public.	Loss of roles.
Increase of average life expectancy	Consequence of the effect of positive factors.	Increasing life expectancy results in longer working hours for the population, increasing the state's commitment to ensure social guarantees.

Source: Garlauskaitė, Zabarauskaitė, 2015, Saxon, et al., 2021e

his life – it is the result of human life that depends on his way of life, health, external conditions, understanding about ongoing changes in social life, since all the main values and way of life, typical for a young person, are radically changing and are fundamentally redefined. As it has been mentioned, ageing includes various areas of life, i.e., psychological, social, etc., therefore, the fact how a person and a surrounding environment accepts the changes is of essential importance (Carmel, 2019; Belo at al., 2020; Saxon, et al., 2021). A positive approach leads to successful ageing and is closely related with the objective attitude of elderly persons towards adaptation to life changes (Nyberg, Pudas, 2019). . While analysing this, Mockus and Žukaitė (2012) present the following models of successful ageing:

1. Two-factor successful ageing model combines both objective and subjective aspects of ageing: objective aspects include of low probability of illness, active physical and emotional functioning, active involvement in life; subjective aspects include assessment of personal experience in the present time and positive attitude towards ageing, how a person feels, how a person understands his ageing, experience.
2. Four-factor successful ageing model identifies four groups of factors: physical factor – health, injuries; psychological factor – body, emotions; social factor – maintaining relationships with close people; leisure time factor – physical education, holidays.
3. Multidimensional successful ageing model identifies physical (e.g., physical activity), psychological, social, cognitive, spiritual factors and the factor of financial security.

While examining ageing processes, negative attitude is also observed. Referring to the position of elderly person, it includes his loneliness both in a family and outside, constraints, imposed by strangers and family members, relatives, low level of financial resources, “exclusion” from social life, alcoholism, etc.; referring to the position of social groups, it includes recognition that elderly persons are “unnecessary” because of decrease of their functional-working potential, consideration that elderly persons are an increasing share of population, maintained by younger generation (Rantakokko et al., 2016). According to D. Jankūnaitė and R. Naujanienė (2015); Mikulionienė et al. (2018) this interaction of different generations and dynamic social changes lead to, one the one hand, respectful attitude towards elderly persons, who have provided the conditions for other generations to live and work, and on the other hand, reluctance to accept the values, which were typical to the previous generations. Looking from the position of elderly persons, it can be observed that the values of new generations may also be unacceptable for them. This situation accelerates the conflict of generations, causes social tension in the society, and changes the attitude towards elderly persons, their role and position in the public Mikulionienė et al. (2018). In summary, it can be argued that it is necessary to consider both positive and negative factors of ageing, while planning social support for elderly persons and creating environment that is safe and adaptable to personal needs and changing abilities.

Development of infrastructure of social services for elderly persons

As economic conditions change, people are faced with unemployment, poverty, housing problems, discrimination. Therefore, the states are looking for effective ways and measures to reduce social exclusion and provide more efficient assistance to the person, who has lost his ability to function undependably and effectively in the public life. One of the most widely used measures for provision of assistance and reduction of social exclusion is proper organization and accessibility of social services (Čižikienė & Urmanavičienė, 2018; Čižikienė, 2020). It should be noted that the state must ensure suitable conditions and resources for elderly

persons as for all other public groups, thus, helping them to improve their abilities, to become more active in public life and to meet their expectations in a more successful way (Čepėnaitė, 2008; Nyberg & Pudas 2019, Belo et al., 2020). This process includes development of organizations, providing social services, and organization of activities is based on the modern management methods. National legislation, legal acts and other papers of the EU Member States, regulating the organization and provision of social services, define values and provisions that should be followed by social services organizations. In Lithuania, the main principles for management, allocation and provision of social services are laid down in the Law of Social Services of the Republic of Lithuania (Law of Social Services of the Republic of Lithuania (2006)). Following the principle of efficiency, “social services shall be managed, granted and provided with a view to achieving good results and rationally utilising available resources” (Law of Social Services of the Republic of Lithuania (2006)). Thus, while providing social services for elderly persons, it is essential to find the most rational solutions and ways to ensure the quality of life and proper conditions to have a valuable, functionally independent and productive life (Toliušienė & Virbalis, 2021). Social services can be provided in social service facilities and at person’s home.

Looking at the statistical data, it can be seen that the number of care institutions (especially small ones, 15-40 places) for the elderly has increased in recent years. In 2021 at the end of the year, 37 care institutions for adults with disabilities and 143 for the elderly were operating in the country, with 5.8 and 6.8 thousand inhabitants (6 and 6.3 thousand people at the end of 2020) , respectively. 428 adults with disabilities, or 14.7 percent, lived in 34 institutions of a new type – group living homes, more than in 2020. 608 residents lived in independent living homes for the elderly and adults with disabilities (at the end of 2021, there were 34 such institutions in the country), almost the same as at the end of 2020. (<https://socmin.lrv.lt>)

As the demand of services grow, one of the most relevant tasks of social policy for elderly persons is development and improvement of infrastructure of social services. While solving the issues of social exclusion and social care, the society develops the network of assistance to vulnerable persons, which promotes the highest

possible independence of a person and support. It should be emphasized that the increase of number of places, available for elderly persons in social facilities, including care facilities and independent living homes (Table 1.3), and optimization of proper infrastructure can be employed as the measure to reduce social tension among the elderly. During this stage of life, it is essential to find social support, human resources, required to meet the human needs. It is important to realize that satisfaction of social and basic needs plays a significant role in the process of adaptation of old persons, in order the elderly could be involved in their personal life, maintain relationships with relatives, communicate and be engaged in activity to the largest possible extent (Toliušienė & Virbalis, 2021).

Table 1.3

Number of places in care facilities (subdivisions) and independent living homes for elderly persons and disabled adults during the period of 2020–2021

Services	2020	2021	2020, in comparison with 2021, increase, decrease (-), %
Care facilities for elderly persons	6287	6767	7,6
state care facilities	333	182	-45,3
municipality care facilities	2921	3221	10,3
public organizations, parishes, and private care facilities	3033	3364	10,9
Care facilities for disabled adults	6008	5824	-3,1
Group living homes for disabled adults	373	428	14,7
Independent living homes	601	608	1,2

Source: according to data from the Official Statistics Portal <https://osp.stat.gov.lt>

Table 1.3 shows that the number of places in care facilities grows. As a consequence, more older people are accommodated in these facilities – inpatient care services, making an integral part of the sector of social security of elderly persons, are provided to them. Therefore, quality provision of inpatient social services in the

welfare policy is closely related with economic and social development of the country, its political priorities, cultural traditions. Moving to a care facility is a change in a person's life as his social status, usual environment changes, physical and emotional changes are experienced.

As organization of social services develops, it is also important to properly manage the human resources in the service organizations, since a continuous increase of the number of employees is noticed (Table 1.4). According to Gudžinskienė (2010) Žalimienė at al. (2019); Čižikienė, 2020, seeking for quality provision of social services in care facilities, qualified, creative and hard-working staff should be employed there. Importantly, staff is one of the main elements of provision of social services, which determines satisfaction of personal needs, solution of problems and quality of services (Čižikienė, 2020; Toliušienė & Virbalis, 2021). Seeking to meet the current and future care needs of elderly persons, it should be focused on attracting and retaining employees. Here, it might be observed that attraction of qualified employees is aggravated by high physical workload, emotional tension, unsafe environment, and low salaries in care facilities.

Table 1.4

Employees in care facilities during the period of 2020–2022

Organization providing the services		Employees (social workers and assistants of social workers)		
		2020	2021	2022
Full-time employees	In state social service institutions	4307	4015	4238
	Municipal social service institutions	11842	11984	12290
	In public organizations, parishes and private social service institutions	5185	5896	6883

Source: according to data from the Official Statistics Portal <https://osp.stat.gov.lt>

Another important issue is the question whether and to what extent the qualification of social workers has been improved that they would be able to properly provide social services to elderly

persons. The main priorities of social work are practical work with elderly persons at their place of living. It is especially related with nursing and care facilities. It is essential to realize that the place of an old person in public changes over time – each of us will face this fact. Therefore, proper attention on elderly persons today equals to provision of appropriate assistance and positive approach towards those, who will acquire the status of an elderly person a few or several years later.

Methodology of research

The research sought to find out the attitude of social workers and persons, whose relatives are currently residing in the social care facilities, towards the provided services and possibilities of development of these care facilities.

Problem of research – while providing social services, it is important to identify the exact problems, related with organization of services, and to offer appropriate complex assistance to elderly persons.

Objectives of empirical research: 1) to conduct the survey of opinion of employees and family members, which would help to identify the problems of provision of services in care facilities; 2) to propose methods on how to improve the provision of social services in care facilities.

Qualitative research method – survey of respondent opinion in the form of a structured interview – was selected for empirical research (Bitinas et al., 2008). Two groups of respondents were selected on the basis of selection criteria: 5 social workers (applied criteria: works in care facilities, working experience at least 3 years) and 4 persons, whose relatives reside in care facilities and receive social services. The survey was conducted during the period of August – September 2023, through formal interview, i.e., interview with pre-arranged questions that all respondents were asked in the same order. This form of interview was selected, seeking to find out the opinion of informants about the current situation and, by comparing answers, to reveal the problems and attitude towards provision and receipt of social services. The prepared questionnaire consists of a group of interrelated questions to be answered by surveyed persons. The problem-related questions: *In your opinion, what are the factors that*

determine the successful accommodation of an elderly person in care facility? How do you assess the social services provided in care facilities? How do you assess the quality and effectiveness of social services provided in care facilities? How would you describe the perspectives of care facilities for elderly persons in your country?

The respondents agreed to take part in the survey as they were informed about the ethics of research: the course of research; discretion and confidentiality of the data submission, and the fact that the data received will be presented in the way as not to identify any of the informants.

Analysis of research data

Qualitative research sought to find out the opinion of respondents about the factors that determine the successful accommodation of elderly persons in care facilities. The informants, working in care facilities, state: “when an elderly person has already decided to change his life, we can work with him, he is interested in new procedure”, “the way a person lives here depends on a person himself”, “if a person is not severely ill, he communicates more, is willing to be involved in activities”, “it is noticed that a person has his own activities, adapts to a new environment easier”, “there are some people, who see everything bad despite of all help”, “I think that the human values, ability to sympathize, to love ... help to adapt and live better”. Meanwhile, the respondents, whose relatives reside in care facilities, think: “I needed to convince him to change his environment, it is good that he accepted”, “grandfather decided by himself and looks quite happy now”, “of course, until he was able to take care of himself, he did not want even to speak about living in another place”, “any place is good for him, since he knows how to communicate and find advantages”. The results of this survey revealed that attitude towards ageing and successful adaptation in care facility depends on personal understanding, positiveness, positive approach towards changes both at objective and subjective level. According to Orlova and Gruževskis (2014), if a person is recognized as unique, able and having the capability to surpass himself by love and care about other, the significance can be found even in most chaotic, absurd and tragedy-like situations, which are very common in life of those, residing in care facilities.

During the interview, the respondents were asked to share their opinion about social services, provided to elderly persons in care facilities. The informants emphasized the following: “social services are required, since old or disabled persons are involved in community”; “elderly people need these services, especially, if relatives are far away”, “the provided social services are necessary for old persons, it would be impossible without them”. While analysing the answers, it might be noted that the respondents highlight a positive attitude of society and point out the necessity of these facilities for provision of services to elderly persons. According to the respondents, “social services, provided in care facilities, are necessary”, “Based on personal experience, my aunt asked to let her live in care facility as she does not want to be alone, if something happens”, “These social services are necessary because we cannot take care of them”, “complete care services are provided there, there are attending employees, and timely assistance is given”, “Grandfather felt safer in place, where he had help with eating, standing up, because he used to be alone at home during working hours – our family used to come back only in evening”, “We are calm because he is constantly cared for and gets immediate attention in case of disease.” In summary, it can be argued that the care facilities are necessary, the services are provided in an adequate manner there, therefore, elderly persons can feel safe and their family members can work and not worry about their care. The persons, residing in care facilities, feel like having a complete, safe life, since their health is taken care of, they are involved in various activities that stimulate self-fulfilment: “Old people, residing in the care facility I work in, can engage in any activity they like”, “Celebrations are organized, for example, summer opening/closing, all religious celebrations”. The respondents also note that population ageing takes place and emphasize that it is one of the reasons why the number of organizations, providing social services, should increase: “The number of lonely old persons increase”, “Considering the fact that the number of old persons increases, the demand for these services grows accordingly”.

The issues, related with quality and effectiveness of social services, are very important in provision of social services: “Not every care facility provides wide profile social services”, “there is a

lack of professionals, sometimes I need to work". The respondents, working in care facilities, state: "sometimes there is a high workload", "of course, services would be more quality, if financing was higher", "salaries are low and employees lack motivation to provide services". The following opinion of the informants, whose relatives are currently residing in care facilities, is observed: "Some care facilities lack medical care", "I think that many problems would be avoided, if it was possible to provide all the required assistance for the sick grandfather without moving him to hospital", "there is a lack of attending staff (too many old persons for one employee, and it is physically hardly possible)", "there is a lack of qualified medical staff", "there is a lack of attending staff, therefore, high quality of services could not be expected." In summary, it should be observed that the respondents are not satisfied with the quality and effectiveness of the provided social services. Each organization, providing services for elderly persons, must pay attention on improvement of quality by involving and cooperating with other stakeholders, especially with healthcare organizations and professionals. The respondents noted the lack of social workers. Thus, it might be assumed that along with increasing number of elderly persons, the number of organizations, providing social services, and the number of qualified employees, who would be able to provide these services, should also increase, since the quality of services depends on both material and human resources.

Qualitative research sought to identify the perspectives of development of care facilities in Lithuania. Following the answers of the respondents, two subcategories were distinguished: new technology and activity development. The informants, whose relatives reside in care facilities, state: "I expect that care facilities will become more modern", "as far as I known, there is a very good structure of care facilities in Scandinavian countries", "it is necessary to think about the possibilities for elderly persons to be informed and be able to select the care facilities by themselves, when they still can take care of themselves", "maybe some day a care facility will be the place where old persons want to spend their days, do not feel lonely, humiliated", "will live in cozy, spacious rooms, their safety, health care and activity will be ensured, they will get various services", "It would be appropriate to expand the network of these facilities and

further improve the completeness and quality of provided services”. The respondents, working in care facilities, think: “In my opinion, the demand for care facilities will increase, and they will be forced to expand”, “an ageing society is already a challenge to the country, therefore, new institutions for elderly persons should be thought about”, “while providing social services, the need of elderly persons to live in a home environment should be considered”, “a future facility should improve to the level that old persons could bring their own items from home to feel like home.” In summary, it can be stated that all the surveyed respondents emphasize the necessity to develop the care facilities. Their answers reflect the need to change the care facilities in the way as to ensure dignified old age for Lithuanian people. It is expected that a safe environment, resembling their own home, could be created by allowing the elderly persons to bring their own furniture and household items. The respondents think that the number of these facilities should be increased in order to meet the need of the most elderly persons to receive proper social services. In addition, it is argued that the state should take care of quality of social services and dignified and safe environment for elderly persons in care facilities.

Conclusions

The trend of rapid population ageing in Lithuania has emerged due to relatively low birth rate, high emigration, and increase of average life expectancy. It resulted in changes in age structure of the population with a significant growth of number of elderly persons and, consequently, the increase of issues, related with their health, socialization and quality of life.

The changes, experienced during ageing, predetermine the lives of people. Furthermore, age is related with movement from one social status to another or from one social group to another. Moving to a care facility causes changes in a person’s life, a person often experiences negative feelings because he falls into an unknown situation, a new living environment; therefore, it is a person’s positive attitude that ensures a successful ageing and is closely related to the objective approach of the elderly towards the life changes, the current life. It has been determined that people, who are able to assess and positively accept the ageing factors, feel better

and accept the social services provided in care facilities.

The efficiency of the provision of social services requires professional, creative staff, able to understand the ageing factors and create conditions for a safe and dignified living. Organizations providing social services for the elderly must pay attention on improving quality by involving and cooperating with other stakeholders, especially healthcare organizations and professionals.

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**DETERMINANTS
THE USE OF TRADE
SECRETS:
STRATEGIC
ASPECTS**

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Abstract

The research is devoted to studying the theoretical aspects of the problem of substantiation of the trade secret strategy. The article proves the importance of trade secrets in the context of formation of the knowledge economy, intensification of innovative development as a tool for ensuring competitive advantages of innovative organizations. The determinants of the choice of trade secrets as a form of protection and commercialization of intellectual property results are highlighted, including through the prism of comparison with patenting. Attention is focused on the organic combination and complementarity of various protection strategies depending on a specific combination of factors of influence.

Keywords: *intellectual property, trade secrets, patenting, trade secret protection, determinants the use of trade secrets.*

Introduction

The transformation of innovations into a key factor of ensuring the competitive advantage on dominant resource for achieving goals of the organizations in terms of the emerging knowledge economy, it increases attention to issues the effective management of the intellectual property portfolio as an important motivational platform for enhancing innovation activities. Trade secrets are becoming an integral part of the intellectual property portfolio of modern innovative organizations focused on ensuring, maintaining and improving their competitive positions in the markets of knowledge-intensive products.

Companies are increasingly choosing trade secrets as the object of intellectual property, as a leading tool for achieving their goals in the commercial the use of intellectual property. It takes over some of the functions of intellectual property management, which previously mainly performed through patenting and obtaining other protection documents. For example, according to the results of the Business Research & Development and Innovation Survey (BRDIS) study conducted by the National Science Foundation (NSF) and the United States Census Bureau, in 2012, 58.3% of American companies considered trade secrets to be “very important” compared to smaller shares of patents, trademarks, and copyright. A 2014 survey of 7,000 American firms by the United States International Trade Commission (USITC) found that 56% of companies with international operations consider trade secrets to be “very important”, compared to 48% for trademarks, 37% for patents and 31% for copyrights. Moreover, even in sectors that are typically considered patent-intensive, such as chemicals and information-communications technologies, firms are more likely to consider trade secrets “very important” than patents (Linton, 2016),

The growing importance of trade secrets, their impact on the effectiveness of commercialization intellectual activities of innovative companies in terms of intensification of innovation activities, and increased turbulence of the innovation environment, raise the issues of balanced decision-making on the choice of

strategic alternatives to the use of the format of protection and commercialization the objects of intellectual property.

Materials and Methods

The study of trade secrets is widely represented in the professional literature. Given the interdisciplinary nature of this issue, scholars study the economic and legal aspects of the use of trade secrets in the practice of intellectual property management of innovative companies. Ukrainian researchers, including: Ya. Vergun, D. Gulevska, G. Grabovska, Yu. Beluga, V. Dmytrenko, I. Kolesnikova, L. Kolobov, D. Kotlyar, A. Mytnyk, K. Redko, O. Sitarchuk, study the legal aspects issues of trade secrets, including through the prism of Ukrainian legislation. In the literature (Simpson, 2005; Lippoldt, Schultz, 2014; Passman, Subramanian, Prokop, 2014; Thomas, 2014; Chagoya, 2015; Linton, 2016; Wajzman, García-Valero, 2017; Contigiani, Hsu, 2019; Crass et al., 2019; E. Klein, 2020; Searle, 2021; Ciuriak, Ptashkina, 2021; Cox, R. 2022; Rapacke, 2022; Gagen, Ridgway, Ge, 2023, et al.), provide different interpretations of trade secrets; consider its place in the intellectual property system; its importance in ensuring innovation, economic development and increasing competitiveness in the market; analyze the contradictions between private and public interests when restricting access to economically useful knowledge in the trade secret regime. Scholars (Kotliar, 2004; Sytnytskyi, 2013; Lippoldt, Schultz, 2014; Hrabovska, Beluha, 201; Linton, 2016; Searle, 2021) define the features and characteristics of trade secrets; distinguish its types; and identify its essential characteristics, including in comparison with other categories, in particular, confidential information and know-how, and in comparison with other formats of protection of intellectual property. Also in the literature (Linton, 2016; Lippoldt, Schultz, 2014) pays attention to consideration the international context of management decision-making in the field of trade secrets, in particular, in terms of developing the legal basis for its the use as a powerful tool for competition in the global market; assessing the level of trade secret protection by calculating the relevant index. At the same time, increased competition in the markets of knowledge-intensive products necessitates an in-depth study of the issues of substantiation

of the trade secret strategy of modern innovative organizations.

The methodological basis of the study in the article is a comprehensive approach to obtain a holistic view of the determinants of the use of trade secrets in the practice of intellectual property management of innovative organizations. Achieving the goal of scientific research based on the use of the following methods: abstraction, scientific description, theoretical generalization, induction and deduction, hypothetical and logical, dialectical combination of the general and the particular; decomposition and structuring. The use of these methods will contribute to the development of the concept of trade secret management, and will deepen the holistic understanding of the factors influencing managerial decision-making on the choice of a trade secret strategy as an effective tool for using intellectual property in practice.

The purpose of the study is to promote a comprehensive understanding of the determinants of choosing trade secrets as a priority strategic alternative to commercialization and protection of intellectual property results to achieve the goals of innovation-oriented organizations.

Results and Discussions

The growing importance of trade secrets in achieving organizations' goals and the increase in their share in the intellectual property portfolio make it more important to make appropriate management decisions. World practice shows that there are various determinants the use of trade secret that should be taken into account when developing an intellectual property strategy. Of course, their consideration should be carried out through the prism of relevance, variability of formats for the use of trade secrets and interaction with other instruments of protection in the field of intellectual property of the organization (in particular, with patenting the results of intellectual activity).

Among the most common arguments in favour of trade secrets are terms of validity (Linton, 2016; Chiu, Jia Sheng, 2021; Searle, N., 2021 et al.). In contrast to patenting, which establishes clearly defined terms of validity of the protection document and the monopoly on the use of the intellectual property object (associated with exclusive rights) and the resulting monopoly in a particular

market, the storage of information about the relevant object as a trade secret expands the possibilities of its commercial use for the term of relevance of the relevant information, the validity of its commercial value and the formation of competitive advantages, which may significantly exceed the term of patent protection.

Another well-known determinant of the use of trade secret strategy is the failure to meet patentability requirements. In particular, this applies to various types of business information that has commercial value and is a source of enhancing the competitiveness of an organization, but does not fall under the statutory requirements for obtaining a security document. This category also includes the results of R&D in the early stages of their conduct with potential commercial value and a certain level of uncertainty about patentability.

When deciding whether to keep information as a trade secret, the issue of state registration of intellectual property rights is taken into account. Choosing the format of a trade secret, launching the procedure for creating an internal protection system (on the principle of “do-it-yourself” (Linton, 2016), eliminates the need to organize the passage of time-consuming, complex stages of formal registration of intellectual property rights. This may be of particular importance in cases of high intensity of innovation activity and, accordingly, rapid obsolescence of relevant scientific-technological developments. According to research (Thomas, 2014), the process of obtaining a patent can take more than one year. In particular, the situation when in 2009 the USPTO experts did not examine a patent application until an average of 25.8 months after it was filed is illustrative.

In addition, the arguments for determining the form of protection include the degree of importance for future investors, consumers, partners, and potential licensees of the very fact of state registration of intellectual property rights as a kind of confirmation by the state of the scientific-technological novelty of the relevant products, as well as a symbol of trust in the company and its reputation. In case of choosing the trade secret regime, the task of finding mechanisms to communicate to stakeholders of information on the benefits of the results company’s intellectual property, which kept as a trade secret, is relevant.

The attractiveness of trade secrets as a protection tool is related to its greater flexibility in relation to intellectual products with significant prospects for further improvement, emergence of related innovations, as it does not require additional procedures for official registration of intellectual property rights or a complex process of ensuring the strategy of “umbrella patents”, in particular, the reflection in the formula of the maximum number of essential features of the object in the most generalized form to cover of patent all possible variations and modifications. This aspect requires increased attention to be studied by innovative organizations with limited opportunities to withstand competition from powerful market players who actively use the strategy of creative imitation.

An important determinant of the use of trade secrets is the possibility of obtaining a commercial effect from the wide diffusion of the relevant intellectual product in the geographical context. This is due to the absence of statutory restrictions on the use of exclusive intellectual property rights within a particular country, unlike a patent. For innovations that have a wide potential for commercial use, this factor is of particular importance, especially in the context of rapid obsolescence, additionally freeing up time and money for obtaining protection documents in countries of possible commercialization.

The increasing complexity of knowledge-intensive products/technologies in terms of growing competition in the market leaves its mark on the decision-making process for choosing a trade secret strategy. In particular, we are talking about the level of obviousness of intellectual property objects embodied in knowledge-intensive products, and the possibility of competitors using reverse designing strategies (engineering). If the essence of an intellectual product is not obvious, difficult to disclose, and, accordingly, significantly complicates its reproduction by other market players, it may be appropriate to use the trade secret format. In the case of a high level of technology complexity, as the quintessence of various intellectual property objects, it is logical to combine patenting and trade secret strategies for codified and uncodified information, respectively.

In addition to the threats of reverse designing, when choosing a trade secret regime to protect scientific-technological developments,

an organization must take into account other risks associated with the intensification of innovation activities and strong innovation competition (especially price). First of all, these are the risks of parallel, independent development. If there is a high probability of their implementation and, as a result, disclosure of the essence of information kept as a trade secret (as a result of another developer filing a patent application), the status of a trade secret is destroyed, and thus the platform for generating income and competitive advantages is also destroyed. The argument for reducing this probability is significantly ahead of its competitors in the relevant area of scientific-technological research. At the same time, it should be borne in mind that if there are advantages in scientific-technological development over competitors, an alternative to trade secrets may be the use of a voluntary disclosure strategy (Crass et al., 2019) as a powerful argument to persuade a competitor to withdraw from the patent race. This strategy can be used in combination with the trade secret strategy, when partial disclosure of certain knowledge is intended to prevent potential innovators from developing the same innovation and patenting it.

Among other risks, the most significant remains industrial espionage. According to experts (Ciuriak, Ptashkina, 2021), losses from trade secret theft are estimated at 1-3% of GDP in developed countries (which is between 180 and 540 billion dollars USA for the United States alone). With the development of the digital economy and the widespread use of information-communication technologies are of particular concern the risks of cyber theft of trade secrets. The latter is considered by experts (European Commission) as the theft or copying of a physical document or object with digitized information (kept as a trade secret) through illegal access to computer networks. Cyber theft of trade secrets, referred to by experts as “silent crime”, is considered the preferred method for many industrial espionage practitioners. According to the study of 200 cases of trade secret theft in the United States, almost all cases had a cyber-aspect (Searle, 2021). In the EU, cyber theft of trade secrets has caused losses of approximately 60 billion euro (European Commission).

Losses from trade secret theft can be both strategic and operational. For example, in the case of cyber theft of trade secrets, only 10% of the costs are immediate and direct consequences, with

the remaining 90% being the long-term loss of know-how, competitive advantage and jobs (PWC, 2018). The announcement of trade secret theft negatively affects the stock price of the trade secret owner (Searle, 2021). The EC report (Martinis et al., 2013) through a survey identified the following costs to businesses of trade secret theft: loss of sales; internal investigation costs; increased defence costs; negotiation costs; prosecution and litigation costs.

Thus, risk management of industrial espionage when choosing the format of a trade secret requires increased attention to the creation of effective mechanisms the regime of its protection, especially against cyber-industrial espionage. Becoming increasingly important to additional efforts to control access to information, its processing, forming proper technological support, structuring, systematizing contractual support, etc. It is also necessary to consider the additional effects of the development of the trade secret protection system. For example, there is a view (Searle, 2021) that policies to encourage investment in cybersecurity can reduce the impact of industrial and economic espionage: directing investments to R&D into the cybersecurity sector increases the amount investment of R&D and reduces the loss of investment in innovation activities.

The results of analytical studies show that positive impact on the expansion of the practice of using trade secrets has the development of legislation in terms of strengthening its protection. In particular, it has been empirically established that the strengthening of trade secret legislation in the United States has led to a decrease in the number of patent applications (Crass et al., 2019). Scholars (Lippoldt, Schultz, 2014; Ciuriak, Ptashkina, 2021) believe that strong trade secret legislation reduces the need for the owner to apply more extreme, ineffective and expensive protection measures where more moderate measures may be sufficient on the principle of optimizing rather than maximizing security. In addition, effective legislation serves as an additional warning to competitors against unlawful industrial espionage as a means of obtaining commercially valuable information. Also, researchers (Thomas, 2014; Lippoldt, Schultz, 2014; Linton, 2016; Lemley, 2011) note the accompanying positive effects of legislative ensure for the protection of trade secrets: facilitating the exchange of trade secrets with a wider range of contacts, which can lead to further innovation and human potential

development; reducing the need to hire only family members or pay salary supplements to prevent the displacement of employees; increasing the motivation to increase investment in innovation; expanding domestic and international innovation activities, etc.

In addition to the above-mentioned determinants the use of trade secret strategy, the scientific literature considers a number of other factors, the importance of which in managerial decision-making is often controversial. To a certain extent, this is explained by the existing variety of possible practical situations regarding the use of trade secrets and the need to take into account specific combinations of existing factors of influence.

Among the factors that have been ambiguously assessed by researchers regarding the use of trade secrets or patents, participation in external knowledge exchange in the context of open innovation practices attracts attention. In particular, we are talking about various aspects of cooperation between participants in the innovation process. A certain manifestation of the dual nature of this factor is the “paradox of openness” (Laursen, Salter, 2014): while the creation of innovations often requires openness, their commercialization requires protection. The empirical analysis conducted by the researchers indicates a concave relationship between openness and commercial suitability. Openness initially increases with the strengthening of the suitability strategy, and then shows the opposite trend, with firms in the process of collaboration often refraining from patenting to encourage cooperation with external participants. It is also believed that companies that rely on customers and suppliers for their inventions are less likely to patent a key invention (Arora et al., 2016). Propensity to patent when establishing cooperation in the innovation sphere is explained by the desire to control the impact on external partners to “prevent side effects” (Cassiman, Veugelers, 2002); high risks of intellectual property rights infringement when outsourcing R&D (Buss, Peukert, 2015); greater difficulty in implementing a secrecy strategy in innovative cooperation (Giarratana, Mariani 2014); to demonstrate their innovative capabilities to potential cooperation partners (Hagedoorn, Ridder, 2012); to stimulate complementary innovations through “selective disclosure” – the intentional disclosure of certain knowledge to the general public (Alexy et al, 2013).

Also, in the context of open innovation, when choosing a trade secret strategy, complex issue is its impact on employee mobility. The professional literature (Searle, N., 2021) notes that strict trade secret laws limit employee mobility, and vice versa, weaker trade secret laws can facilitate mobility development. Restrictions on the employee mobility are detrimental to innovation, leading to reduced knowledge flows and thus reduced innovation. At the same time, mobility restrictions improve the accessibility of trade secrets, and firms generally benefit from reduced competitive threats associated with enhanced trade secret protection.

Thus, decision-making on the intellectual property protection strategy when establishing cooperation with other participants in the innovation process depends on many aspects, including motivation, acceptable risk levels, specific terms of cooperation, the level of development of the secrecy protection system in a particular innovation company, etc.

Different approaches to interpretation are noted in relation to the financial capabilities of companies when choosing tools for protecting intellectual property. According to the researchers (Hall et al., 2013, Crass et al., 2019), the companies that are more financially constrained are more likely to prefer the trade secret regime to patenting in managing innovation activity. It is believed that trade secrets are a relatively more cost-effective measure to protect intellectual property (Searle, 2021). At the same time, it should be borne in mind that in addition to the direct costs of ensuring proper protection of trade secrets associated with a combination of physical access security, cybersecurity, and information processing protection (Bos et al. 2015), there may be indirect costs, including monitoring to detect misappropriation and theft and subsequent legal costs (Searle, 2021).

The financial aspect of choosing a form of protection may correlate with the factor – size of the company, although the results of studies of its impact are rather controversial. For example, the scientific literature (Searle, N., 2021) has found that large firms use trade secrets more than smaller firms, giving it preference over other forms of intellectual property rights. In the United Kingdom, the firms that use trade secrets, 59% are large companies (Hall et al., 2014). In the current environment of increasing digitalization trends,

according to scientists (Martinis et al., 2013), small and medium-sized enterprises are more exposed to the threat of cyber theft of trade secrets than large companies due to a lack of knowledge about threats and cyber hacks, and insufficient funds for investment in cybersecurity. It is believed that small firms are less able to prosecute trade secret misappropriation because they have fewer resources and knowledge of intellectual property. At the same time, the loss of trade secrets can be devastating for a small firm that may have few other innovations (Searle, 2021). At the same time, the results of the study of practice using of trade secrets in different countries show different conclusions. For example, in Finland, smaller firms prefer trade secrets to patents (Leiponen, Byma, 2009); in Germany, small firms rate secrecy as more efficient than patenting (Crass et al., 2019); in the United States, the smaller the firm, the more intensive the use of trade secrets (Searle, 2021). Thus, taking into account the financial capabilities and size of companies when choosing an intellectual property strategy is based on an analysis of a set of clarifying aspects of a particular company. Their complex characteristics may have a different impact on the feasibility of using the trade secret or patent format.

When choosing a trade secret as a form of protection of result intellectual activity proposed taking into account the peculiarities determined by the type of innovation. For example, it is believed that major innovations it is better to keep secret to prevent imitation by competitors with less innovative capacity of innovation potential (Anton, Yao, 2004). In the case of the same innovative capacity of competitors, patenting should be considered (Mosel, 2011). For incremental innovations would be more appropriate a trade secret regime (Arora et al., 2016). For intellectual products that are innovations only for the company, trade secrets are preferred. In the case of product innovations, the most common practice is patenting. In contrast, according to surveys of innovative companies (Crass et al., 2019; Wajzman, García-Valero, 2017), technological and service innovations are more often protected through the trade secret regime. The choice of the trade secret format for technological innovations is primarily related to the low probability of access to and, accordingly, transfer of commercially valuable information on technological processes to competitors, including due to the fact that this

information is partly not codified (obvious) and logically kept confidential (know-how). This, in turn, significantly reduces the possibility of reverse designing (engineering). In addition, it should be borne in mind that a common way to introduce technological innovations is to purchase new equipment that cannot be protected by a patent for the buyer.

The professional literature (Crass et al., 2019, Wajzman, García-Valero, 2017) draws attention to the possibility of the influence of other factors, in particular, the age of the company, its inherent management practices; orientation towards sources of intellectual property objects (internal/external), respectively, the degree of use of the innovation outsourcing strategy; economic sector; market size, consumer preferences; the nature of technological changes, macroeconomic environment, etc.

Conclusions

The study shows that there are various determinants the use of trade secrets in the practice of strategic management of innovative organizations. Taking them into account when making decisions on the choice of trade secrets as a form of protection of intellectual property results will help to increase the efficiency of expanded reproduction and use of intellectual property. It should be noted that the diversity and complexity of current practice of innovation activity and intellectual property management, especially in a diversified portfolio, necessitates a balanced consideration of many (often in the opposite direction) factors of influence on the use of trade secrets, as well as a flexible, dialectical combination of different protection strategies. The latter means considering trade secrets and patenting not so much as alternatives, but as their organic combination, complementarity, and combined use (in particular, with respect to different innovations, different stages of the innovation process, different entities, different markets, etc.) depending on a specific combination of a certain set of factors in each particular case of managing the intellectual property portfolio of certain innovative organizations. This approach allows us to expand the possibilities using of trade secrets to increase the commercial return on intellectual property results and strengthen competitive position in the national and world markets.

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**REFLEXIVITY IN
UNDERSTANDING AND
MANAGING AS A NEED
FOR PRODUCTIVE
CYBERSOCIALIZATION
AND DEEP TECH IN A
NETWORK SOCIETY**

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Abstract

It is shown that the social environment, subjectivity and reflexivity in the deployment of historical processes of cybersocialization emphasize the potential of alienation or creativity as the dominant way of development and realization of essential forces. The network nature of the socio-cultural fabric increases the importance of different-quality horizontal contacts, feedbacks, and, in general, regularities. But a multi-tiered increase in information pressure can lead to both selectivity and obedient adherence to an imposed approach. Accordingly, developed reflection in the life of a person and society becomes not only the most important element of the entire immune system, but also an indicator of the state, the choice of the vector of dynamics. The growth of the spiritual (both moral and intellectual) dimensions of the life of each individual and the cultural-civilizational world is manifested, in particular, in the re-actualization of regional identity, and in the growth

of the role of chance in internal development and in external competition. On the contrary, the growth of scabs of social deformations (in particular, the influence of creatively barren layers) reduces the fruitfulness of using the possibilities of society, and often eliminates potentially attractive prospects for the development of mankind. Getting rid from the mechanisms of pathologization of society that are not immanent in the epoch is the need to return the organist and dynamics of development. Features of new media and social networks correlate with postmodern developmental pluralism. At the same time, the situation places an additional burden on the social responsibility of top managers and increases the impact on the quality of the socio-cultural fabric. Accordingly, it is necessary to create conditions for expanding participation in creativity (primarily in labour and management), as well as for the possibility of displaying a reasonable and moral initiative. Thus, on the one hand, access to critical information (provided by the network nature of social structuring) becomes extremely important for the moral health and organic development of society. On the other hand, it is the upbringing of critical thinking, reflexivity in the evaluation of information that carries a serious social burden in a society overloaded with conflicting information, providing both the quality of choice and barriers to mental attacks (including at the social level of information flows).

Keywords: *transformations, development, Deep Tech, cybersocialization, management.*

Introduction

The subject of the study is the dynamics of the social demand for reflection. To reveal the topic, research tasks are solved in the text: the reflection of cognition and activity (in particular, labour and management) is characterized, the place of reflection in social integrity is considered, the logic of social transformations of reflection is studied; special attention is paid to critical thinking in reducing the level of manipulation in society. At the same time, the reflexivity of understanding and management is analysed in the context of increasing the creative consequences and reducing significant risks from the processes of Precariat appearance, Deep Tech and cybersocialization in a network society.

Post-modern transformations of social culture as a manifestation of the signs of a sketch of the emerging new are radically different

from previous models of life order and development. This model of worldview, life structure and development is based on trust in a person and the development of his pro-social creativity. The transition to conditions of constant modernization requires setting up an intensive spiritual life, cultivating a culture of independent thinking, an environment and skills of co-creation in the unity of morality and intellectuality. In this situation, attempts to impose various canons and stereotypes are obviously doomed.

Thus, organizational-managerial support for expanding the range and diversity of creative searches is an urgent and urgent task for both individual legal entities (economic units and non-economic associations) and society as a whole. Understanding and carrying out this task brings the quality of reflexivity back into the realm of analysis. The successful use of the opportunities of the era and the avoidance of the most threatening risks are largely related to the quality of management, primarily its level and direction. Preparedness and orientation towards ensuring the fundamental interests of the people of the ruling elite is not only a prerequisite for success in the competition of cultural-civilizational worlds, but also a guarantee against the breakdown of postmodernity into counter-modernity with its potential for degradation and, in particular, a rollback in the social value of the life of each person and the provision of conditions for him socially useful creativity (primarily in labour and management). That participation in the forms of cybersocialization inherent in the network society should help ensure not only the effectiveness of the activity, but also its moral orientation. Meanwhile, the very understanding of efficiency is socio-historically variable. Consciousness, methodological security and expansion of the circle of involvement in the process of development of historical creativity (primarily in labour and management) are the need to both use the reflexivity potential given by the era and increase the social base of support for the reforms necessary for further development. Meanwhile, behavioural reflection reflects ideological reflection, value-sense complexes inherent in cultural-civilizational worlds, based on the characteristics of the collective unconscious and social consciousness, developed and confirmed by historical experience and enshrined in the institutional memory of the people.

Materials and Methods

To do this, from the standpoint of the ascent from the abstract to the concrete, a synthesis of continuous and discrete knowledge is carried out in the logic of research and the logic of the presentation of the material. The methodological basis of the study was the work that, firstly, characterizes the dynamics of development of management theory and practice; secondly, they analyse the role of reflexivity in improving management efficiency; thirdly, they demonstrate the possibilities of positive and negative feedback. The relationship between multi-speed and multi-level transformations is largely determined by the nature and dynamics of the social atmosphere. The more large-scale changes the ecumene faces, the higher the importance of the balance of environmental influence and conscious influence on the course of events. Thus, with changes in the paradigmatic level, the question of subjectivity and “beneficiaries” turns into a problem of the forms received by social processes.

The construction of management models was carried out from different angles: from the point of view of the labour process, automation and cybersocialization, bureaucracy, social contacts, interactionism, scientific organization of work, general organizational theory (“tektology”), “natural” organization, reflexive management qualities, features of the Precariat and conditions of Deep Tech. Developments and recommendations of practitioners and analysts in the field of IR-HR (industrial relations – human resources), which have united in the Industrial Relations Research Association (IRRA), are taken into account. Research by specialists conducted on this basis by the IIRA (International Industrial Relations Association) became widely known. Consideration of the issue of social integration and resources of national identity and self-identification, synergistic approaches to management compositions of informational influences are used.

Results and Discussion

The conditions of global change inevitably require further improvement of the mechanisms of social interaction and their regulation. The comprehensive implementation of organizational and managerial reinforcement of creativity involves, first of all, the development of the environment for creativity (in particular,

intellectual creativity), points of its concentration (for example, in the cluster form of scientific, educational and production associations), a picture of specialties, systems of continuous training (including retraining and self-education) creative activity. Objective conditions for reaching the level of a key factor in maximizing the social space of creative activity radically changes are the requirements for organizational-managerial relations. When faced with the “historical challenges of the era”, everyone either finds their own answer to them or tries to ignore the changes. At the same time, the possibility of carefully borrowing some of the transformation models that are being developed by other peoples is increasing. The poly-structure of world economic relations, based on mutually acceptable standards of relations, and not at all a block of identical atoms-elements, determines reality. Thus, from now on, organizational-managerial culture is based on the diversification and diversity of the culture of activity, non-repressiveness, tolerance, polylogism, overcoming imposed canons, rejection of attempts at cultural stewardship, and “celebration of resistance to the system”. As is known, the balance of socio-economic integrity is fluid, mobile, and dynamic. The presence of a complex of multi-level contradictions as a property of a living organism of sociocultural integrity is not only a factor in complicating organizational-managerial relations, but also a guarantee of development. And now humanity is faced not with temporary difficulties, but with visible signs of historical changes, with the forerunner of transformations of non-trivial depth and scale. The concentration of post-industrial, post-global, post-modern characteristics visibly takes society beyond the usual framework of previous practices. Meanwhile, the degree of readiness for environmental mobility varies, influencing the use of increasing trends. At the forefront of the processes are such interconnected phenomena of post-globalization as the precariat, Deep Tech and cybersocialization (Clemmitt, 2006; Rich & Janos, 1996; Shedyakov, 2022, 2023a; Sherman, 1985; Suler, 2016). In particular, the deepening of technologization is not limited to the production process, but radically affects the sacred and everyday characteristics of the relationship to the world and oneself, permeates socialization / acculturation, forming cybersocialization trends. Of course, weakening / localizing threats and using the opportunities /

advantages of the new era significantly depend on the state of organizational-managerial relations. Meanwhile, the network nature of connections often complicates and individualizes the realization of organizational-managerial tasks.

Chaos and crisis expand the corridor of opportunities, which narrows when a renewed order is developed. It is the conditions of forced transition that can bestow a “risk premium”. But the competent acquisition and use of perspectives increases attention in organization and management (in particular, in planning) to the quality of both the scientific, intellectual, cognitive side of organizational and managerial activity, and its moral aspect (Ackoff, 1969; Hussey, 1999; Shedyakov, 2023b; Sheldrake, 1996). The development of thinking as a universal human difference is an indispensable condition for reflexive modernization in the balance of tasks of strategy, tactics and operational transformations. A significant proportion of social diseases are generated by the stagnation of the creative energy of society, the ossification of its political and economic system. The effectiveness of the generated knowledge is tested by its application, up to the development of social structuring and organization. In particular, the quality of their use: both effectiveness and direction vector. With non-trivial changes in historical depth and scale, this circumstance turns out to be especially important (Srnicsek, 2016; Standing, 2016; Zuboff, 2019).

The emerging era places its demands on the reflexivity of labour and effective management – however, along with new prospects, positive and negative risks. As is known, scientific and technological resources are now an important factor in ensuring the country’s sovereignty, and engagement in the scientific and technological process is an integral element of meeting the strategic needs of society. Accordingly, scientific work is universal in nature, scientific communities are active participants in international dialogue, but their activity and effectiveness are critical not only for ensuring development, but also for real security. The essence of reflection is comprehension in the process of reflection and research of cognition and action. But the process of cognition itself, its interpretation and its results are carried out under the influence of value-sense complexes. The nature of social and individual perception, evaluation and interpretation turns out to be the most important

elements in the formation of the worldview and activity of members of society. And the deepening technologization of social life, new media and the network nature of society not only increase the impact of contacts “from person to person,” but require everyone to competently master reality in order to understand the essence of the issue (Boccio & Leal, 2023; Escario & Wilkinson, 2020; Shedyakov, 2019a, 2019b; Standing, 2014). Cybernetic resource-methodological bases of socialization and Deep Tech can be both spontaneously and intentionally directed towards predominantly constructive or destructive socialization. Meanwhile, the pathologically perverted nature of certain mechanisms and forms does not yet prevent humanity from their cultivation, imposition and mass distribution. In particular, manipulation is an effective direction for transferring cybersocialization from an organic to a defective, perversely pathologized state. Preservation of freedom of speech, the balance of mutual rights and obligations of the state and citizen, the relationship between state sovereignty and the rights of peoples to self-determination converge into one problematic knot. At the same time, the difference between the real state of affairs and its virtual image is growing. Information manipulation is becoming more and more total, including, first of all, global media channels, Internet resources and social networks. A significant role in it is played by the imposition of the “one-day butterfly style” on those under control: not knowing the past, not thinking about the future, not understanding the logic of changes, living by the simplest instincts, instantly forgetting about yesterday’s rules for the sake of those introduced today. Meanwhile, post-globality as a set of new conditions and post-globalism as its understanding and building strategies, tactics and operations adequate to it quite fully characterize the features of the new era of international relations, overturning attempts (in particular, on the part of totalitarian plutocracies) of hegemonic dictatorship and interference in the internal affairs of others countries. The building by global actors of strategies of action in the field of relations in accordance with the objective logic of events primarily concerns the more complete establishment of conditions for peaceful existence. And the problem is not so much in geostrategic engagement in itself, but in its false quality, open apologetics and ideological disorientation, leading to the betrayal of the fundamental interests of the people.

The information flood and Deep Tech are now, on average, reducing the value of individual facts and limited skills / abilities, strengthening the role of knowledge at the methodological level, which allows, among other things, to establish the place of each fact, and deduce trends and processes from them, to peel off the important from the secondary, the logical from random. On the contrary, the development of general methodological knowledge at a conceptual level, which requires an appropriate level of education (in fact, formation) of a person, becomes highly valuable, which puts on the agenda the issue of the need for state provision of the right of every person to universal higher education. As always, there is no problem of resources, there is an urgent question of the hierarchy of priorities and the readiness to provide it. Meanwhile, the spread of Deep Tech and the abundance of information in them do not necessarily lead to knowledge, and the latter to understanding; on the contrary, without developed reflection, the resource endowment of the situation can complicate the release of truths from under the cover of random facts. At one time, the separation of a layer of scientific and intellectual culture from the ideal-spiritual sphere became a powerful means of further development of humanity. But the exhaustion of the creative potential of differentiation and division of activities resonates with the weakening of the creative charge of narrow professionalism. The scientific not only subordinates the intellectual, it makes it possible to increase the fruitfulness of decisions and humanize living space. Naturally, one of the signs, the result and catalyst for further disruption in the development of civilization is the weakening of the social position of science, as well as the strengthening of pre-scientific and anti-scientific approaches in the perception of the world. And today, sometimes a person who considers himself fully educated and claims to be among the modern and advanced, returns to healer rituals in order to explain what he does not understand or change what he does not like.

The fulfilment of the tasks assigned to it by science significantly depends on knowledge, the use of the immanent resource base and methodology: as is known, the discoverer is the one who, knowing exactly what he expects, is able to distinguish that which deviates from the expected result. Of great importance for the quality of the result obtained is the organization of thinking at the levels of

operational, visual, and reflection itself – because the basis of scientific methodology in the development of humanitarian areas is reflection as the understanding by the subject of scientific research of his own search activity. It is the cardinal difference between scientific (reflexive) and pre-scientific (material) consciousness that allows a scientist to respond to the causes of phenomena and processes, and not their manifestations. Consequently, the goal of reflection is to fix one's new quality, comparing it with one's previous states and, in this regard, to realize one's own genesis, ultimately building models of one's future states. The main guidelines here are three poles of existence: the past (previous states), the future (directions of development) and the present time (functioning), which appears as a variable moment between the past and the future. At its core, the question is about the concept and acceptance of a methodology model, as well as assessing the range of its effectiveness. It is scientific methodology that emphasizes the counter-productiveness of obtaining knowledge about a subject by studying its different aspects in isolation from each other and creating a single version of the idea of an object (subject) based on knowledge obtained separately in the process of theoretical synthesis after systematization and comprehension by a scientist. Accordingly, the traditional approach to scientific research and the approach to processing and organizing the acquired knowledge should be changed. So, for example, in contrast to classical and non-classical science, which sharply separated in knowledge the mind and intuition, the narrowly rational and the irrational, the theoretical and the empirical, the pragmatic and "fruitless reasoning", the scientific and the everyday, science now integrates methods, acquiring a non-linear character, stochasticity, unpredictability, paradoxicality, holographic. This characteristic of the methodology of knowledge concerns not only the ontological and cognitive aspects of knowledge, but also the axiological, praxeological and sociocultural aspects, which serve the fundamental differentiation of scientific knowledge. In a highly variable environment, it is necessary to especially value not so much ready-to-use dogmas, but rather the starting points of development and the methodology for improvement. Truth is not only the result of the search; it is also the search itself, its process.

Participation in the formation of the knowledge economy today is the need to preserve one's sociocultural identity, the independence of one's cultural-civilizational world. Accordingly, the idea of effective management, including the strategic level, is changing. Thus, when attempting command control, emerging social relations multiply, denying the effectiveness of numerous incarnations of unambiguous models. The methodology of strategic organizational-managerial influences is significantly transformed with changes in society and its components. However, the obsolescence of previous organizational schemes in these conditions and the need to abandon prejudices do not mean, of course, the abandonment of project activities as such, including when optimizing information influence on the population. At the same time, when assessing the possibilities of using a methodology, one must always take into account the fluidity of public expectations. However, social roles are now often formed in processes where there is a wide range of non-routine tasks and there is no consistency in procedures. The study of combinations of the virtual environment of population groups allows us to present complex real processes in a compressed, symbolic (and at the same time also intuitively perceived) form so that their parameters are accessible for visual analysis. When creating a strategy, it is important to enrich the research movement towards understanding the process with knowledge of the possibilities of complex practical and theoretical consideration of the peculiarities of the moment. That is, from the point of view of methodology, the involvement in the analysis of the widest possible range of phenomena with the determination of their correct relationship, specificity and functions of each of them involves an ascent from the abstract to the concrete. And it is carried out not with the external addition of its subsequent stage of reverse movement (from the concrete to the abstract), but by including the features of the latter in each moment. At the same time, the development of scientific theory and practice are closely interconnected. The additional relevance of analysing the possibilities of the potential of science is connected both with the strengthening of the objective demand of practice (with the awareness of the flow of continuous organizational findings), and with the specifics of the methodology, which, on the one hand, tries to include fundamentally heterogeneous scientific approaches, on the

other – must preserve the difference between rational ways of building strategies (and, in particular, information influences within its framework) from “blurring the eyes” by appealing to unknowable practices, and other types of fraud.

Accordingly, the possibilities of rationality – a structure with its own characteristics and laws that dictate some elements of the method of cognition and the use of transformed forms – are now doubly limited for use in social technologies of transformation: both as such and in conditions of rhizomic development. Thus, it is important to distinguish between vague but effective ways of solving problems that are used according to the “black box” principle and an unstable mixture of the reliable and the illusory: while the first can be relied upon, the second is obviously unreliable. Moreover, the analysis of many events confirms: an additional burden of problems often arises from the desire to break the cycle, a forced transition to a new quality. Meanwhile, processes that are not strictly determined in principle are visibly coming to the fore. Their regulation is limited. No managerial elite (ruling or opposing and moving to power) today is able to act as an isolated group of demiurge-rulers who separately make socially important decisions. On the contrary, maximum use of the potential of the entire people and the nature of unstructured governance is required. And the main danger may not be the mistakes of the past, but the predominance of a suboptimal, unsuccessful version of transformations in practice and empiricism (inability to make theoretical generalizations, a tendency to use clichés or methods that have not been tested in the expert community, inadequacy to the level of challenges of the era) in science. Therefore, if the pace of modernization, its vector and outcome are not as we would like, then not the last reason here may be empiricism, refusal to analyse (or lack of knowledge of reliable methodologies for its implementation) of the internal laws of the country’s socio-economic development and science on the part of the ruling strata.

Changes in the quality of reflexive management are closely related to the transformation of dominant forms of rationality. The implementation of reflection into oneself and reflection into another is associated with an increase in the depth and range of knowledge as a prerequisite for effective influence. The realization of otherness is also mutual adaptation, not only functional, but also essential. Post-

globalism objectively requires the immanence of the method, its location in the very content of the subject of social science, so that the method develops in accordance with the content, while its application is multi-level and non-hierarchical. The scientific level of methodological literacy is a prerequisite for the social viability of management subjects. Knowledge itself (let alone information) does not at all guarantee an understanding of what is happening and its consequences, requiring methodological depth in mastering new dynamics with their opportunities and risks, as well as sharpening the question of the target orientation of its application. The transition to new models of life and management seriously changes the structure of development and requires a reassessment of the resource base and the vector of change. According to the ongoing transformations and streams of sophistry that parasitize on unconsciousness, trust in “logic” is lost, as it once was in mermaids and goblins. Moreover, the triumph of information as such is not ahead, but behind: the movement from the exchange of goods through the exchange of information to the exchange of abilities has already revealed behind the information means of expression their basis – the diversity of human creative abilities. The “reversal of the method” is realized: its result is fixed in the forms of achieving the unity of subject and method, which have as their content criticism, which constitutes the essence of the theoretical attitude to the facts of historical development. Thus, theoretical criticism is precisely the initial form of resolving the contradiction between the subject and the method with the predominance of the method. It is not identical to a moral-practical attitude to reality, since it is not capable of subliminal criticism.

At the same time, the specific nature of the current modernization suggests a sharp increase in the importance of the reflexive and structureless properties of multi-channel effective management. The essence of protecting sovereignty and development is revealed in the organizational and managerial support of systems of identity, life activity and development of one’s society and economy, first of all, through the cultivation of creators, producers, creators, a favourable environment and structural forms for them. So, for social-productive integrity, the division into “headquarters” and “line workers” (especially those “making” and “executing” decisions) is not simply deprived of rational meaning; both the excessive number of “office

plankton” and additional organizational levels really hinder both the efficiency and quality of decisions. The dominance of isolated controlling, distributing and indicating links and persons is an obvious sign of a lack of understanding of the growing processes, decay and degradation. At the same time, the combination of factors corroding the social fabric and opposing national interests must be countered not only by consolidating and motivating projects (Super-project and small Hyper-modernization projects), but also by improving the quality of citizenship.

In this situation, the integrity of the subsystems of societal management, public pedagogy, and social work is critically important for the cultivation of key points of change and stimulating positive changes in the public environment. It is extremely important to be able to take the best practices from past periods to solve new problems; at the same time, the originality of the development is based on the basic value-sense complexes of cultural-civilizational worlds. Organizational-management changes affect the development of corporate culture. The balance of organizational and management changes is directly reflected in the ratio of “hard” and “soft” technologies in the strategy, tactics, and operations of the transformed. The techniques of “soft” regulation have been improved for a long time; various fields of science help in this. And among them, the models of using variants of management of the hidden are quite promising for the organization of influence (and, accordingly, research). Accordingly, as is known, manipulation of a subject (individual, group, society) involves implicitly adjusting it to certain behaviour by providing it with specially selected information and creating circumstances that lead to certain thoughts and behaviour. Therefore, information influence allows initiating, modifying, stopping, and preventing social processes and events with the help of selective information or misleading. Moreover, the features of the new era strengthen the potential for effective use in asymmetric informational influences of borderline mental states, marginal groups of society, intermediate social layers, areas of intensive dialogue and, accordingly, the potential of interdisciplinary analysis. It is not for nothing that transnational corporations and associations create foreign venture structures with unusual management relations, non-standard approaches and their own searches. Some researchers stated

that the bearers of historical progress turned out to be the most free and independent intermediate layers of society.

Organization of multi-level control and self-control based on the laws of reflection is a necessary factor in improving not only industrial, but also all social life. At the same time, sometimes the inversion phenomena of non-classical transformation make it possible to more fully use the existing converted (transformed) socio-economic forms in the process of reflexive management. The presence of a larger number of controlled processes leads to both the need for their hierarchical organization (that is, to recreate the approach of hierarchical structures along with network, matrix, etc.) and the development of structureless regulation of probabilistic processes.

Conclusions

The time of drastic changes involves the unfolding of creative activity. The vector of transformations forms different priorities during creation: both in the divine likeness during the production / creation of senses, and in the animal likeness during biological reproduction / breeding. Facing the insurmountable obstacle of the threat to all living things from outdated strategies, humanity is forced, and has everything necessary, to move to an emphasis on intelligent ecological natural technologies with the priority of respect for the environment and humanization of society. Accordingly, the issue of socially responsible behaviour acquires fundamental importance. At the same time, acculturation / socialization are forming two alternative strategies: fighting either for one's civilization or for oneself (with attachment to values and senses being the most successful in this period of history).

Thus, network structuring significantly influences the processes of perception, understanding and further transformation of reality. Fruitful use of the increasing trends of global and regional transformations requires their adequate perception, understanding and reflection in the tools of constructive influence. The transformation of the release of creative activity (in particular, in the spiritual and intellectual sphere) of peoples into one of the leading planes of competition of organizational-managerial approaches radically increases the weight of the social level of information impact and, accordingly, social communications. Distance education,

and then the expansion of the range of remote work places, is directly related to the growth of characteristic features of the post-global social environment. Among the intersecting and mutually dependent factors for stimulating change that require reflection in systems of organizational-managerial relations are Deep Tech, cybersocialization and the Precariat. The expansion of the practice of “remote work” (in particular, under the influence of not only technology, intellectual saturation, but also various pandemics) also helps to raise the importance of these phenomena in the life of society and people. And to ensure creative: fruitful and aimed at constructive development goals – cybersocialization, it is necessary to actively use not only the usual, but also the resource and methodological bases that are opening up to humanity. Cybersocialization: both benign and perversely irrational, resonates with society’s preferred goals and means of creativity, the ratio of intellectual capacity and morality. And the processes of transformation on a global scale can be used to uplift and humanize one’s cultural-civilizational world through organizational-managerial modernization as an integral element of hyper-industrialization. There is an increasing basis for selectivity in decisions regarding the assimilation of a multi-level culture, which is increasingly oriented not so much at the top layers as at the deep masses of the people.

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**THE ROLE OF THE
FINANCIAL
SYSTEM IN
ENSURING THE
ECONOMIC
SECURITY OF THE
STATE: AN
ASSESSMENT IN
THE EUROZONE
AND SLOVAKIA**

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Abstract

The financial system is one of the factors that ensuring the economic security of the state. The transformation of geopolitical processes and military actions in Ukraine have had a negative impact on economic security in the Eurozone and Slovakia. The purpose of the study is to analyze the macroeconomic situation in the Eurozone and Slovakia. The study based on assessment of the inflation rate, financial indicators of the state, lending by commercial banks and interest rates. The method of

lending risk assessment is described. Based on the results of the study, the paper shows the dependence between the economic security of the state and its financial system, the need to use monetary policy and a flexible model of credit risk management.

Keywords: *economic security of the state, financial system, inflation, mortgage lending, consumer lending, Eurozone, Slovakia.*

Introduction

The economic security of the state achieved through the functioning of a large number of economic elements – the financial system, business entities, households, infrastructure, etc. The state's financial system plays a significant role, using appropriate methods to balance revenues and expenditures to finance relevant programmes and projects. Financial institutions – banking and non-banking organizations – also play an important role. Accordingly, the financial system of each country faces the main task of ensuring financial stability, which guarantees the achievement of economic security.

The current challenges to financial stability and economic security of the state are growing. These factors and challenges faced by the countries of the Eurozone and Slovakia were the COVID-19 pandemic, Russian aggression in Ukraine, and unacceptably high inflation, which forced central banks to radically tighten their monetary policies. The failure of banks in the USA and Europe, including one systemically important one, had a negative impact on the Eurozone financial system and its resilience. It should be noted that the Slovak banking and financial system was able to withstand this negative impact due to the traditional business model of banks and their strong financial position.

Economic entities and households in the Eurozone and in Slovakia in particular, are facing not only rising loan repayments, but also rising production costs and the cost of living. Not all enterprises and households can cope with this. Some may have difficulty repaying their loans. This is particularly true in the commercial real estate sector. Negative signals are coming from the housing lending market, with household arrears and rising house prices, and growing risks in some new housing loans.

The literature studies the financial system as one of the factors of

ensuring the economic security of the state. For example, the Security Strategy of the Slovak Republic defines the strategic security interests as sustainable development and prosperity of the state and society, inclusive and sustainable economic growth, sustainability of public finances, fiscal responsibility and transparency, and balanced regional development (Strategy, 2021). Slovakia uses all available economic and fiscal instruments to maintain financial stability and continuously optimizes its economic and financial safeguards. Slovakia is a responsible and constructive member of the Eurozone and uses the potential of the single European currency to strengthen its economic and fiscal stability. Some aspects of economic security are considered in the works of scholars (Hřebík & Sekerka, 2018; Olejníček & Krč, 2019).

Given the above-mentioned trends in the financial system of the Eurozone and Slovakia, there is a need for a more detailed study of these processes to ensuring the economic security of the state.

Materials and Methods

The methodological basis of the study is the general economic principles and methods of a systematic approach to studying the processes of ensuring the economic security of the state and the functioning of the financial system of the Eurozone and Slovakia. The methods of analysis and synthesis were applied, which allowed identifying problems in the functioning of the financial system and determining the directions of ensuring the economic security of the state using effective monetary policy instruments, inflation control, and risk management in the banking system in mortgage lending. The sources of statistical information from Eurostat and the National Bank of Slovakia were used in the study and analysis of macroeconomic indicators of the Eurozone and Slovakia.

Results and Discussions

Fears of economic recession in the Eurozone did not materialize, but persistently high inflation continues to pose a threat to the economic security of the state and business activity of economic entities. The year 2022 was characterized by geopolitical turmoil, high inflation, and deteriorating economic forecasts. The main priority of economic policy was the global desire to restore price

stability, which was to be achieved primarily through tightening monetary policy of the Eurozone central banks. However, it was the sharp change in the monetary cycle that began to expose weaknesses in the Eurozone's financial system, which affected the economic security of the states. Issues about the health of the financial sector further deepen uncertainty about the economic security of the states and reinforce the need to contain inflation to maintain financial stability.

Core inflation, which strips out volatile components such as energy and food and better reflects underlying trends, indicates sustained upward price pressures in the Eurozone as it remains on a moderate uptrend. In October 2022, core inflation in the Eurozone reached a record 10.6 %, and in October 2023, it fell to 2.9 %. In Slovakia, core inflation stood at 14.5 % in October 2022 and fell to 7.8 % in October 2023, but remained high compared to the Eurozone (Table 2.1).

The central bank, commercial banks, and the non-banking sector of the economy all have an impact on the economic security of the country and the stability of the financial system. The central bank's interest rate hikes are widely perceived to be favourable to commercial banks' profitability, and this is reflected in their financial performance, and the threats associated with such developments are increasingly coming to the fore. The quality of commercial banks' loan portfolios remains stable, but a gradual deterioration can be expected. The share of non-performing loans of European banks is at a historically low level. However, the liquidity buffer available to businesses and households after the pandemic is running out. Enterprises are facing rising input costs, and their recent high profitability is under threat. The financial situation of households is deteriorating as their real disposable incomes decline, although on the positive side, unemployment remains steadily low. At the same time, both sectors are experiencing an increase in the cost of repayment of liabilities due to rising interest rates. Less creditworthy enterprises may face difficulties in refinancing their debts as commercial banks adopt a more cautious approach and tighten lending standards. Cyclical growth in residential property prices may also accelerate credit risk. The vulnerability of non-bank institutions remains elevated, despite a slight decline in their risk characteristics.

Table 2.1

Inflation rates (%) measured by the HICP

	Annual rate						
	Oct 22	May 23	Jun 23	Jul 23	Aug 23	Sep 23	Oct 23
Euro area	10.6	6.1	5.5	5.3	5.2	4.3	2.9
EU	11.5	7.1	6.4	6.1	5.9	4.9	3.6
Belgium	13.1	2.7	1.6	1.7	2.4	0.7	-1.7
Bulgaria	14.8	8.6	7.5	7.8	7.5	6.4	5.9
Czechia	15.5	12.5	11.2	10.2	10.1	8.3	9.5
Denmark	11.4	2.9	2.4	3.2	2.3	0.6	-0.4
Germany	11.6	6.3	6.8	6.5	6.4	4.3	3.0
Estonia	22.5	11.2	9.0	6.2	4.3	3.9	5.0
Ireland	9.4	5.4	4.8	4.6	4.9	5.0	3.6
Greece	9.5	4.1	2.8	3.5	3.5	2.4	3.8
Spain	7.3	2.9	1.6	2.1	2.4	3.3	3.5
France	7.1	6.0	5.3	5.1	5.7	5.7	4.5
Croatia	12.7	8.3	8.3	8.0	8.4	7.4	6.7
Italy	12.6	8.0	6.7	6.3	5.5	5.6	1.8
Cyprus	8.6	3.6	2.8	2.4	3.1	4.3	3.6
Latvia	21.7	12.3	8.1	6.6	5.6	3.6	2.3
Lithuania	22.1	10.7	8.2	7.2	6.4	4.1	3.1
Luxembourg	8.8	2.0	1.0	2.0	3.5	3.4	2.1
Hungary	21.9	21.9	19.9	17.5	14.2	12.2	9.6
Malta	7.4	6.3	6.2	5.6	5.0	4.9	4.2
Netherlands	16.8	6.8	6.4	5.3	3.4	-0.3	-1.0
Austria	11.6	8.7	7.8	7.0	7.5	5.8	4.9
Poland	16.4	12.5	11.0	10.3	9.5	7.7	6.3
Portugal	10.6	5.4	4.7	4.3	5.3	4.8	3.2
Romania	13.5	9.6	9.3	8.9	9.3	9.2	8.3
Slovenia	10.3	8.1	6.6	5.7	6.1	7.1	6.6
Slovakia	14.5	12.3	11.3	10.3	9.6	9.0	7.8
Finland	8.4	5.0	4.1	4.2	3.1	3.0	2.4
Sweden	9.8	6.7	6.3	6.3	4.5	3.7	4.0
Iceland	6.4	8.0	8.0	7.5	8.3	8.5	7.6
Norway	8.4	7.2	6.8	5.6	4.9	2.8	3.7
Switzerland	2.9	2.2	1.8	2.1	1.9	2.0	2.0

Source: Eurostat

Despite the volatility in financial markets, the non-banking sector remains stable, but some of its characteristics continue to make it a potential catalyst for shocks. The long duration of their bond portfolios creates vulnerability to interest rate fluctuations and losses from bond revaluation. Many investment funds are characterized by

a mismatch between the liquidity and maturity of their assets and liabilities. When clients rush to withdraw funds from them, they can spiral into a forced sale of assets below cost, which in turn will trigger further redemptions. This scenario is not only more likely, but also has worse consequences if leverage is present. In the case of use synthetic derivatives, the trigger for pro-cyclical price effects may not only be the outflow of money from investors, but also the margin mechanism present in the daily clearing of derivatives through central counterparties. Given the significant involvement of non-banks institutions in commercial real estate financing, the stability or potential instability of these components of the financial system is closely linked.

A series of shocks in recent years has deepened the vulnerability of public finances in the Eurozone, which has implications for financial stability given their close relationship with the financial sector and ensuring the economic security of the states. In the first and second quarters of 2022, there was a moderate consolidation of the Eurozone's public budget deficit, at 2.7 %, respectively, but in the second quarter of 2023, it rose to 3.3 % (Table 2.2).

Table 2.2

Seasonally adjusted government revenue, expenditure and surplus/deficit in the euro area and EU, %

(% of GDP)	2021Q2	2021Q3	2021Q4	2022Q1	2022Q2	2022Q3	2022Q4	2023Q1 ^p	2023Q2 ^p
Euro area 20									
surplus (+) / deficit (-)	-6.7	-3.9	-3.6	-2.7	-2.7	-4.0	-5.1	-3.3	-3.3
total revenue	46.5	47.0	47.8	47.1	47.0	46.9	46.7	46.3	46.1
total expenditure	53.2	50.9	51.3	49.8	49.7	50.9	51.8	49.5	49.4
Euro area 19									
surplus (+) / deficit (-)	-6.7	-3.9	-3.6	-2.7	-2.7	-4.0	-5.1	-3.3	-3.3
total revenue	46.5	47.0	47.8	47.1	47.0	46.9	46.7	46.3	46.1
total expenditure	53.2	50.9	51.4	49.8	49.7	50.9	51.8	49.5	49.4
EU									
surplus (+) / deficit (-)	-6.0	-3.4	-3.3	-2.4	-2.3	-3.7	-4.8	-3.1	-3.2
total revenue	46.2	46.6	47.2	46.6	46.5	46.2	46.1	45.6	45.6
total expenditure	52.2	50.0	50.5	49.0	48.8	49.9	50.9	48.7	48.9

Source: Eurostat

In the event of persistent inflation, interest rate hikes by central banks will increase debt service costs, especially for highly indebted countries. The situation could be further exacerbated through a negative reaction from financial markets as credit spreads widen. The end of the quantitative easing era could also contribute to reassessment of issuance and decline in aggregate demand. A mitigating factor in increasing the required yield from investors in domestic government bonds is their gradual transfer to equities

portfolio, given their relatively long average maturity in most countries. Public finances may come under pressure if the spread of banking or financial sector problems leads to the transfer of some financial debts to the state.

The macroeconomic environment of Slovakia and its impact on the economic security of the state

Slovakia's economy was significantly affected by the war in Ukraine and a significant increase in energy prices. As a result, the promising pace of economic recovery after the pandemic slowed and the economy grew slowly. Escalating geopolitical risks and rising prices have significantly dampened economic sentiment. However, the heightened uncertainty did not deter households from consuming, which contributed significantly to economic growth. Although households initially tapped into their pre-pandemic savings, they have already been spent and their savings rate is now at a historic low. Thus, their consumption is expected to moderate in the future, given the ongoing uncertainty. Economic growth in 2022 was partly supported by business investment activity, while household investment in residential construction gradually began to slow due to rising credit prices and pessimistic forecasts. Going forward, investment activity should be driven mainly by the public sector, which will try to use the EU budget funds that will expire at the end of the programme period. Net exports began to recover gradually after the COVID-19 pandemic, but their contribution to economic growth remained negative in 2022 as supply chains were disrupted.

The Slovak economy is experiencing significant inflation. Prices for goods and services increased in early 2022 (Table 2.1). Inflation was driven mainly by higher energy and food prices. On the one hand, the impact of regulatory and compensation measures significantly limited the growth in energy prices, especially for households, while on the other hand, consumer inflation driven by high demand will continue for some time. Thus, price increases are expected to continue their upward trend until the end of 2023, and may gradually decline thereafter, which will strengthen the economic security of the state.

Slow economic growth and rising interest rates are increasing pressure on public finances. Although public debt decreased in relation to Slovakia's macroeconomic indicators in 2022, it remains

close to historically high levels. At the end of 2022, it came close to the debt limit set by the Stability and Growth Pact, reaching 57.8 % of GDP (Figure 2.1). However, the development of public finances will be a major challenge in the current year, when public finances are expected to deteriorate significantly and public debt to rise further as a result of rising spending and measures taken to help households and enterprises in terms of high energy prices.

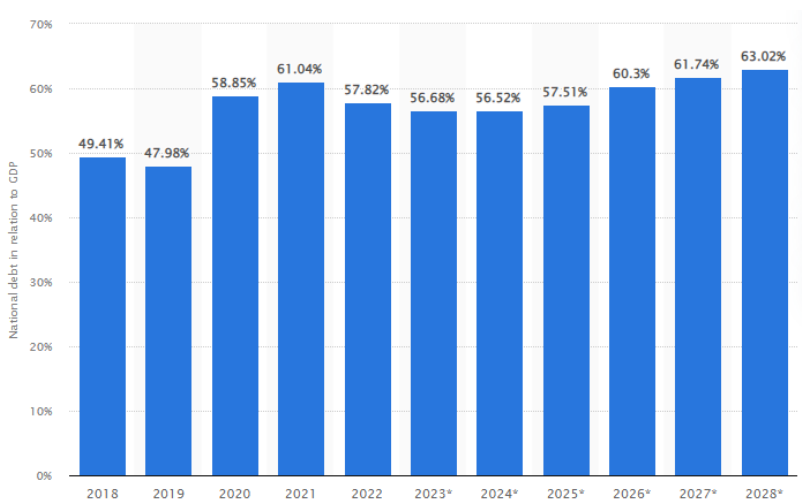


Figure 2.1 National debt in relation to gross domestic product (GDP) from in Slovakia, 2018-2028, %

Source: Statista

The rise in the average public debt-financing rate, combined with the projected increase in the level of public debt (Figure 2.1), will increase public debt service costs. Slovakia has one of the lowest shares of debt maturing in the next few years among Eurozone countries, but the interest rate on public debt has increased significantly since 2023 (Figure 2.2).

Household lending has a strong influence on the financing of the Slovak economy and ensuring the economic security of the state. Starting in the third quarter of 2022, lending volumes have been declining (Figure 2.3). This was driven by rising commercial bank interest rates (Figure 2.4) and the rising cost of living. The pace of

lending is slowing down every month, and there are currently no signs of a change in the trend in the near future.

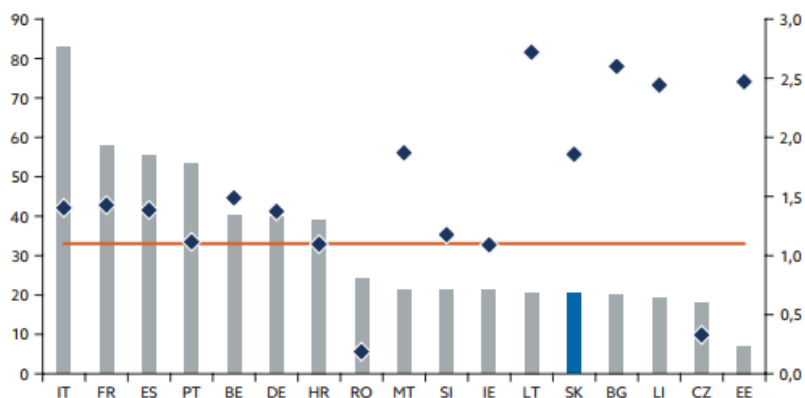


Figure 2.2 Share of debt maturing in the next 5 years and change in interest rates on 10-year government bonds between April 2022 and April 2023 (% of GDP; p.p.)

Source: European Commission, National Bank of Slovakia

The slowdown in housing lending is mainly due to a drop in demand itself, i.e. a reduction in the number of new mortgage loans. The weakening demand for loans has several reasons. Households are experiencing a sharp rise in interest rates and the cost of living. In addition, the ongoing decline in housing prices is less of an incentive to reduce demand for loans and more of an incentive to postpone purchasing a home. Due to the sharp increase in monthly repayments, the restriction on the maximum repayment ratio may also be a factor, but it is not decisive. The number of new mortgage loans also decreased for loans with a share below the regulatory limit. This is partly due to a change in the distribution of demand over time. Some households in the first half of 2022 accelerated their decision to buy a home to still take advantage of lower interest rates.

Unlike other Eurozone countries, Slovak banks did not tighten lending standards. In the Eurozone, lending standards have been tightened quite significantly in each of the last 4 quarters, with 20 % to 35 % of banks tightening them in each quarter. The main factor was banks' heightened risk perception. In Slovakia, there was no widespread tightening of standards.

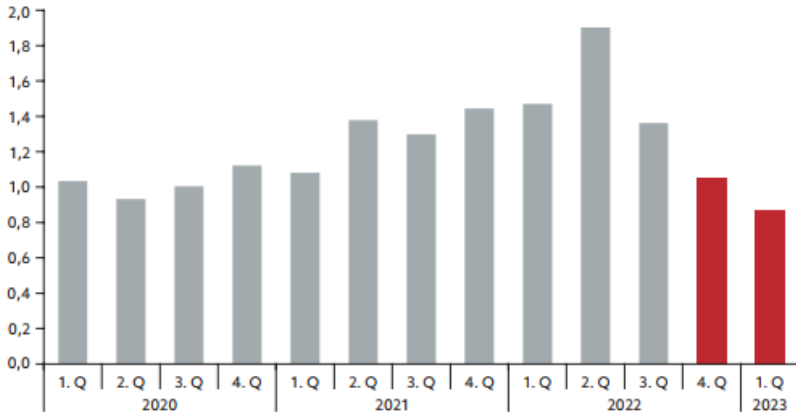


Figure 2.3 Quarterly net new housing loans in Slovakia, 2020-2023 (EUR billion)

Source: National Bank of Slovakia

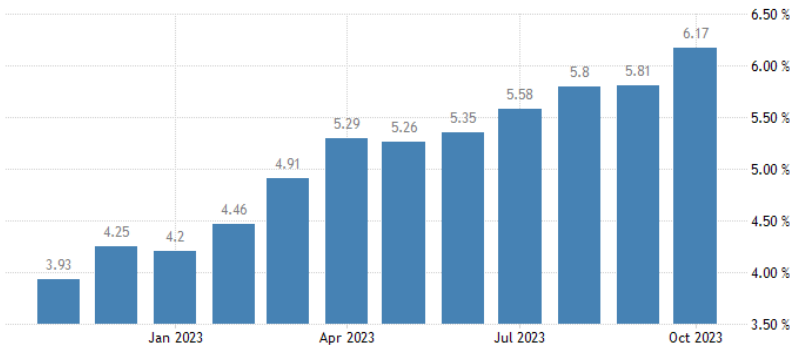


Figure 2.4 Slovakia Bank Lending Rate, 2023, %

Source: Tradingeconomics, National Bank of Slovakia

In order to assess the impact of the respective changes on the riskiness of the loan portfolio, the National Bank of Slovakia uses the appropriate tools for analyzing the ability to repay new loans even in a deteriorating economic situation (Report, 2023). The assessment is based on a combination of rising unemployment, rising interest rates and stagnant real wages. We believe that the loans that may be at risk of deterioration are those for which the borrower's modelled expenses exceed its modelled income. Some of these exposures may

also be at risk of default in the future, depending primarily on the level of cost-to-income ratios. The methodology used to assess the riskiness of new loans is shown in Figure 2.5.

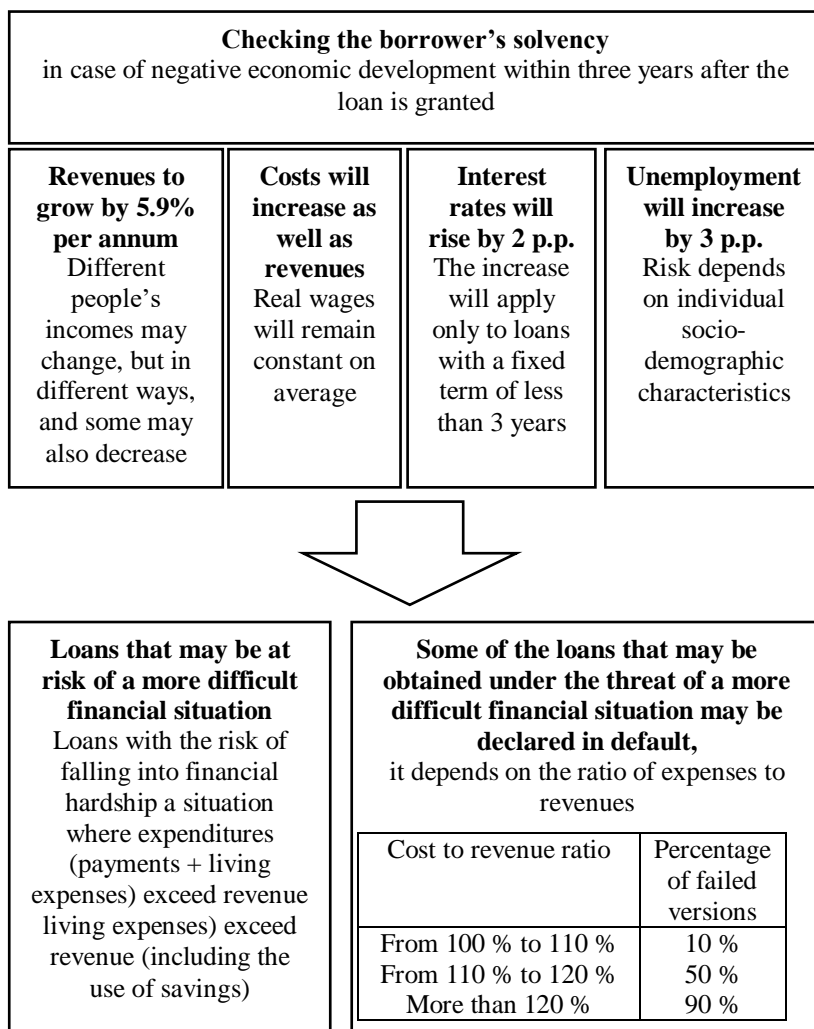


Figure 2.5 Methodology for assessing the riskiness of new mortgage loans

Source: National Bank of Slovakia

This toolkit allows to assess the riskiness of new mortgage loans issued by commercial banks. This, in turn, helps to monitor and determine the mechanisms for prolonging risky loans, extending maturities and reducing risks and the burden on the financial system. In our view, this method should be taken into account and implemented in other Eurozone countries.

Consumer lending in Slovakia resumed moderate growth (Figure 2.6).

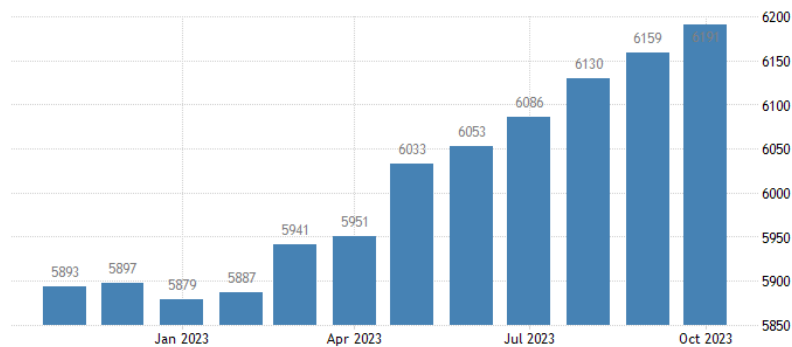


Figure 2.6 Slovakia Consumer Credit, mln. EUR, 2023

Source: Tradingeconomics, National Bank of Slovakia

The decline in consumer lending ended in the autumn of 2022. Growth gradually accelerated in early 2023, and as of October, it increased by 5.3%. Interest rates on consumer loans started rising later than mortgages, and their growth was more moderate at 9.2 % (Report, 2023). Compared to housing loans, interest rates on consumer loans are growing at about twice the rate.

The acceleration of the growth rate of the consumer loan portfolio was driven not so much by an increase in new lending as by a decrease in loan outflows from the portfolio. Consumption and prices in the economy grew, creating more opportunities for consumer lending. Moreover, unlike mortgages, interest rates on consumer loans started to rise later.

Conclusions

Based on the results of the research, the following conclusions were made:

1. The economic security of the state is achieved through the stability of the financial system. The central bank and commercial banks are an integral part of the financial system. Achieving a balance in the state budget between revenues and expenditures significantly strengthens the financial system. Macroeconomic indicators of the state serve as a benchmark for ensuring economic security.
2. Within the Eurozone, there is a rise in inflation, an increase in central bank interest rates, and an increase in interest rates on mortgage and consumer loans from commercial banks. Similar trends are inherent in the Slovak economy.
3. In order to respond to negative external challenges and risks in the financial system, Eurozone countries, including Slovakia, have introduced appropriate monetary policy and public debt management, and commercial banks have introduced a flexible business model for managing credit risks.
4. Slovakia has projected macroeconomic indicators show that in the future, inflation is likely to decline, effective demand will grow, consumer spending will be optimized, and consumer lending will increase, which will ensure the economic security of the state.

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**CONTEMPORARY
COST CALCULATIONS
IN MECHANICAL
ENGINEERING
COMPANIES:
EVIDENCE FROM THE
SLOVAK REPUBLIC
AND THE CZECH
REPUBLIC**

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Abstract

Purpose. The aim is to evaluate comparatively the use of costing methods in companies in the mechanical engineering sector in the Slovak Republic and the Czech Republic. On the basis of the findings, we assess the suitability of using different types of costing methods in the mechanical engineering industry.

Methodology. For statistical analysis we used the Chi-Squared Test, the Chi-Squared Data Distribution Test, the Wilcoxon Pair Test, and the Mann-Whitney U-test.

Results. We find that most of the businesses analysed use the traditional costing method. The ABC method is also represented, especially in medium and large companies. Finally, we wonder whether the current coronavirus crisis is an opportunity for change in this area.

The theoretical and practical contribution. The findings and conclusions can be understood and applied generally, also in other European countries.

Keywords: *raditional costing method, Activity Based Costing (ABC), mechanical engineering industry.*

Introduction

The business environment is characterized by high complexity and competitiveness. That is why information is considered the most valuable resource available to companies (Kapetanopoulou and Kouroutzi, 2021). Costs have an impact on management decisions, for example how to maintain a competitive position in the market, change the range of products offered, or acquire new markets for sales. Therefore, the creation of a well-functioning cost information system plays a very important role in a company not only from the point of view of financial reporting, but also for the entire management system. The quantity and details of the cost data collected depend on many factors, such as: the nature of the business, the industry and the scope of the services provided or the size of the business (Makowska and Banaszekiewicz, 2020). It is therefore essential to create a high-quality cost control management information system in a manufacturing company that enables the timely and reliable determination, recording and reporting of production costs (Guzman, 2021). It is necessary to use modern cost calculation systems and methods that provide comprehensive support for the management of cost information (Chapman et al., 2021).

Determining the exact costs of products and thereby achieving their reduction is of interest to almost every manufacturing company. Costs reflect the competitiveness and sustainability of the business. Many business costs are linked to production efficiency (Grzmar et al., 2019).

Literature review

Costs and their determination play a decisive role in all manufacturing companies. The traditional cost system has been criticised for arbitrarily allocating indirect production costs. Other methods of calculating costs, such as an activity-based costing (ABC), are recommended as an important initiative to address its weaknesses (Vedernikova et al., 2020). The fact is that calculating exact unit costs is a very common and continuous requirement in an environment of increasing competition (Eren and Pamuk, 2019). In current practice, there is a lack of accurate and versatile cost-calculation models (Rosienkiewicz, et al. 2018). Good cost management is essential in a manufacturing company. When using

high-quality cost management methods, process failures can be identified and subsequently corrected, while continuous improvement is sought as competitiveness and lower prices are demanded in the market. Such good management is reflected in process economies and is of benefit to both the business and the final consumer, who receives a less expensive product. Therefore, it is necessary to constantly improve the process, identify and analyse problems in cost calculation (Sanjuliano, 2021).

Therefore, in order to respond to the ever-increasing competitive demands of the market, manufacturers need to know the strengths and weaknesses present in their production systems. This is where it is appropriate to make use of the activity-based costing system (ABC) as the cost management tool (Araujo et al., 2020).

In order to increase the competitiveness of the company on the market, the company should know its costs in detail. In order to optimize costs, the cost-per-action method is used. This will improve the cost management and costing strategy. In practice, it has been confirmed that such a strategy is more sensible (Jin and Li, 2020). The ABC method has the ability to ensure the company has a competitive advantage over the conventional cost control methods (Toosi and Chamikarpour, 2021). By implementing an optimal methodology for calculating costs, significant savings can be achieved from the point of view of producers (Kampker, 2019), and also more effective control of price decisions in the company, ensuring higher competitiveness (Stonciuviene et al., 2020).

Quantification of production/service costs is the basis for the determined market price. Therefore, management accounting is essential. One alternative tool is activity-based costing, an alternative method to overcome the limitations of traditional indirect cost systems that somewhat distort actual cost accounting. Studies have concluded that the application of the ABC system is adequate to determine the actual costs and it can secure more reasonable and competitive prices on the market. However, there is still resistance to its implementation due to human and technological ignorance (Escobar-Mamani et al., 2021). The principle of ABC is different to the traditional approach of costing methods because it allocates the resources consumed to individual activities in order to achieve a distribution of overheads according to the actual causality of their

origin. These activities consume resources and are consumed by the cost structures themselves. Activity analysis defines cost factors that enable the expression of a causal link between the resources consumed and the cost structures. Costing by activity assumes that the cause of the costs is activities, not products directly (Balon et al., 2018).

ABC can serve as a pragmatic method for determining the level of resource use and the amount of costs incurred (Cidav et al., 2020). It is a proven methodology for calculating cost-effectiveness (Krimmer et al., 2021). This activity-based costing is the basis for the decision-making process in the area of supplies of production material (Wiecek et al., 2020). Analytical data and also practical experience suggest that incorporating ABC principles has a strong and important impact on product mix decisions (Mohsin, 2021). The main cost structure for cost calculations is mainly activities. Therefore, the use of the ABC method for managing or determining costs (Zahorska et al., 2021). Thus, a company can improve its decisions by more efficiently allocating indirect costs to its products, eliminating distortions caused by a static schedule base in the absorption cost method (for the traditional method) (Braga et al., 2020). The application of the ABC method in cost calculations will ensure more effective control of price decisions in the company, ensure its greater competitiveness (Stonciuviene et al., 2020). The advantages of calculating by activity include supporting the allocation of costs directly to activities, thereby improving the management of activities, process and chain of activities (value chain). The ABC method, as an important tool for cost management in management accounting, extends cost management to the entire value chain in the company. It also effectively removes the limitation of the traditional costing method, which is the unclear allocation of indirect production costs. This offers the company adequate assistance in implementing systematic cost management (Zhang and Li, 2021).

The ABC method can enable accurate understanding of the composition of costs, identification of inefficient operations and those without added value, analysis of the efficiency of different departments, verification of the feasibility and effectiveness of the cost accounting model and control method system, and the provision

of advice for cost control and process transformation in companies (Wang, 2021).

When implementing ABC, it is necessary to create an integrated model combining the enterprise control system, the communication network and the production system in the company, thereby increasing the reliability of information about the cost of decision-making (Nota, 2020). Both before and during implementation, the company must ensure aspects and steps within its organizational structure, information systems, technologies and production processes in order to successfully implement the ABC system. The specification of these basic assumptions is mostly part of the initial analysis of the company's costing system (Suskova and Buchtova, 2019). However, its implementation may require considerable effort and also some compromises on methodological constraints (Bokor, 2012). Low automation and lack of knowledge management in manufacturing companies complicates the efficient creation and implementation of new systems, especially for transparent cost calculation (Schuh, 2019). However, results from the practice in manufacturing companies show that an activity-based costing system is a better system compared to traditional costing systems. The ABC system improves users' decision-making with better customizable costing features to support the new business environment and global business competition. This creates a more sustainable source of competitive advantage. In addition, it identifies which of the company's products are underpriced and overpriced (Altawati et al., 2018).

Materials and methods

The aim of the research is to evaluate the use of costing methods in mechanical engineering sector companies in the Slovak Republic and the Czech Republic, in comparison with each other, to discover the rate of use of the traditional costing method and the Activity Based Costing method, to use the findings of the analyses as the basis for assessing the suitability of using different types of costing methods in the mechanical engineering industry, to describe their advantages and disadvantages in practice at mechanical engineering companies, to evaluate managers' awareness of cost calculations and to make recommendations.

We obtained data for analysis from Slovak and Czech companies in the mechanical engineering industry using closed questionnaires, interviews and relevant published materials.

In the questionnaire we found:

- the size of the company by number of employees,
- the types of costing methods currently used by companies to calculate costs and whether they are considering changing the method currently used,
 - for companies using the traditional costing method:
 - what advantages they would highlight: simple set up, ease in terms of time and finance, easily interpretable, completely sufficient for mass production in mechanical engineering,
 - what disadvantages they experience in practice: problems in determining the appropriate cost scheduling base, inaccuracy of costing and cost display, no summary of costs based on the activities of the company, static and works with average costs,
 - what degree of automation the company currently uses (approximately in %),
 - what % of the total cost of the company is overhead in the company,
 - questions specifically about the Activity Based Costing method: we do not know the method (we have not heard of it); we have encountered the method but we do not use it; we are in the process of implementing this method; we are currently using the ABC method; we tried to introduce the method in the past but without success,
 - the advantages brought to the company by the introduction of the Activity Based Costing method: identification of cost intensity, in particular the proportion of overheads; more efficient cost management (real valuation of activities and cost structures); more logical and targeted division of overheads into activities (clarifying the economic efficiency of processes); indication of the cause of the costs; costings by process – better monthly final costings of products and evaluation of their effectiveness; increased attention to the management of auxiliary and servicing processes and activities; enabling elimination of activities that do not create value for the business; more precise price calculations; monthly evaluation of profit and economic value added by clients and products,

- businesses that do not use the ABC method were asked about the reasons why not: no knowledge of the Activity Based Costing method; need to reorganise the company before implementation; the assumption that implementation of the project would be highly time-consuming; expensive application of the method; lack of competent staff; management doubts about the benefit of the project to the company; complexity of the method/ difficult to understand,
- businesses that have tried the ABC method and still do not use it were asked why it was not successful in their company: long time for implementation of the entire project; the complexity of the implementation of the project; management doubts about the benefit of the project to the company; non-cooperation on the part of the employees concerned; problems setting up the change in cost tracking.

The questionnaire was sent to companies from the mechanical engineering industry with NACE codes C28, C29 and C30, as industrial production is classified in section “C” within the SK NACE classification. We obtained data from 68 Slovak and 53 Czech companies.

We have set the following research questions:

Research question 1: What methods of calculating costs are used by mechanical engineering companies in both countries analysed?

Research question 2: Do mechanical engineering companies have a sufficiently high degree of automation for us to claim suitability of the ABC method?

Research question 3: Do mechanical engineering companies have a high enough overhead rate for us to claim the necessity of applying the ABC method?

Research question 4: What do the businesses in both countries consider to be advantages of the traditional costing method and why do they not want to give it up?

Hypotheses:

Hypothesis 1: The rate of use of the traditional costing method is the same in both countries analysed.

Hypothesis 2: The traditional costing method has the highest rate of use in both countries analysed.

Hypothesis 3: Businesses in both countries consider the advantages of the traditional costing method to be simple set up, easy

acquisition of input data.

Hypothesis 4: Perceived inaccuracies in costings and cost indication with the traditional costing method vary between countries.

Hypothesis 5: The reason for not using the ABC method in mechanical engineering companies is low knowledge of the method.

For statistical analysis, given the established hypotheses and research questions and nature of the data, we used the Chi-squared Test, the Chi-squared Data Distribution Test, the Wilcoxon Pair Test, and the Mann-Whitney U-test for 2 independent selections. We used each of these tests for individual hypotheses and research questions in accordance with the nature of the specific data emerging for that hypothesis or research question. We carried out statistical analysis in the SPSS 22 program.

Results and discussion

The sample analysed consisted of a total of 121 companies. Of these, 68 are from Slovakia, representing 56.2% and 53 companies that are from the Czech Republic, representing 43.8% of the whole sample (Table 2.3, Figure 2.7).

Table 2.3

Sample distribution by country

Country	Number	Percentage
Slovak republic	68	56.2
Czech Republic	53	43.8
Total	121	100.0

Source: own

The largest sampled group in terms of company size were small businesses, which accounted for 35.5% of the sample. By contrast, the least numerous group was large companies, accounting for only 12.4% of the sample (Table 2.4, Figure 2.8).

H1 We predict that the rate of use of the traditional costing method does not differ statistically significantly between the two countries analysed.

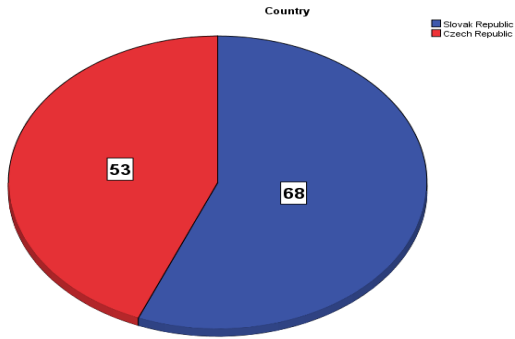


Figure 2.7 Sample by country

Table 2.4

Sample distribution by company size

Company size	Number	Percentage
Micro-enterprise	24	19.8
Small businesses	43	35.5
Medium buinesses	39	32.2
Large companies	15	12.4
Total	121	100.0

Source: own

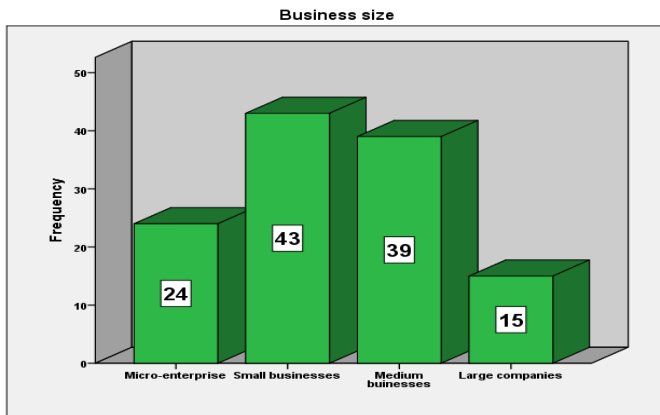


Figure 2.8 Sample by company size

Based on the results presented in Table 2.5 and Figure 2.9, we can observe that most companies in Slovakia use the traditional costing method and the same is true for companies from the Czech Republic, where quite a few companies also use the ABC method.

Table 2.5

Cost calculation method used				
Country	Traditional costing method	Variable costing method	Activity Based Costing	Total
Slovak Republic	48	2	18	68
Czech Republic	30	1	20	51
Total	78	3	38	119

Source: own

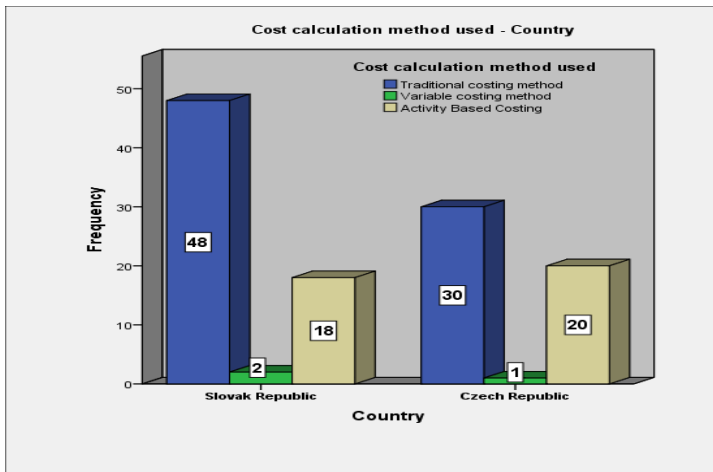


Figure 2.9 Cost calculation method used

Based on the nature of the variables, we used non-parametric tests to test hypothesis 1. We tested the normality of the distribution of variables that are represented in the sample. We looked at whether the data tested followed a Gauss curve. In this case, however, the variable “Cost calculation method used” does not correspond to a continuous variable.

In Hypothesis 1, we investigated whether there was a statistically significant difference in the cost calculation method used by country. To analyse the hypothesis, taking into account the nature of the variables, we used a non-parametric Chi-squared test.

Table 2.6

Chi-squared test	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.209	2	0.331
Likelihood Ratio	2.200	2	0.333
Linear-by-Linear Association	2.014	1	0.156
N of Valid Cases	119		

Source: own

When evaluating the Chi-squared test, we first discovered the value of the Asymp column in the Pearson Chi-Square row. Sig. (2-sided). If this value is less than 0.05, we know that there is a statistically significant difference between the groups. In our case, this value is 0.331 and so we can conclude that there is no statistically significant difference between companies in Slovakia and companies in the Czech Republic in the use of the traditional cost calculation method (Table 2.6).

Hypothesis 1 was confirmed.

H2 We predict that the traditional method of cost calculation is statistically significantly the most used in companies.

On the basis of the results presented in Table 2.7 and Figure 2.10, we can observe that the traditional method of cost calculation is most widely used in companies. This method is used in 65.5% of companies. On the contrary, the variable costing method is the least used, with only 2.5% of companies.

Table 2.7

Method	Number	Percentage
Traditional costing method	78	65.5
Variable costing method	3	2.5
Activity Based Costing	38	31.9
Total	119	100.0

Source: own

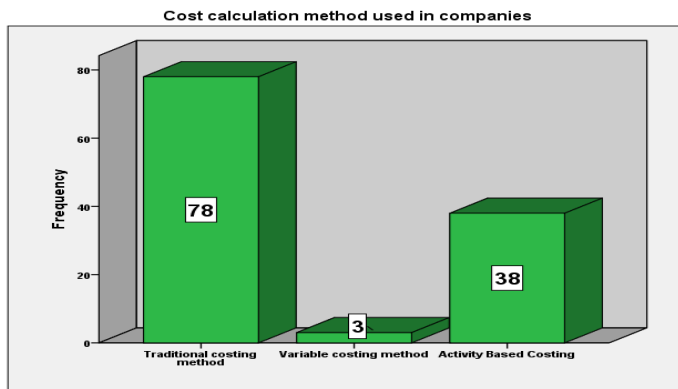


Figure 2.10 Cost calculation method used in companies

In hypothesis 2, we examined whether there was a statistically significant difference in the frequency of individual groups of companies in relation to the cost calculation method used. For the analysis of hypothesis 2, taking into account the nature of the variables, we used a non-parametric Chi-squared data distribution test.

Table 2.8

Chi-squared data distribution test

Chi-squared data distribution		Method	Observed number	Expected number	Difference
Chi-Square	69.444	Traditional costing method	78	40.5	37.5
df	1	Variable costing method	3	40.5	-37.5
Asymp. Sig	0.000	Total	81		
Chi-Square	13.793	Traditional costing method	78	58.0	20.0
df	1	Activity Based Costing	38	58.0	-20.0
Asymp. Sig	0.000	Total	116		

Source: own

When evaluating the chi-squared data distribution test, we determine the value of the Asymp row. Sig. If this value is less than 0.05, we know that there is a statistically significant difference in the occurrence of the variable. In our case, the value is 0.000, and therefore we know that there is a statistically significant difference in

the frequency between the groups. The traditional costing method appears with greater frequency than both variable cost calculation and the ABC method. Thus, we can conclude that the traditional costing method is statistically the most commonly used method for calculating costs in companies (Table 2.8-2.11).

Hypothesis 2 was confirmed.

H3 We predict that, the greatest advantage of the traditional costing method is considered, by a statistically significant margin, to be simple set up.

Table 2.9

Advantages of the Traditional costing method			
Advantage	Answer	Number	Percentage
Simple set up	Rather yes	12	15.2
	Certainly yes	67	84.8
	Total	79	100.0
Ease in terms of time and finance	Rather yes	15	19.0
	Certainly yes	64	81.0
	Total	79	100.0
Easily interpretable	Rather not	8	10.1
	Rather yes	26	32.9
	Certainly yes	45	57.0
	Total	79	100.0
Completely sufficient for mass production in mechanical engineering	Rather not	16	20.3
	Rather yes	18	22.8
	Certainly yes	45	57.0
	Total	79	100.0

Source: own

Based on the results presented in Table 2.9 and Figures 2.11 to 2.14, we can observe that, in terms of the advantage of using the traditional costing method, most companies certainly agree with the advantage of simple set up. On the contrary, the most dismissive “more no than yes” attitudes were expressed by businesses with reference to the advantage that it is completely sufficient for mechanical engineering production.

In selecting the optimal test for Hypothesis 3, it is necessary to test the normality of the distribution of variables that will be represented in the sample. In this case, however, the variable: ‘individual advantages of using the traditional costing method’ is not a continuous variable and therefore, based on the nature of the variables, we used non-parametrical tests to test hypothesis 3.

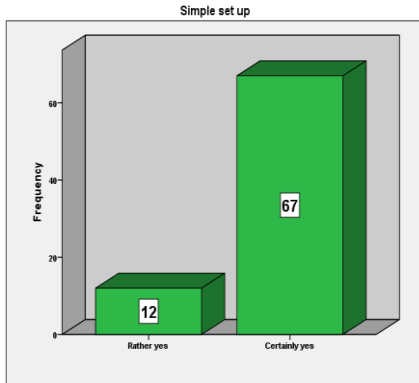


Figure 2.11 Simple set up

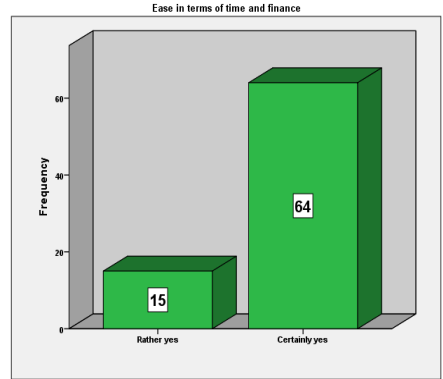


Figure 2.12 Ease in terms of time and finance

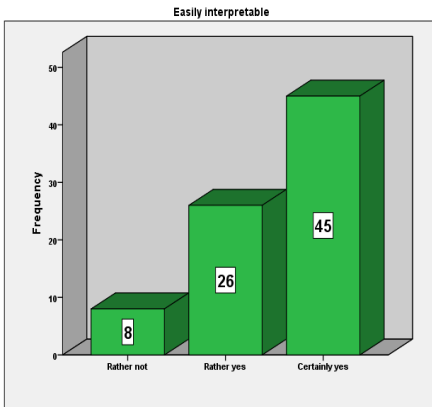


Figure 2.13 Easily interpretable

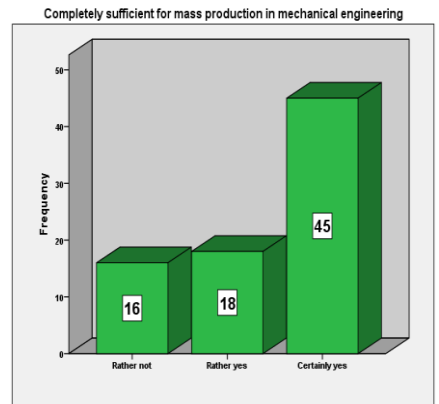


Figure 2.14 Completely sufficient for mass production in mechanical engineering

In hypothesis 3, we sought to determine whether there is a statistically significant difference in the perception of the individual advantages of using the traditional costing method in companies. To analyse the hypothesis, taking into account the nature of the variables, we used a non-parametric Wilcoxon pair test.

Table 2.10

Advantages of using the Traditional costing method

Wilcoxon's pair test			Ranks	N	Mean Rank	Sum of Ranks
Z Asymp. Sig. (2-tailed)	-0.775 0.439	Ease in terms of time and finance - Simple set up	Negative Ranks	9	8.00	72.00
			Positive Ranks	6	8.00	48.00
			Ties	64		
			Total	79		
Z Asymp. Sig. (2-tailed)	-4.055 0.000	Easily interpretable - Simple set up	Negative Ranks	9	8.00	72.00
			Positive Ranks	6	8.00	48.00
			Ties	64		
			Total	79		
Z Asymp. Sig. (2-tailed)	-4.196 0.000	Completely sufficient for mass production in mechanical engineering - Simple set up	Negative Ranks	31	21.94	680.00
			Positive Ranks	8	12.50	100.00
			Ties	40		
			Total	79		
Z Asymp. Sig. (2-tailed)	-4.000 0.000	Easily interpretable - Ease in terms of time and finance	Negative Ranks	26	15.88	413.00
			Positive Ranks	4	13.00	52.00
			Ties	49		
			Total	79		
Z Asymp. Sig. (2-tailed)	-4.102 0.000	Completely sufficient for mass production in mechanical engineering - Ease in terms of time and finance	Negative Ranks	30	20.40	612.00
			Positive Ranks	7	13.00	91.00
			Ties	42		
			Total	79		
Z Asymp. Sig. (2-tailed)	-0.755 0.450	Completely sufficient for mass production in mechanical engineering - Easily interpretable	Negative Ranks	24	19.33	464.00
			Positive Ranks	16	22.25	356.00
			Ties	39		
			Total	79		

Source: own

Using Wilcoxon’s pair test we created 6 pairs (Table 2.10). This is for comparison between the two members of a pair. Based on the results presented in Tables 14 to 25, we can conclude that simplicity of set up and ease regarding time and finances were perceived to a statistically significant degree as greater advantages of the traditional costing method compared to Ease of Interpretation and Sufficiency for Mechanical Engineering Production. Other comparisons did not show statistically significant differences.

Hypothesis 3 was not confirmed. We rejected the hypothesis because we had predicted that simplicity of set up would be perceived statistically significantly as the greatest advantage. However, we found that ease regarding time and finances are perceived as equally important.

H4 We predict that there is a statistically significant difference in the perception of the inaccuracy of costing and the display of costs as disadvantages of the traditional costing method in relation to the country of operation of the company.

Table 2.11

Inaccuracy of costing and cost display as a disadvantage of the traditional costing method

Country	Answer	Number	Percentage
Slovak Republic	Rather not	36	75.0
	Rather yes	5	10.4
	Certainly yes	7	14.6
	Total	48	100.0
Czech Republic	Definitely not	5	16.1
	Rather not	12	38.7
	Rather yes	5	16.1
	Certainly yes	9	29.0
	Total	31	100.0

Source: own

Based on the results presented in Table 2.11 and Figures 2.15 and 2.16, we can observe that in terms of perceiving the inaccuracy of costing and displaying costs as disadvantages of the traditional costing method, most Slovak companies marked the answer “more no than yes”, accounting for 75% of their group. The largest group of Czech companies also marked the answer “more no than yes”, accounting for 38.7%.

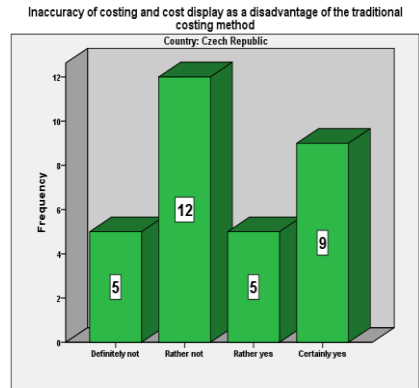
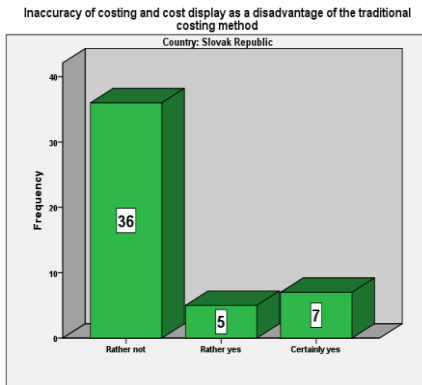


Figure 2.15 and Figure 2.16 Inaccuracy of costing and cost display as a disadvantage of the traditional costing method

To correctly select the test for hypothesis 4, we first tested the normality of the distribution of variables that are represented in the sample. In this case, the variable “Perception of inaccuracy of costing and cost display as a disadvantage of the traditional costing method” is not a continuous variable, and therefore, based on the nature of the variables, we used non-parametric tests for testing hypothesis 4.

In hypothesis 4, we investigated whether there is a statistically significant difference in the perception of inaccuracy of costing and cost indication as a disadvantage of the traditional costing method in relation to the country. To analyse the hypothesis, we used a non-parametric Mann-Whitney U-test for 2 independent selections, taking into account the nature of the variables.

If the value of the row is Asymp. Sig. (2-tailed) is less than 0.05, there is a statistically significant difference between the groups. In our case, the value is 0.456, so we know that there is no statistically significant difference between the groups. Based on the results in Table 2.12, we can conclude that there is no statistically significant difference in the perception of the inaccuracy of costing and indication of costs as disadvantages of the traditional costing method.

Hypothesis 4 was not confirmed.

Table 2.12

Perception of inaccuracy of costing and cost display as a disadvantage of the traditional costing method

Country	N	Mean Rank	Mann-Whitney U-test	Perception of inaccuracy of costing and cost display as a disadvantage of the traditional costing method
Slovak Republic	48	38.65	Mann-Whitney U	679.000
Czech Republic	31	42.10	Wilcoxon W	1855.000
Total	79		Z	-0.746
			Asymp. Sig. (2-tailed)	0.456

Source: own

H5 We predict that statistically the biggest reason for not using the ABC method is the doubt about the suitability of this method.

Table 2.13

Reason for not using the ABC method

Reason	Answer	Number	Percentage
Need to reorganise the company before implementation	Rather not	2	3.9
	Rather yes	19	37.3
	Certainly yes	30	58.8
	Total	51	100.0
The assumption that implementation of the project would be highly time-consuming	Rather yes	29	56.9
	Certainly yes	22	43.1
	Total	51	100.0
Expensive application of the method	Rather yes	11	21.6
	Certainly yes	40	7.4
	Total	51	100.0
Lack of competent staff	Rather not	22	43.1
	Rather yes	29	56.9
	Total	51	100.0
Management doubts about the benefit of the project to the company	Rather yes	34	66.7
	Certainly yes	17	33.3
	Total	51	100.0
Complexity of the method/difficult to understand	Definitely not	4	7.8
	Rather not	22	43.1
	Rather yes	25	49.0
	Total	51	100.0

Source: own

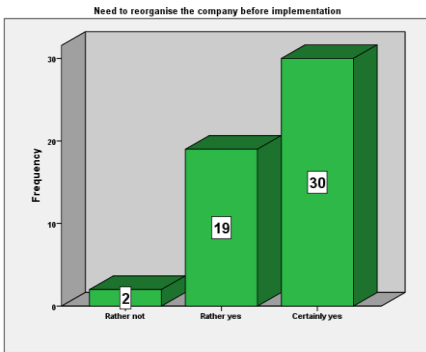


Figure 2.17 Need to reorganise the company before implementation

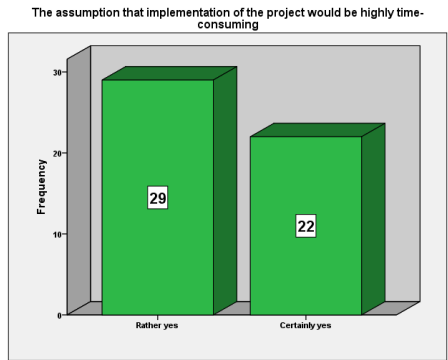


Figure 2.18 The assumption that implementation of the project would be highly time-consuming

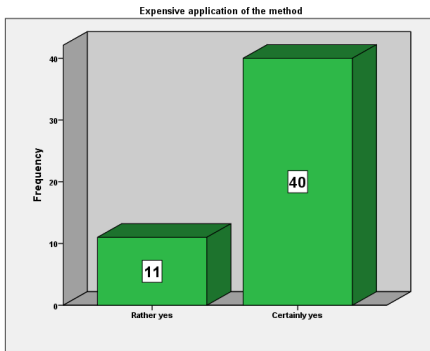


Figure 2.19 Expensive application of the method

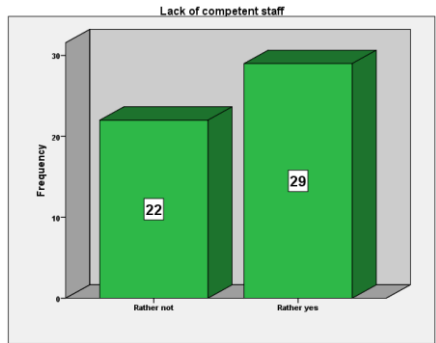


Figure 2.20 Lack of competent staff

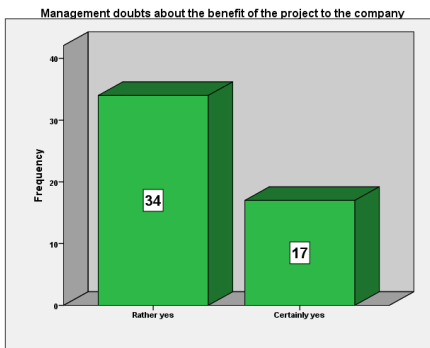


Figure 2.21 Management doubts about the benefit of the project to the company

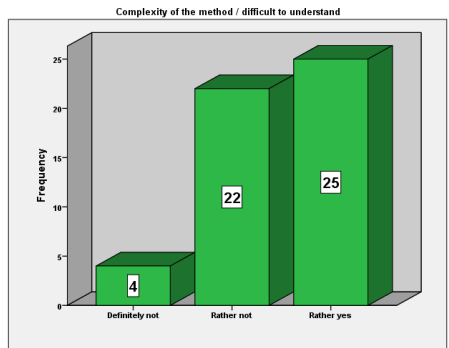


Figure 2.22 Complexity of the method/ difficult to understand

Based on the results presented in Table 2.13 and Figures 2.17 to 2.22, we can observe that most companies consider the reason for not using the ABC method to be that the application of the ABC method is expensive. This is how 78.4% of businesses responded.

Based on the nature of the variables (by testing the normality of the distribution of variables), we will use non-parametrical tests to test hypothesis 5, since the variable “Reason for not using the ABC method” is not a continuous variable.

In hypothesis 5, we looked at whether there was a statistically significant difference in the perception of the reasons for not using the ABC method in companies. To analyse the hypothesis, taking into account the nature of the variables, we used a non-parametric Wilcoxon pair test.

Table 2.14

Reason for not using the ABC method

Wilcoxon pair test			Ranks	N	Mean Rank	Sum of Ranks
Z Asymp. Sig. (2- tailed)	-1.029 0.303	The assumption that implementation of the project would be highly time-consuming – Need to reorganise the company before implementation	Negative Ranks	19	15.50	294.50
			Positive Ranks	12	16.79	201.50
			Ties	20		
			Total	51		
Z Asymp. Sig. (2- tailed)	-2.125 0.034	Expensive application of the method – Need to reorganise the company before implementation	Negative Ranks	8	12.50	100.00
			Positive Ranks	18	13.94	251.00
			Ties	25		
			Total	51		
Z Asymp. Sig. (2- tailed)	-5.611 0.000	Lack of competent staff - Need to reorganise the company before implementation	Negative Ranks	41	22.27	913.00
			Positive Ranks	2	16.50	33.00
			Ties	8		
			Total	51		
Z Asymp. Sig. (2- tailed)	-1.791 0.073	Management doubts about the benefit of the project to the company – Need to reorganise the company before implementation	Negative Ranks	22	15.00	330.00
			Positive Ranks	9	18.44	166.00
			Ties	20		
			Total	51		

Z Asymp. Sig. (2- tailed)	-5.436 0.000	Complexity of the method/ difficult to understand – Need to reorganise the company before implementation	Negative Ranks Positive Ranks Ties Total	37 0 14 51	19.00 0.00	703.00 0.00
Z Asymp. Sig. (2- tailed)	-3.838 0.000	Expensive application of the method - The assumption that implementation of the project would be highly time-consuming	Negative Ranks Positive Ranks Ties Total	2 20 29 51	11.50 11.50	23.00 230.00
Z Asymp. Sig. (2- tailed)	-5.121 0.000	Lack of competent staff - The assumption that implementation of the project would be highly time-consuming	Negative Ranks Positive Ranks Ties Total	32 0 19 51	16.50 0.00	528.00 0.00
Z Asymp. Sig. (2- tailed)	-1.147 0.251	Management doubts about the benefit of the project to the company – The assumption that implementation of the project would be highly time-consuming	Negative Ranks Positive Ranks Ties Total	12 7 32 51	10.00 10.00	120.00 70.00
Z Asymp. Sig. (2- tailed)	-5.774 0.000	Complexity of the method/ difficult to understand – The assumption that implementation of the project would be highly time-consuming	Negative Ranks Positive Ranks Ties Total	40 0 11 51	20.50 0.00	820.00 0.00
Z Asymp. Sig. (2- tailed)	-5.825 0.000	Lack of competent staff - Expensive application of the method	Negative Ranks Positive Ranks Ties Total	42 0 9 51	21.50 0.00	903.00 0.00
Z Asymp. Sig. (2- tailed)	-4.271 0.000	Management doubts about the benefit of the project to the company – Expensive application of the method	Negative Ranks Positive Ranks Ties Total	26 3 22 51	15.00 15.00	390.00 45.00
Z Asymp. Sig. (2- tailed)	-6.069 0.000	Complexity of the method/ difficult to understand – Expensive application of the method	Negative Ranks Positive Ranks Ties Total	46 0 5 51	23.50 0.00	1081.00 0.00

Z Asymp. Sig. (2- tailed)	-5.380 0.000	Management doubts about the benefit of the project to the company – Lack of competent staff	Negative Ranks Positive Ranks Ties Total	0 33 18 51	0.00 17.00	0.00 561.00
Z Asymp. Sig. (2- tailed)	-1.318 0.187	Complexity of the method/ difficult to understand – Lack of competent staff	Negative Ranks Positive Ranks Ties Total	17 12 22 51	16.06 13.50	273.00 162.00
Z Asymp. Sig. (2- tailed)	-5.811 0.000	Complexity of the method/ difficult to understand – Management doubts about the benefit of the project to the company	Negative Ranks Positive Ranks Ties Total	39 0 12 51	20.00 0.00	780.00 0.00

Source: own

The Wilcoxon pair test resulted in 15 pairs (Table 2.14). These represent comparisons between the two members of each pair. We can conclude that statistically the biggest reason not to use the ABC method is that the application of this method is expensive.

Hypothesis 5 was not confirmed. We rejected the hypothesis because we assumed that another reason would be the greatest.

The suitability of using the ABC method in a particular company can be assessed on the basis of meeting the basic criteria: high volume of overheads and a high number of diverse outputs, a large number of customers, a high degree of automation of production, a high number of different business activities, a high proportion of auxiliary, support and service activities. In the analysed set of companies, we also focused on determining whether mechanical engineering companies have a degree of automation sufficiently high to state the suitability of the ABC method application and whether mechanical engineering companies have a sufficiently high share of overheads for us to claim the necessity of applying the ABC method.

Based on the results in Table 2.15 and Figures 2.23 and 2.24, we can observe that in terms of the degree of automation, the largest group of Slovak companies is more than 50% automated, making up 41.2% of the total, while the largest group of Czech companies are automated at 21-50%, making up 38.5% of Czech companies. The

higher the percentage of automation, the more suitable it is to apply the ABC method.

Table 2.15

Degree of automation

Country	Degree of automation	Number	Percentage	Country	Degree of automation	Number	Percentage
Slovak Republic	0%	8	11.8	Czech Republic	0%	5	9.6
	1-20%	17	25.0		1-20%	12	23.1
	21-50%	15	22.1		21-50%	20	38.5
	more than 50%	28	41.2		more than 50%	15	28.8
	Spolu	68	100.0		Spolu	52	100.0

Source: own

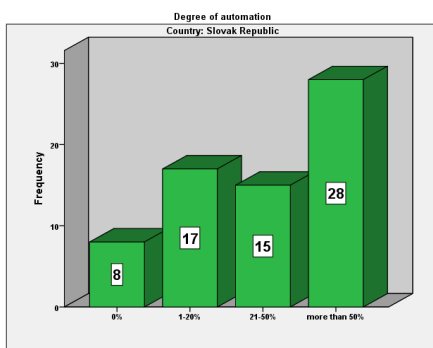


Figure 2.23 Degree of automation in Slovak Republic

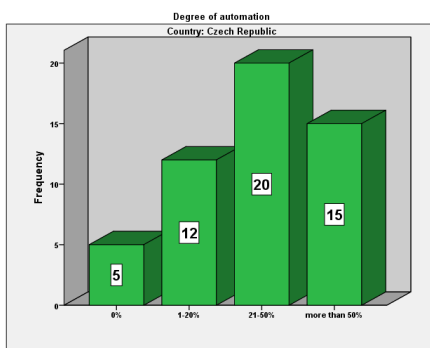


Figure 2.24 Degree of automation in Czech Republic

Based on the nature of the variables, we use non-parametric tests to test the research question about the degree of automation.

Here we find out whether there is a statistically significant difference in the degree of automation relative by country. To analyse the research question, we used a non-parametric Mann-Whitney U-test for 2 independent selections, taking into account the nature of the variables.

If there is a value in the Asymp. Sig. (2-tailed) less than 0.05, then there is a statistically significant difference between the groups.

In our case, the value is 0.618, and we can conclude that there is no statistically significant difference in the degree of automation between the two countries (Table 2.16).

Table 2.16

Mann-Whitney U-test

Country	N	Mean Rank	Mann-Whitney U-test	Degree of automation
Slovak Republic	68	61.82	Mann-Whitney U	1678.000
Czech Republic	52	58.77	Wilcoxon W	3056.000
Total	120		Z	-0.499
			Asymp. Sig. (2-tailed)	0.618

Source: own

The degree of automation is one of the significant factors or criteria for the suitability of the ABC method. The second important condition is a high level of overheads (Table 2.17).

Table 2.17

Share of overheads

Country	Share of overheads	Number	Percentage
Slovak Republic	up to 20%	15	22.1
	21-40%	35	51.5
	above 40%	18	26.5
	Total	68	100.0
Czech Republic	up to 20%	7	13.5
	21-40%	30	57.7
	above 40%	15	28.8
	Total	52	100.0

Source: own

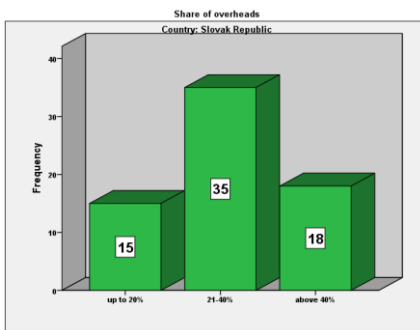


Figure 2.25 Share of overheads in Slovak Republic

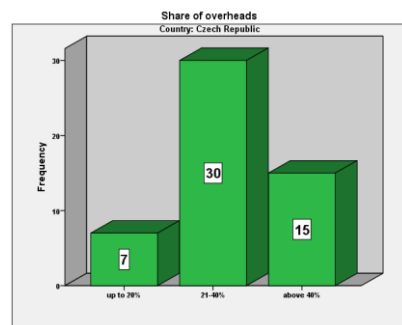


Figure 2.26 Share of overheads in Czech Republic

Based on the results presented in Tables 2.16 and 2.17 and Figures 2.25 and 2.26, we can observe that in terms of the share of overheads, the largest group of Slovak companies report these costs at the level of 21 to 40%, and such companies make up 51.5% of Slovak companies. Also, most (57.7%) Czech companies report overhead costs of 21 to 40%.

Based on the nature of the variables, we use non-parametrical tests to test research question 2.

Here we determine whether there is a statistically significant difference in the share of overheads relative to the country. To analyse the research question, we used a non-parametric Mann-Whitney U-test for 2 independent selections, taking into account the nature of the variables.

Table 2.18

Mann-Whitney U-test				
Country	N	Mean Rank	Mann-Whitney U-test	Share of overheads
Slovak Republic	68	58.38	Mann-Whitney U	1623.500
Czech Republic	52	63.28	Wilcoxon W	3969.500
Total	120		Z	-0.848
			Asymp. Sig. (2-tailed)	0.396

Source: own

In the Asymp line. Sig. (2-tailed) is 0.396 and this means that there is no statistically significant difference between the groups. Based on the results in Table 2.18, we note that there is no statistically significant difference in the share of overheads by country.

In practice, 31.9% of businesses use the ABC method. A degree of automation above 20% is reported by 63.3% of companies in the Slovak Republic and 67.3% of companies in the Czech Republic. The share of overheads above 40% is reported by 26.5% of companies in the Slovak Republic and 28.8% of companies in the Czech Republic. Based on these findings, we can conclude that many businesses meet the two important conditions that determine the suitability of the application of the ABC method and yet do not apply it.

Conclusions

By analysing and evaluating hypotheses, we found that in both the Slovak Republic and the Czech Republic, the traditional method of cost calculation is the most commonly used method in the mechanical engineering sector. The same utilization rate of this costing method in both countries was confirmed.

However, it was not confirmed that the biggest advantage of the traditional costing method is its simple set up and easy acquisition of input data. This is because the ease regarding time and finances of setting up this costing method is equally perceived. Therefore, these are the main reasons for preferring this costing method in the mechanical engineering industry. Businesses still like to use it, even though it is generally less accurate. The method uses a universal scheduling base to assign all overheads, and in particular in larger companies, distortions and inaccuracies may occur. Traditional costing calculation overestimates the cost of activities that are non-demanding in terms of use of overheads, and conversely it underestimates the costs of activities that generate more overheads than the average. This is generally seen as a limitation of traditional indirect cost allocation systems that somewhat distort actual cost accounting.

The analysis also showed that many companies meet two important conditions (degree of automation, share of overheads) for the suitability, even necessity, of applying the ABC method and yet do not apply it.

However, the reason for not using the ABC method in mechanical engineering companies is not low knowledge of this method, which was our prediction. Statistically, the biggest reason not to use the ABC method was that the application of this method is expensive. From the data collected, we found that the ABC method was used more by medium and large companies. This is probably due to the cost of implementing the ABC model into the company's information system.

High-quality management accounting is necessary for quantifying production (and service) costs and determining market prices. However, this does not mean that it can only be built on complete implementation of the ABC method, which requires high input costs for the company. The ABC system should be understood more as an

alternative cost tool for managers or business owners. The application of the ABC system will increase the accuracy of detecting actual costs and could guarantee smarter and more competitive prices on the market. However, the ABC method has its own shortcomings and limitations to take into account. Successful ABC application requires the existence of support systems that provide more detailed and accurate information. In particular, a detailed analytical breakdown of costs so that they can be accurately identified for the activities. However, in a suitable, highly automated environment, the implementation of ABC brings dynamic cost determination in addition to continuous and instantaneous communication through regular information flows. Perhaps in the current period of the corona crisis it is advisable to transform the business into a new form.

Many business owners and managers have already understood that it is essential in the period we are entering to respond to the rapidly changing situation in the markets and in the business environment.

In addition to the temporary shortfall in sales and revenues, it is necessary to expect changes in consumer behaviour in terms of which goods, products and services they directly or indirectly move towards. These changes will be less pronounced in some sectors and more significant in others. It will certainly affect mechanical engineering businesses too. If a business wants to be successful, it needs to respond to changes in the market. Perhaps now is the time to change business governance and start building flexibility, creativity and aim to best manage the market situation, even if we do not know it in advance. We carried out the analysis in the Slovak and Czech Republics, but the findings and conclusions can be understood and applied generally, also in other countries.

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**MECHANISM OF
MANAGEMENT OF
BANKS' CAPITAL IN THE
CONDITIONS OF
OPPOSING
GLOBALIZATION
CHALLENGES AND
THREATS**

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Abstract

The essence of bank capital and its functions, methods of assessing the level of bank capitalization are revealed. The influence of foreign capital in ensuring the capitalization of the banking sector of Ukraine is analyzed. The regulatory support for the regulation of bank capital in Ukraine is considered.

Keywords: *bank capitalization, capital management mechanism, banking system, Ukraine, globalization.*

Introduction

The banking system is an important element of the market economy, which ensures both the regulation of monetary circulation and the movement, redistribution and efficient use of financial resources. The performance of these functions largely depends on the capital of the banking system itself, which consists of the own capitals of the banks included in it. This is due to the fact that the capital of the bank itself is the primary source of the banking system and, in addition, it is able to “attract” the resources of other business entities and individuals in proportion to its volume.

Materials and Methods

The purpose of the article is to reveal the theoretical, methodological and practical aspects of the capital management mechanism of banks. In the course of the research, a systematic approach, methods of analysis and synthesis, deduction, generalization, logical method and others were used.

Results and Discussion

The bank's capital is the main indicator of its ability to further develop, since the capital itself is an extremely important and necessary element of ensuring economic independence, profitable activity and, as a result, increasing the bank's financial stability. Strengthening the resource base of banks, integration of the banking system of Ukraine into the world community will mostly depend on the growth of banks' own capital. Such processes as the concentration of capital, the growth of competition and the influence of foreign bank capital on the national economy affect the activation of the processes of the formation of banks' own capital.

The concentration of bank capital in countries with a transition economy took place in two ways. The first was characterized by the creation of large banks through the merger of local commercial banks. But such a union did not lead to an improvement in their economic situation. For example, the banking associations of Slovakia, having become monoliths in the market of banking services, conducted a credit policy in the hope that in the event of certain difficulties, they would be able to receive help from the state or from international institutions. The second way is characterized by cross-border mergers and acquisitions (the experience of the Czech Republic, Poland, and Hungary).

The development of the banking system of Ukraine has gone from quantitative to qualitative growth. Ukraine used both ways of bank capitalization. The analysis of trends in the capital formation of Ukrainian banks over the past five years makes it possible to draw conclusions about the concentration of capital in the largest banks and the decrease in the share of assets of small banks in the total assets of the banking system of Ukraine. The process of bank capital concentration continues.

The first positive trends in the capital increase of the banking system of Ukraine indicate that the banking system is at the stage of development and a significant increase in capital is still needed in order to adequately finance economic growth.

One of the peculiarities of the functioning of Ukrainian banks is strict control by the National Bank of Ukraine on compliance with economic regulations, the basis for which is calculated by equity capital. The National Bank of Ukraine allowed banks to raise funds

on the terms of subordinated debt by issuing bonds in the amount of 100,000 hryvnias and thus increase their regulatory capital. Such bonds must be issued in non-documentary form. They can be simple, urgent and interest-bearing with a limited range of placement and be in circulation only within the limits of the circle of persons determined in advance by the bank and approved by the National Bank of Ukraine. Funds raised on the terms of subordinated debt through the issuance of bonds are included in the bank's capital after the National Bank of Ukraine has given the appropriate permission.

The increase in the balance sheet capital occurs through its real increase, in particular – reinvestment of profits. This was influenced by the strict position of the National Bank of Ukraine regarding the increase of capital by an artificial method – at the expense of borrowing or revaluation of fixed assets.

In different countries, banks use different methods of concentration of bank capital. US banks, for example, followed the path of massive capital raising at the expense of additional issuance of shares and subordinated bonds, as well as an increase in the fund of redistributed profits. In Great Britain, banks prefer to adjust the structure of the asset portfolio (namely, the size of assets classified by the degree of development). For many years, Japanese banks actively used the means of “inflating” the capital base by including in it the nominal profit from the increase in the market price of the investment portfolio. If American practice can be acceptable for domestic banking institutions, then the experience of British and Japanese banks should be used with caution. However, it should be borne in mind that attracting additional capital in the form of issuing new shares causes a reduction in dividends, and therefore disapproval of shareholders.

The main methods of capital increase by banks are dictated by changes in regulatory documents of the National Bank of Ukraine.

Tactical measures to solve the capitalization problem can be considered:

- increase of capital due to subordinated debt, which includes improvement of the mechanism of its attraction; attracting subordinated debt through the issuance of deposit certificates and bank bonds, as well as through the issuance of bank Eurobonds;
- increase of statutory, additional capital and the capital

calculation mechanism (capital increase by improving the mechanism of regulatory capital calculation; increase due to the growth of bank profit; increase due to additional contributions of shareholders/participants of the bank; due to the issue of preferred shares by banks);

– increasing the capital adequacy index due to the consolidation of the banking system, in particular consortium lending, the creation of banking associations, groups and corporations, as well as the merger of banks (Ostrovska, Shvets, 2017).

The experience of developed countries shows that in their financial systems consolidation is carried out in several directions:

– among institutions that compete in one segment of the country’s financial sector (Bank of Germany);

– among institutions that operate in different market segments of the same country (the bank of Great Britain – the insurance company of Great Britain);

– among institutions operating in the same segment of the financial sector, but located in different countries (bank of Finland – bank of Switzerland);

– among institutions that occupy different market segments and operate in different countries (US bank – investment company of Great Britain).

According to economists, the reasons for financial consolidation include:

– striving to reduce costs due to economies of scale, reduction of tax liabilities and more efficient allocation of resources;

– the desire to increase profits through product diversification and universalization of activities.

Modern economic development is characterized by globalization, diversification, unification and liberalization of financial markets. The main reasons for the merger are the competitive environment. According to specialists, banks with below-average assets and dependent on a limited range of clients, have an unstable resource base, are undercapitalized – are the main contenders for consolidation with more efficient or larger banks. Practically all banks of the fourth group are subject to consolidation, and today it is more than banks.

Bank capital concentration processes have also intensified in the

countries of Central and Eastern Europe. The increase in the capitalization of the banking system is facilitated by the inflow of foreign banking capital. Special attention of foreign banks is aimed at Eastern Europe, where the share of banking assets under foreign control has increased to almost 60%. In our opinion, this is, first of all, connected with the processes of globalization penetration of economies and the aggravation of competition in the banking market. The majority of foreign banks in the countries of Central and Eastern Europe belong to large banking structures of the European Union. They have a stable capital base at their disposal and constantly monitor the operations of their foreign divisions.

Increasing the capitalization of the banking system of Ukraine due to the inflow of foreign capital should ultimately lead to the development of both the banking system itself and the country's economy as a whole. However, the attraction of foreign capital in the context of investing in the real economy has not yet been observed. For example, after the reorganization of Aval bank into RaiffeisenBankAval, it immediately refused to grant loans to agricultural entrepreneurs in the previous amounts.

As a limitation of the negative impact of foreign capital on the economy of Ukraine, it would be possible to limit the operations of foreign banks, for example in favor of long-term loans to enterprises, as well as create other economic and legal conditions for domestic banks, under which they will create competition with foreign banks in the domestic market.

The National Bank of Ukraine takes measures to increase the level of capitalization of the banking system through the adoption of relevant legislative acts, which determine the optimal size of the main banking indicators regarding the size of the regulatory capital, the ratio of its main components. Based on this, the provisions of the instructions "On the procedure for regulating the activity of banks in Ukraine" came into force, according to which the minimum amount of regulatory capital of banks is established. It is regulatory capital that plays a leading role in neutralizing the main banking risks, it also enables the bank to effectively carry out its activities (Dobrovolska, Haltur, 2011).

One of the most important indicators of the activity of banking institutions is equity, as it is intended to cover the negative

consequences of various risks that banks take on in the course of their activities, as well as to ensure the protection of deposits, financial stability and stability of the country's banking system. The multifunctional purpose of banks' capital is achieved primarily through the mechanism of its volume adequacy. Since the goals of individual capital functions differ significantly, the requirements for capital adequacy of each function also differ, which is clearly manifested in the application of several different indicators (normatives) of capital adequacy in management and regulatory practice. In particular, the goals of financial (resource) provision of the bank's investment needs are most fully met by the absolute amount of authorized capital, especially at the initial stage of its activity. In accordance with the Law of Ukraine "On Banks and Banking Activity", the requirements for the minimum amount of authorized capital of banks at the time of registration were differentiated depending on the territorial scope of its activity.

It should be noted that the National Bank of Ukraine, through the adoption of relevant legal acts, takes measures to increase the level of capitalization of the banking system of Ukraine through the introduction of minimum requirements (normatives) for the size and adequacy of capital (Yankovsky, 2020).

It is worth noting that the goals of the stimulating function of equity capital are most fully met by the total volume of regulatory capital. The relative ratio of regulatory capital in relation to total assets, adjusted for their level of risk, is most closely related to the goals of the guarantee function.

The establishment of efficiency standards of these coefficients opens up opportunities to exert influence with the help of regulatory capital to minimize banking risk, banks' fulfillment of their obligations to depositors and creditors and the formation of their assets in order to optimally satisfy the demand of economic entities for loan capital and maintain the bank's finances in balanced state.

Therefore, the adequacy of the capital of banks is a complex and multifaceted phenomenon that has several quantitatively different measurements, which can only collectively give an idea of the adequacy of the amount of capital to the bank's needs in resources to create a material, technical and intellectual base, to ensure the trust of depositors and creditors in the bank and investors, to comply with

the requirements of regulatory authorities and meet the growing demand for its services from clients.

A significant factor that slows down the development of banking investment business is the absence of norms that determine the basis and procedure for recognizing banks as insolvent, as well as the consequences of such recognition. Meanwhile, banks are very specific participants in civil relations, and therefore their bankruptcy procedure requires special regulation.

The daily practice of banking activity requires the harmonization of domestic legislation that would regulate settlement relations according to international rules to facilitate the entry of Ukrainian banking institutions into international payment systems. The same requirements can be placed on the accounting and statistical reporting system of banks in order to facilitate the analysis of their sustainability by foreign investors.

Management of the banking system also largely depends on the requirements formulated in the current legislation and on the effectiveness of banking supervision. The concentration of banking supervision under the leadership of the National Bank of Ukraine makes it possible to solve only one task – the implementation of the directives of the central bank itself. In this regard, fines and other actions of a repressive nature dominate. In order to strengthen the preventive effect of banking supervision and control, it is advisable to create a special state commission that would perform the functions of an independent expert. At the same time, it should have the right to control the implementation of banking legislation by commercial banks and the National Bank of Ukraine. Failure of banking structures to comply with orders to eliminate identified deviations gives this body the right to inform the general public about it. It is necessary to develop not only a general strategy for the development of the Ukrainian banking system, but also a mechanism of responsibility for accepted obligations at all levels of the banking management hierarchy.

Therefore, strengthening the legislative foundations of the banking system model requires the development and adoption of new laws, as well as the introduction of serious corrections to the current legislation, in particular on the following issues:

- legislative and legal basis for structuring the banking

environment with the allocation of investment, universal, savings banks and other credit institutions;

- outline of spheres of responsibility and fulfillment of obligations of each level of the banking system (National Bank of Ukraine and banks of the second level);

- development on a legislative basis and introduction of a mechanism for stimulating hoarding of individuals and legal entities, which should be based on state guarantees regarding the preservation of hoards, as well as measures that would encourage hoarding;

- subordination of all adopted decisions and legislative norms to the criterion of ensuring banks' responsibility for obligations to partner banks, shareholders, founders, depositories, all individuals and legal entities and to the state.

The basic principle of banking investment activity is the development of the financial and banking infrastructure, which primarily includes non-banking financial and banking institutions.

As international experience shows, non-bank financial institutions can potentially play an important role in the economic growth and development of the country due to the fact that they offer a much wider range of financial instruments than banks. Non-bank financial institutions can make a significant contribution to the mobilization and investment of population savings. Thus, leasing institutions contribute to the elimination or significant reduction of the financing deficit of small businesses. Credit unions play an important role in the market segment of small depositors and investors, they can potentially fill the deficit of relevant services for the population. And this, in turn, creates additional incentives for intermediation of involved savings (primarily personal savings of citizens) and for expanding the possibilities of enterprises regarding the sources of financing their activities.

Therefore, banks conduct their investment activities under conditions of competition from non-banking financial institutions, because the banking system and non-banking financial institutions are the main financial intermediaries, which, offering investors alternative options for investing their savings, are competitors in the market of financial services. Non-bank financial institutions have historically supplemented, and in some areas – replaced the banking system, especially when attracting resources to risky innovative

projects and to finance small investments, primarily individuals. Regarding the place of non-banking financial institutions in the modern structure of the financial system, the banking system continues to dominate here as a financial intermediary. Such a conclusion can be reached on the basis of the fact that the real sector of the economy received the main part of the resources involved at the expense of a bank loan, and not through the fund mechanism. Today, the majority of corporate securities are issued not for the purpose of mobilizing additional funds for the development of production, but for purposes related to the privatization of state property, redistribution of property, establishment of control over the enterprise, etc. Obstacles to the development of banking investment activities are deformations in the group structure of the banking sector.

Despite the fact that in recent years positive trends have been outlined in the banking system of Ukraine, today there are still serious structural problems in the activity of banks that require research and resolution. One of the important problems of bank functioning compared to any world-class bank is the problem of bank size (assets and capital). The lack of a unified state policy on the development of a market-type banking system led to the fact that the formation of banks took place mostly spontaneously, without proper control and assistance from the state. As a result, many small, «pocket» banks were formed in Ukraine, poorly equipped with personnel, capital and modern technology, unable to concentrate credit resources and direct them to the development of the Ukrainian economy. At a time when capital concentration processes were taking place in the world, it was dispersed in Ukraine.

At the stage of formation of the banking system in Ukraine (until the end of 1992), the optimal number of banks was formed – 133, which had 1751 institutions on the territory of Ukraine, while 1618 of them belonged to the 6 largest banks. The banking system of Ukraine at that time had an optimal pyramidal structure: the five largest (by capital size) banks, a group of medium-sized banks, and a group of small banks. Such a structure minimized the risk of a systemic crisis in the banking system and increased the transparency of banking operations. The structure of the banking systems of the USA, Japan, and other developed countries is similar, where there

are a small number of powerful banks and a significant number of small ones. Thus, in the USA, 50 banks play a leading role in the economy, in which a third of all bank assets are concentrated, in France, 27% of assets are owned by 3 banks, and in India, 28 banks carry out 90% of all banking operations.

Despite the demands of international financial organizations about the need for consolidation, in the economies of many countries medium and small banks compete on the market alongside large banks. The process of mergers and concentrations in the banking sector is hindered by the following factors:

- financial nature – they are caused by a lack of own financial resources;

- legal nature – cooperative banks, in particular, suffer from these factors;

- social character – determined by the human factor.

Under the conditions of globalization, the key factors for the success of small and medium-sized banks should be their compliance with certain rules and strategic principles that allow small banks to maintain their competitive advantages.

To preserve competitive advantages, small and medium-sized banks should: concentrate their efforts on one or more basic types of activities; be cautious in diversifying your activities; use various schemes and forms of cooperation; increase the level of professionalization, etc. After all, medium and small banks are not systemic banks, since they do not have a large number of branches, practically do not serve corporate clients, their liabilities do not even amount to 10% of the liabilities of the banking system of Ukraine. They do not take an active part in national banking projects and programs of economic development and are less controlled by the National Bank of Ukraine (the function of the Department of Banking Supervision of the National Bank of Ukraine includes supervision of the activities of large banks). Despite a large number of their own problems, small banks perform a number of very important functions for the country's economy. They are more mobile, it is easier to negotiate a price with them, and they are a factor that demonopolizes the market.

In order to create an effective banking system, it is necessary to annually develop strategies for the development of the banking

system both on the part of the National Bank of Ukraine and the Verkhovna Rada of Ukraine, to optimize its structure in relation to the amount of capital, assets, population, investments in the economy and other parameters.

Among specialists, there are different points of view on the formation of banking investment activity in Ukraine, including its institutional component. There are many proposals for the creation of specialized investment banks and a state bank that would be engaged in investment lending and financing of investment development of the country's economy. As for the creation of a state investment bank, in Ukraine, in 2004, the Cabinet of Ministers of Ukraine established the Ukrainian Bank for Reconstruction and Development (registered by the National Bank of Ukraine on March 19, 2004) for the financial support of innovative activities and crediting of investment projects of Ukrainian enterprises. The main shareholder is the State Innovation Company. However, the creation of such a bank is negatively evaluated both by the National Bank of Ukraine and by international financial organizations – the International Monetary Fund and the World Bank – fearing that such a bank will issue preferential loans to those enterprises supported by the government.

At the same time, the National Bank of Ukraine proposed the creation of a Development Bank on the basis of the German-Ukrainian Fund. The founders will also be the National Bank of Ukraine and the Cabinet of Ministers of Ukraine, whose share in the bank's statutory fund should be insignificant, which is intended to limit the influence of the state on the bank's activities. The main purpose of this bank will be lending to small and medium-sized businesses. The creation of the development bank is due to the fact that the fund has experience and qualified management, this gave it the opportunity to form a high-quality loan portfolio, in which only 1% of unreturned loans.

The norms of the law lay down the conditions for the creation of full-fledged institutions of joint investment, the proper organization of their work, the creation and development of the infrastructure necessary for their activity. At the same time, "old-type" funds may formally exist until 2030 in parallel with new-type joint investment institutions, or their transformation into corporate funds should take

place, when the investment certificates of unitholders will be replaced by ordinary fund shares. According to the experts of the International Monetary Fund, to meet the needs of both large portfolio and ordinary small investors in Ukraine in the near future, it is advisable to create 30-40 powerful mutual and corporate funds, among which an important place should be occupied by such a variety of joint investment institutions as venture funds, which can become an important source of innovative capital.

Conclusions

Considering the above arguments, it can be stated that the Ukrainian stock market is formed according to a model similar to the European one. The trends emerging in the economy of Ukraine and in privatization processes also prove that in the long term, building a market based on the European model is more realistic than the American one. Today, pension and investment funds, as well as insurance companies, have already been created in Ukraine, which, however, have not become the main participants in transactions with securities. Of the commercial banks, there are no investment banks that would specialize in stock market operations. Such operations are primarily performed by commercial banks. Currently, in the banking system of Ukraine, there is a tendency to universalize banks, and not to fragment them. One of the main trends in the international stock markets is also the universalization of the activities of financial institutions that are able to provide their clients with a full range of financial services, including in the securities market.

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Chapter 3

THE TOOLS FOR SUPPORTING ENTREPRENEURSHIP AND SECTORS OF THE NATIONAL ECONOMY IN THE FACE OF TRANSFORMATIONAL CHANGES

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**MARKET OF SOUTH
KOREA – A GREAT
UNKNOWN EVEN
FOR EUROPEAN
ENTREPRENEURS**

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Abstract

If a company wants to be successful, it must pay attention to the influences of the environment, analyse them and adapt its activities to them in connection with the current and future development of the environment. The companies do not have the possibility to directly control and regulate these influences. It is also often the case that what represents a threat to one company's existence can be an opportunity for development for another. The marketing environment is not static and is characterised by variability over time, which brings a higher degree of uncertainty along with it when making the right decisions. The

ambition of the authors of the scientific seminal treatise is to point out the importance of the most comprehensive knowledge of the macro and micro environment of international markets for business entities interested in effectively entering and maintaining them, with the specification of the market analysis of South Korea as a prospective business partner for the expansion of EU companies into its market.

Keywords: *marketing environment, analysis of the international environment, economic development of South Korea.*

Introduction

When entering a foreign market, business entities often find themselves in an environment completely different from the domestic environment. Their activity in foreign markets then interacts with the environment, which influences and shapes their business strategies in different ways and with different intensities. If a company wants to be successful, it must pay attention to the influences of the environment, analyse them and adapt its activities to them in connection with the current and future development of the environment. It is necessary to point out that companies do not have the possibility to directly control and regulate these influences. It is also often the case that what represents a threat to one company's existence can be an opportunity for development for another. The marketing environment is not static and is characterised by variability over time, which brings a higher degree of uncertainty along with it when making the right decisions. The variability of the environment brings changes that can affect the company negatively (threats) but also positively (opportunities). Changes can happen slowly or quickly. Slow changes can be predicted; sudden changes are more difficult to foresee.

1. The importance of international marketing environment analysis

The marketing environment itself can be divided into macro environment and microenvironment. The central element of the company's microenvironment is therefore the company itself – its employees, but also its customers, suppliers, its distribution channels and competition. In contrast, the macro environment is formed by the company's broad surroundings. This environment represents such

social influences that affect the microenvironment as a whole. These are economic, technological, and demographic influences, but also cultural, political-legal influences (which could be summarized as socio-economic-political characteristics of a certain environment) and also natural conditions. Nowadays, these conditions by devastation or disruption of sustainable development, especially by the negative activities of business subjects, represent more of a threat than an opportunity for them. While the microenvironment consists of companies and individuals that directly affect society, the impact of the macro environment is less visible but no less important. It includes general trends and influences that may not be directly or immediately reflected in the company's relations with customers, suppliers and buyers, but sooner or later the macro environment changes the nature of these relations. For instance, a change in the country's population structure can serve here as an example, since it will not immediately appear in the company's relations, but will later affect the composition of not only the customer base but also the employee base. The macro environment is complex and independent (Kincl, J. et al. 2004, Kotler, P. – Armstrong, G. – Saunders, J. – Wong, V. 2008. in: Zorkóciová, O. 2016).

The economic environment primarily affects the profitability of business activities. It is necessary to examine the level of economic development of the partner country and its industrial structure. Other factors that affect the economic level of a country, in addition to income, are savings, debts and credit availability. Other economic indicators include market capacity and market size based on population, market capacity based on GDP, income and property stratification, economic development and structure, and infrastructure level. The national product (per capita) per inhabitant indicates the overall economic level of the country, conditions the market capacity and the purchasing power of individual entities. Economic development and the structure of industries, as well as the level of infrastructure condition the level of economic indicators and have a decisive influence on the general living and social standard of the population. The development of the commercial infrastructure is also important – business networks, advertising agencies, consulting and information firms, and intermediary firms (Zorkóciová, O. 2016).

The political and legal environment primarily influences decisions about the basic possibilities and forms of business. The state can use a variety of measures, from discriminatory ones to measures such as expropriation. State interventions can have various goals such as national interest, collective welfare, security, prestige, power, etc. Economically advanced countries with a high standard of living are characterised by a favourable political situation supporting business activities. This situation not only helps the business development of domestic entities but also has a positive effect on the supply and activity of foreign capital (Zorkóciová, O. 2016).

The cultural and social environment are important factors that often determine the success or failure of entering a company into a foreign market as well as maintaining on it. Culture can be defined as *the identity of people, which creates a pattern of relations and behaviour of society* (Machková, 2006). Individuals are strongly inclined to accept and believe what their culture tells them, and regardless of objective validity, they ignore or block out anything that contradicts their cultural truth or conflicts with their beliefs. This also results in a certain bias towards changes. Although cultural influences have a dynamic nature, they change relatively slowly, in accordance with how society itself changes (Zamykalová, 2002, p. 48). For employees of business entities who have ambitions to develop business in a foreign market, it is necessary for them to know the basic attitudes and values of its consumers, which are usually transmitted from generation to generation and are strengthened by social institutions and organizations. However, there are also secondary opinions and values that are subject to change and that an individual creates in contact with other members of society. The company can influence precisely these secondary opinions of its customers, it has only minimal influence on changing the primary ones (Kinel, 2004).

The natural environment is made up of natural resources that form the inputs of production processes and all aspects that affect the input of these resources into the production process. The lack and non-renewability of natural resources become essential. When planning business events of international nature, it is necessary to take into account such aspects as the lack of raw materials, increased energy costs, increased pollution and the changing role of the

government in environmental protection. Ecology is a factor that the company must respect more and more.

Regarding innovations and the technological and technical environment, the last century brought a lot of changes precisely in the area of innovations in new technologies. The trend of shortening the life cycle of products on the market is deepening. New technologies are increasingly shaping people's lives and influencing the way resources are transformed into products. In addition to great discoveries and inventions, these include small everyday innovations and improvements that bring new opportunities for production and services and help satisfy new, often subconscious customer needs. A competitive advantage transformed into gaining more market share or increasing profits can free up funds for new investments, which can be transformed into new technologies. However, in addition to opportunities, innovations also represent possible threats to those who do not follow the changes. Each new technology brings along with it certain "creative destruction", i.e. it displaces the previous technology. The technological environment provides information about the technical maturity of the country – its market and the possibility of using its scientific and research potential. A company's microenvironment is as important a component as its macro environment. In the international dimension, it is a multicultural environment not only of the employee base itself (expatriates, domestic employees, employees from other countries), conditioned by the development of technology and the increase in the share of online work, with the possibility to participate in it today literally from all over the world (Internet nomads or avatars working in the internet offices of companies, etc.) but at the same time also its other components – the so-called primary stakeholders (customers, suppliers, shareholders, etc.) as a summary of all subjects, including individuals, who directly or indirectly influence its activities. Another aspect of corporate culture is its often close connection with national culture when many aspects of national culture are transferred to corporate culture. Therefore, knowledge of these aspects is very important for success in business activities in international markets.

2. Current characteristics of the marketing environment of South Korea

2.1 The most important milestones of South Korea's economic development

Back in the 1960s, South Korea was one of the poorest countries in the world, relying on foreign aid, but it only took five decades for the once-poor, low-income country to become a global innovation leader. In the 21st century, the Republic of Korea is one of the key leaders in the world economy, it is part of the G20 forum and many other important international organizations, it dominates its activity in the information and communication technology sector, it managed to rapidly transform the basis of the economy from an agriculturally oriented to an industrial one, in which the greatest added value is generated by high-tech products, and the driving force of economic growth are sectors such as the electrical engineering industry, the automotive industry, engineering and petrochemicals. In addition to remarkable economic growth, South Korea is one of the few Asian countries that has also achieved a high level of democracy in the country (Moon, H. 2016).

Gross national income (GNI) per capita in South Korea was only 76 USD in 1953, but over time it increased to 33,434 USD in 2018 (Jung, M. 2019), when the Republic of Korea became the seventh country in the world included in the so-called “30-50 club of economic powerhouses” – countries with a population of over 50 million inhabitants and a gross national income per capita exceeding USD 30,000 (Yonhap News Agency, 2019).

At the beginning of the 60s of the 20th century, South Korea's plans to strengthen foreign trade and the development of a pro-export-oriented economy were fully implemented. Initially, the export of light industry products, unprocessed materials, and raw materials dominated. It didn't take long for the country to start investing in heavy industry, in sectors such as shipbuilding, steel, and the chemical industry. In 2020, the Republic of Korea already played an important role in the world economy in many other areas of industry, including the oil industry, the automotive industry, and of course the electrical industry. The value of South Korea's exports in 1960 was only about \$33 million, but seventeen years later, in 1977,

the \$10 billion mark was surpassed. In 2019, the value of South Korean exports was already over 540 billion USD (Korea.net, 2020).

As for the GDP indicator, in 1960 the gross domestic product of the Republic of Korea was approximately 3,958 billion USD since in 1980 it already reached the value of 65,399 billion USD (which is more than sixteen times more than the 1960's value). In 2000, the GDP of the Republic of Korea already reached over half a trillion USD, and the threshold of 1 trillion USD was surpassed in 2010 (Korea.net, 2020).

There are several factors behind the remarkable economic growth and economic success of South Korea, but the consistent transformation of the economy into a pro-export-oriented one is generally considered to be the most beneficial, e.g. by supporting the development of South Korean corporations, also known as "chaebol". Chaebols are essentially large, powerful and very important (family) corporations for the South Korean economy, which have become a strategic part of the country's economic transformation. Examples of such corporations include Samsung, LG, Hyundai, Kia and others. Other factors are high investments in research and development, and last but not least, the perception of high-quality education and human resources is one of the driving forces of the country's economic growth.

South Korea has been able to grow rapidly economically and economically since the 1960s thanks to technology imported from developed countries. But the South Korean government began to realize that rapid industrial development in the country also means more sophisticated and complex technological requirements for the development of individual domestic industries. In addition, the developed market economies from which the necessary technologies came to South Korea began to perceive the Republic of Korea as a potentially strong competitor in international trade, based on its apparently rapid economic growth. Therefore, over time, it became more difficult for South Korea to acquire additional technologies from the outside. This is where the South Korean government made a key decision to build its own domestic research and development capacity. The National Research and Development (R&D) Programme was launched in 1982 and private South Korean companies were motivated to invest in science and research also

thanks to government tax breaks, provision of consulting services or export support. South Korean investments in R&D in 1981 represented 0.81% of GDP for a given year, in 1996 it was over 2.5% of GDP for a given year, and in 2005 it was almost 3% of GDP (Chung, S., 2007). In 2019, the Republic of Korea was the second largest investor in the field of science and research within the OECD grouping. In 2019 it invested up to 4.64% of GDP in R&D, while the average for all OECD members was approximately 2.48% of GDP in 2019 (OECD, 2022).

2.2 Current economic characteristics of South Korea

As we have already mentioned, one of the reasons why the Republic of Korea made rapid economic progress in the second half of the 20th century was the strong support for the development of an export-oriented economy. Even though South Korea's economic growth has slowed down due to the COVID-19 pandemic, the value of exports in July 2021 increased by a remarkable 29.6% compared to the same month in 2020 (Kim, C. 2021). According to WTO data for 2020, the Republic of Korea's GDP value was approximately 1.63 trillion USD, exports of goods and services were approximately 598.64 billion USD, and imports of goods and services were approximately 569.22 billion USD (WTO, 2022). After calculations based on the above data, we found that the export performance (the share of exports of goods and services to GDP) of the Republic of Korea in 2020 reached approximately 37%, the import intensity (the share of imports of goods and services to GDP) reached approximately 35%, and the openness of the economy (the share of export and import of goods and services to GDP) of the Republic of Korea reached approximately 72%.

In 2020, the Republic of Korea was the seventh largest exporter of goods with a share of almost 3% in global exports of goods. In the same year, it was the 16th largest exporter of commercial services, accounting for 1.8% of global exports of commercial services. As for the import of goods, South Korea ranked ninth with a share of 2.6%. At the same time, it was the thirteenth largest importer of commercial services, with a share of 2.2% (WTO, 2022).

Almost one third of the exported goods of the Republic of Korea in 2020 were electrical machinery, equipment and electrical components. More than 13% of the exported goods were made up of

machines, including computer technology, and more than 10% of the goods exported were means of transport (except for trains, trams, ships, etc.). Among the commodity export groups that participated in the total commodity export by at least 5% are plastic products, mineral oils and petroleum. As for the product groups of imports, about a fifth was made up of electronics – electrical machines, devices and electrical components. Approximately 18.5% of the import of goods was made up of mineral oils and petroleum. Machinery, including computer technology, was the third most important goods group, with a share of 12.3% (Economic information on the territory 2021, 2021).

In 2020, services contributed more than 57% to the GDP of the Republic of Korea, followed by industry with a share of almost 33%, and agriculture contributed approximately 1.76% to the GDP of South Korea (O'Neil, A., 2022). In 2020, within the service sector, the most important services for the South Korean economy were services in the field of hospitality and gastronomy, followed by real estate services, public services, banking and insurance, and services offered in the field of information and communication. In the 20s of the 21st century, the supporting parts of the South Korean industry are primarily the electrical industry, the automobile industry, the petrochemical industry, the steel industry, and the shipbuilding industry. As for South Korean agriculture, South Korea is approximately 50% self-sufficient in the foodstuff category, with rice, barley, wheat and soybeans being the most widely grown crops. Many agricultural crops also have to be imported into South Korea, primarily corn, soybeans, cane sugar, and wheat (Territory Economic Information 2021, 2021).

Surprisingly, a very important factor influencing the growth of the South Korean economy is also the so-called Hallyu. Hallyu (which roughly translates as the “Korean Wave”) is a Korean word referring to the enormous rise in popularity of South Korean culture since around the 1990s, primarily due to South Korean films, television series, and South Korean pop music known as “K-pop”. The Republic of Korea is the seventh most important country in the cultural and creative industry (films, videos, games, series, etc.) with a share of 2.6% in the global market (Shin, S., 2021). The estimated value by which Hallyu contributed to the increase in South Korea’s

GDP in 2004 is approximately 1.87 billion USD (Martin Roll Company, 2021). In 2019, Hallyu boosted the South Korean economy by generating 12.3 billion USD worth of exports – the total value of Hallyu exports grew by over 22% year-on-year (Yonhap News Agency, 2020). Hallyu has also greatly contributed to the strengthening of South Korean tourism. According to a survey carried out by the Korea Tourism Organization in 2019, the total volume of spending by tourists who came to the Republic of Korea specifically in connection with Hallyu was worth 1.1 billion USD, and tourism motivated by an interest in Hallyu made up 55.3% of the total active inbound tourism of South Korea (Martin Roll Company, 2021).

2.3 Current characteristics of South Korea’s technological environment

In the 20s of the 21st century, South Korea with its sophisticated information and communication infrastructure is home to many important technological giants such as Samsung Electronics, LG Electronics, SK Hynix, Coupang, Inc., Naver Corporation and Kakao Corporation. South Korea’s largest electronics companies (Samsung Electronics, LG Electronics), leading South Korean Internet companies (Naver Corporation and Kakao Corporation), and the largest wireless telecommunications operators in the Republic of Korea (SK Telecom and KT Corporation) share the largest volume of investments in the 2020s to the field of artificial intelligence (AI) (International Trade Administration, U.S. Department of Commerce, 2021).

Considering that from a global perspective, South Korea has been less competitive in AI specifically compared to the US and several other countries, the South Korean government introduced the National AI Strategy in 2019, which aims to promote the development of AI domestically, with the goal of becoming the third most competitive digital economy in the world by 2030. In 2020, an initiative of the South Korean Ministry of Science and ICT (MSIT), the Korean Digital New Deal, was introduced in the Republic of Korea – planned investments of 50 billion South Korean won to build 5G infrastructure and cloud computing infrastructure for the government, and 660 billion of South Korean won to promote

industrial convergence between 5G network and AI (STANGARONE, T., 2020).

Under South Korea's New Digital Deal, 5G technology and blockchain technology should be implemented in public services to make public services in South Korea 100% digital. Furthermore, high-resolution 3D maps of the entire country should be created, intelligent control systems for old underground facilities should be built, IoT (Internet of Things) sensors should be installed on railways, and 4th generation wireless networks should be built for railways in the Republic of Korea (IEA, 2021).

South Koreans have one of the fastest internet connections in the world. In September 2020, according to the "Speedtest Global Index" ranking of the global internet analytics platform Ookla, which compares the mobile internet speed of 140 countries around the world, the Republic of Korea ranked first with an average internet connection speed of 121 megabits per second (Mbps). South Korea's mobile internet speed was about 3.4 times higher than the global average of 35.96 Mbps during the reviewed period, and its speed in the Republic of Korea even increased by 10% in September 2020 compared to August 2020 (Pulse by Maeil Business News Korea, 2020).

The Republic of Korea is involved in many innovative areas such as artificial intelligence (AI), smart cities, biotechnologies, the Internet of Things (IoT) and sustainable energy. In addition, it can be proud of the fact that it was among the first countries that had already managed to successfully launch a 5G network. The first B2C smartphone using a 5G network in the world was launched by South Korea in April 2019. In February 2021, up to a fifth of all South Korean mobile network users used the 5G network, which was still in the initial phase of development in many other countries of the world that year (HONG, E. – RYU, J. – LEE, E. J., 2021).

In industry, the advantages of the 5G network should be manifested, among other things, by the use of autonomous flying drones transmitting high-capacity data, for example, for monitoring industrial sites in real-time, for surveys of the condition and quality of air/water/soil, for spraying pesticides, etc. The advantages of the 5G network are also applied in the field of digital health in South Korea in the 2020s – e.g. Samsung Medical Center hospital cooperates with KT Corporation (which is a South Korean

telecommunications company) to build a “smart” hospital (HONG, E. – RYU, J. – LEE, E.J., 2021).

The Republic of Korea, as well as most other “technological giants” in the world, has been testing the safety and functionality of new technologies for many years in order to make life as easy as possible for citizens with the current security guarantee. We assume that by 2030 there will be at least several dozen 100% smart cities operating in South Korea, in which various processes should function smoothly thanks to the high-speed data flow, the connection of city buildings with information and communication technologies and the implementation of technologies in public transport, with minimal delays or disruptions. Such a “smart” environment should also enable business entities operating in smart cities to respond more quickly to changes in the marketing environment of the local market, which should make them more competitive.

2.4 Current political and legal characteristics of South Korea

The Republic of Korea is a parliamentary democracy of the presidential type, which means that the representatives of the executive power of the country are the President of the Republic of Korea, the Prime Minister and the Parliament. The legislative branch consists of the National Assembly (300-seat parliament) and the judiciary consists of a three-tier judicial system led by the Supreme Court (German, F., 2020). The Constitution of the Republic of Korea considers liberal democracy as the basic principle of the country’s governance. International treaties signed by the Republic of Korea and generally recognized international laws have the same effects as domestic laws under the South Korean constitution. According to the Constitution of the Republic of Korea, the status of foreigners is guaranteed in accordance with international law and treaties. South Korea considers international cooperation with other countries and participation in international organizations to be an important part of its external relations. As of June 2020, the Republic of Korea maintained diplomatic relations with a total of 191 countries in the world. At the beginning of the 2020s, South Korea has 115 embassies, 5 permanent missions and 46 general consulates established in the world. In addition, there are 42 official Korean cultural centres in 32 countries around the world, whose mission is to introduce South Korean culture to people in every country (Korean

Cultural Center New York, 2022).

According to the World Justice Project's (WJP) Rule of Law Index 2021, the Republic of Korea has ranked 20th out of 139 countries in the world with a score of 0.74 (the score ranges from 0–1, with 0 being the worst possible rating and 1 being the best possible rating). The WJP Rule of Law Index reports on the rule of law in the countries assessed, taking into account 8 key areas: limitations on government powers, absence of corruption, the openness of government, fundamental rights, order and security, law enforcement, justice in civil and criminal law (World Justice Project, 2021).

In Transparency International's 2021 Corruption Perceptions Index (CPI), the Republic of Korea ranked 32nd out of a total of 180 countries. Compared to 2017, South Korea has improved by 19 places (Anti-Corruption & Civil Rights Commission, 2022). Although it has managed to improve its position in the given ranking every year since 2017, both corruption and corruption scandals are still relatively current problems in the 2020s in the Republic of Korea, mainly in the political and economic spheres.

Another problem current in the Republic of Korea in the 2020s is the administrative burden and bureaucracy, which was also the target of criticism from the OECD. Bureaucracy is a problem not only in official affairs but also in other areas of life in South Korea. For instance, there is a special requirement for foreigners in the Republic of Korea to register a Korean phone number starting with "010" in order to be able to purchase South Korean products through online platforms.

2.5 Current social characteristics of South Korea

One of the most significant social trends affecting the business environment of South Korea in the 20s of the 21st century is, as in other developed economies of the world, the ageing of the population and the related growth of the silver economy potential. While there were approximately 11 million South Koreans aged 55 and over in the country in 2011, this number has risen to 16.7 million in 2020. On the contrary, a downward trend was observed in the same time frame for residents aged 25-54 – in 2020, there was a decrease of approximately 2 million residents. The same negative trend was also seen in the age category under 25, where there was even a decrease of almost 3 million inhabitants (Buchholz, K. 2021). South Korea is

expected to face the fastest rate of population ageing of any country in the world in the 2020s to 2030s, rising from 14.9% of the population over 65 years of age in 2019, to an alarming 46.5% in 2067 (Lee, Y. 2019).

The trend of population ageing creates a favourable environment for the development of businesses in the travel and tourism sector, including businesses providing tourism services to the European region. Older residents in the Republic of Korea are generally quite digitally savvy and have no problems finding information via the Internet.

Another social trend related to population ageing is the declining birth rate in the Republic of Korea. In 2020, among all the member countries of the World Bank, of which there are more than 180, the Republic of Korea was the country with the lowest birth rate, while it was a year-on-year decrease compared to 2019 – from the expected number of 0.92 births per woman to 0.84 (Kim, C. 2021). With the problem of low birth rate, also connected with the effort of residents to move from the countryside to urban centres, a number of rural settlements are disappearing, which is also connected to the problems of decaying buildings and campuses of South Korean schools and others. More than 60% of the buildings and grounds of these schools were gradually sold off to real estate developers, but more than 1,300 other schools remained abandoned and still continue to deteriorate. Some abandoned school buildings have been revitalized and turned into cafes, galleries or community centres (Teh, Ch. 2021). There is also room for foreign development companies to undertake the revitalization of the dilapidated campuses of abandoned schools, or to cooperate on such restoration.

Following these trends, two out of five households in Seoul, the capital of the Republic of Korea, were single-person households already in 2019. Along with a declining birth rate and an ageing population in South Korea, the number of single-person households is increasing. Such a trend affects consumer behaviour and many companies adapt to it by offering their products. These are, for example, dining out rather than eating at home and increased visits to cinemas, bars or other establishments. These are activities in South Korea that are increasingly acceptable to be tailored to individuals instead of larger or smaller groups. Also, the demand for food

delivery services is growing, the number of shelves with ready-made meals in stores is increasing, individual seating for individuals in restaurants is increasing, and the product portfolios of travel agencies have started to offer solo travel packages adapted to the social trend of downsizing of the South Korean households (Kocken, M. 2019).

Due to the low birth rate, the ageing population and single-person households, there is an increase in the number of pets owned in South Korean households. One in four South Korean adults owned a pet in 2018 and spent an average of 100,000 South Korean won (about 80 USD) on it per month. As a result of the increase in pet ownership in the Republic of Korea, the pet industry is growing rapidly, doubling in value between 2012 and 2015, from 900 billion to 1.8 trillion South Korean won (Yonhap, 2018).

South Koreans are generally known for not shopping just to satisfy their primary needs, but are very fond of shopping to enhance their personal “image and status”. South Koreans are most attracted to products that are under the patronage of prestigious, well-known and successful global brands. Global brands, especially “western” ones, are widely represented in the Republic of Korea, especially in towns and cities and a large part of them operate in the fashion industry or in the field of beauty and luxury goods. High-end fashion and beauty brands have entered the South Korean market, for example, by opening pop-up stores in major shopping malls or starting by participating and presenting in exclusive fashion shows in places such as Dongdaemun Plaza, where the iconic Seoul Fashion Week takes place every year, which is a very popular fashion event among young South Koreans. The South Korean market is one of the fastest-growing luxury goods markets in the world in the 20s of the 21st century (John, 2021). The value of luxury goods sales in the Republic of Korea in 2020 was 12.5 billion USD, making South Korea the seventh largest consumer of global luxury goods in the world. The most popular luxury brands in South Korea also include European brands such as Chanel, Louis Vuitton, Gucci, Dior and Rolex (Korea Bizwire, 2021). South Koreans are most interested in buying such luxury goods, which are currently considered the trendiest in the world, and that is why the market for luxury goods in South Korea is very dynamic and rapidly changing. Luxury goods or luxury brands that were in enormous demand ten years ago are losing

their exclusivity due to their mass consumption, and on the contrary, new unique so-called “high-end” brands that evoke a sense of uniqueness in South Koreans are on the rise of their success.

2.6 Current characteristics of consumer behaviour of South Koreans

South Korean culture used to be considered a purely homogeneous culture strictly following traditions and customs, but gradually, especially since the beginning of the 21st century, South Koreans are much more inclined to unconventionality. Especially young South Koreans want to be unique, original and want to stand out in their environment. For example, the new generation of South Korean fashion brands such as Kanghyuk, Post Archive Faction and Kusikohc is unique in its mission to overcome the stereotypes and barriers built by the more conservative and conventional predecessors of South Korean fashion. Modern South Korean brands and fashion designers create and launch to the market the so-called “cool” and high-quality designs for the increasingly sophisticated and daring South Korean young generation. In the Republic of Korea, young people in the 2020s act locally, but most of them already think globally. South Koreans in 2022 are not only interested in what is considered a trend among them, but also want to participate in defining new trends in world fashion through their active participation (Lee, E. Y., 2020).

Influencers, celebrities and brand testers have an extremely large influence on consumer decision-making in the Republic of Korea. The most widespread areas in which influencer marketing can make a strong impression on South Korean consumers are fashion, beauty, jewellery and accessories, but cooperation also exists in other areas such as the automotive industry or gastronomy. The findings of a survey conducted by Rakuten Insight in 2020 show that almost 41% of South Korean respondents bought a product because it was recommended or promoted by influencers and more than half of these respondents said that they were convinced to make a purchase by influencer promotion (Statista Research Department, 2021).

South Koreans enjoy the detailed, eye-catching visual representation of products, and aesthetics is a key factor in appealing to the South Korean consumer. In particular, the Instagram social media platform and its easy-to-share feature via “Instagram Stories”

allows brands with aesthetically manufactured products to reach the broad South Korean public in a short period of time. From the results of a McKinsey & Company survey conducted in the Republic of Korea during the coronavirus crisis in June 2020, it was found that almost 65% of South Korean consumers since the beginning of the COVID-19 pandemic have chosen some of such forms of shopping behaviour that they had never used before. Furthermore, almost 40% of respondents tried a new digital shopping method during the pandemic, almost 30% of respondents made a purchase at a new retailer, seller or on a different website than usual, and a fifth of respondents chose a new brand. The most common reasons why South Koreans chose to shop at a new retailer or website during the COVID-19 pandemic were better value (37%), better prices/sales (36%), easier access from home (32%), good pick-up/delivery options (32%) and the possibility to buy everything you need in one place (27%). The most common reasons for choosing a new brand were better value (73%), better prices/sales (66) and better hygiene parameters (45%) (McKinsey & Company, 2020).

2.7 Current characteristics of corporate culture in South Korea

South Korean culture is strongly influenced by the teachings of Confucianism, which is also reflected in the corporate culture of many South Korean companies – harmony in workplace relations, respect for superiors and respect for authority are important. The organizational structure of a typical South Korean company is hierarchical. The hierarchy of the organizational structure also translates into the use of specific job titles – instead of their first names, employees in South Korean companies are strictly addressed by specific titles resulting from the given job position and position in the organizational structure in combination with the surname (KOISRA., 2019).

Working in a South Korean company in general means belonging to the “company family” for South Koreans. Family orientation in South Korean companies is based on three principles: 1. “family” relationships in the company affect the sense of success of each employee, or of the member of the “family”, 2. “family” ties in the company decide on economic relations, and 3. the “family” culture of the given company affects the individual economic behaviour and

the choice of profession of each member of the “family”. The harmony of interpersonal relationships in the workplace, togetherness and belonging to the “corporate family” are important corporate values, for example, in the South Korean companies Hyundai (“diligence, dedication and cooperation”), LG (“mutual cooperation, pioneering and innovation”) and KIA (“unity, honesty and innovation”). In South Korean companies, age is generally more important than experience or seniority. Even if there are smart and experienced young employees in the company who have more knowledge or better skills than their older colleagues, many times they will not receive fair treatment precisely because of age and the principle of seniority (which means respect for older people in South Korean society), as well as in the work environment is very important (LEE, C. Y. – LEE J. Y., 2014).

In South Korea, you should generally work from 9:00 AM to 6:00 PM. However, there is an unwritten rule in South Korean work culture that many South Korean employees follow – i.e. employees are more or less expected to work overtime. In the 2020s, this unwritten rule is applied more in traditional large South Korean corporations or chaebols) and it is also not considered appropriate to leave work before the superior leaves. South Koreans tend to stay at work late into the night just because their boss hasn’t gone home yet. In order to maintain harmonious relationships among employees and among subordinates and superiors, informal company dinners are regularly held, after which colleagues sometimes go to the popular “noraebang” (karaoke bars) to entertain themselves (90 Day Languages LLC., 2022).

For business meetings and negotiations with South Koreans, it is advisable to arrive exactly on time, or even a few minutes before the agreed time of the meeting. In the Republic of Korea, instead of shaking hands, it is customary to bow (at a 30-45° angle), but many times during business negotiations the parties first bow and then shake hands. Age, seniority and status play a big role here – younger people should bow first – first to those with the highest status and then to older colleagues. After bowing, you have to wait until a person with a higher position, or an older participant in the meeting, shakes hands with the subordinate/younger person. It is important to use both hands when shaking hands – one hand is being shaken and

the other hand should support the hand being shaken. Using both hands is equally important when giving and receiving business cards. Business cards must be viewed with respect and only then placed in front of you on the negotiating table. It would be very inappropriate to store the received business card in the back pocket of your trousers or so, as this could be interpreted by South Koreans as “sitting on their face”. South Koreans care a lot about maintaining harmonious relationships within the workplace as well as during negotiations with their business partners. This philosophy refers to the “kibun” concept – with the term "kibun" having two main meanings: 1. mood, atmosphere, and feeling and 2. dignity, prestige, and "face". In South Korea’s work and “business” culture, “saving one’s face” is important. In order to avoid “losing one’s face”, South Koreans tend to avoid any misunderstandings or confrontations or prefer to agree with the other party, just to avoid a situation that could lead to “losing their face” and breaking the harmony of interpersonal relations. In any event like that, for example, a business partner threatens the preservation of the “kibun” of the other (South Korean) side, this may mean a permanent disruption of future business relations and further cooperation (IMA, 2018).

When negotiating with South Koreans, instead of asking closed questions, it is advisable to communicate more openly and choose a slower consensual dialogue. It is important to avoid direct and open contradiction or direct criticism in the presence of other people. Small gifts are a common practice in business negotiations in South Korea, and South Koreans are always very pleased with a gift made directly in the country of a foreign business partner, as well as a gift with the logo of the business partner’s company. Gifts should be wrapped carefully and in an appealing way. Gifts should also be given and received with both hands and should be opened in private, after the end of the negotiation, to avoid possible comparisons.

2.8 Current conditions for foreigners for business opportunities in South Korea

Foreign entities may start doing business in the Republic of Korea by acquiring new or existing shares under the provisions of South Korea’s Foreign Investment Promotion Act, or by establishing a local branch or office in South Korea under the provisions of South Korea’s Foreign Exchange Transactions Act. The most common

types of companies established by foreign investors in the Republic of Korea are limited liability companies and joint stock companies. A company with foreign participation in South Korea is considered a local company in which a foreigner has invested at least 100 million South Korean won (to participate in the management of the company) and acquired at least 10% of the company's new or existing shares with voting rights. The operation of such a company is regulated by the South Korean Act on the Promotion of Foreign Investments and it is a domestic (South Korean) company established according to the South Korean Commercial Code. A branch established in South Korea is considered a foreign legal entity that conducts business in South Korea under the instructions of the parent company. An office established in South Korea is a foreign company that cannot carry out business activities, but instead carries out, for example, market research, marketing activities, etc. Foreign entities can also establish a company in the Republic of Korea by investing less than 100 million South Korean won, but in this case, it is not a direct foreign investment. Such a way of company establishment is subject to the notification of the acquisition of shares and is governed by the South Korean Foreign Exchange Transactions Act (Invest KOREA, 2020).

In the Republic of Korea, there are certain areas defined in which there are restrictions on the establishment of a business by foreigners, and restrictions on control or ownership by foreign entities. Foreign ownership restrictions exist in 30 industries. Restricted sectors for foreign investment include, for example (International Trade Administration, U.S. Department of Commerce, 2017):

- *completely closed sectors*: nuclear energy, radio broadcasting, television broadcasting,
- *limited sectors (partially open, maximum 25% foreign participation)*: press agency activity,
- *limited sectors (partially open, maximum 30% foreign participation)*: production of electricity from hydropower, production of thermal energy, production of other energy,
- *limited sectors (partially open, maximum 49% foreign participation)*: satellite and other broadcasting, cable networks, telecommunications,
- *limited sectors (partially open, maximum 50% foreign*

participation): cattle breeding, fishing, electricity distribution, meat wholesale, publishing of magazines and periodicals, international and domestic air transport,

open sectors but regulated according to relevant laws: cultivation of cereals and other food crops except for rice and barley; domestic commercial banking except specialized banking; collection, transportation and disposal of radioactive waste, except for radioactive waste management; etc.

Conclusion

As we mentioned in the introduction, when entering a foreign market, the company often finds itself in a business environment that is completely different from the domestic environment. Due to the differences and complexities of external conditions, the analysis of the international marketing environment plays a very important role for foreign companies. The information obtained is important for both strategic and tactical positioning decisions in the given market. Business entities operating in international markets are surrounded by an environment that affects their behaviour in different ways and with different intensities. If a company wants to be successful, it must pay attention to the influences of the environment, analyze them and adapt all of its activities to them in connection with both current and future development. It is equally important to analyze the most important spheres of the macro environment as well as the characteristics of the microenvironment.

In our scientific treatise, we focused on the analysis of selected important marketing characteristics of the South Korean market. The reason was the extraordinary development of the given territory from an average economically developed country until the middle of the 20th century to one of the economic leaders in the world. This development was marked in a relatively short period from the end of the 20th century to today and is constantly continuing and gaining intensity. This makes South Korea a very interesting market for the expansion of business entities from all over the world, including companies from the EU. However, South Korea is also an Asian country with its own specific characteristics, the knowledge of which can significantly influence the success of the business plans of companies in its territory. These are social characteristics closely connected with the historical and cultural development of this

country, which, although modified with the development of time, are nevertheless still specific in many areas and diametrically different from our European ones. It is necessary to know them precisely, analyze them and be able to adequately respect them in business activities, not only for the broad consumer environment of South Koreans but also for the close connection of national culture with corporate culture within the entire South Korean business environment.

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**THE
TRANSFORMATION
OF INDUSTRIAL
POLICY IN THE
WORLD AND ITS
LESSONS IN THE
CONTEXT OF WAR
AND PROSPECTS
FOR POST-WAR
RECOVERY IN
UKRAINE**

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Abstract

The authors highlight the main approaches to understanding industrial policy and lessons learned from its application by different countries, and draws attention to the circumstances that led to its successes and failures. The authors emphasize the importance of the country's institutional design in ensuring the quality of pro-industry policy, which removes the question of its inappropriateness and raises the question of

what its content should be. In this vein, the authors point out the possibilities of applying the policy in Ukraine during the war and in post-war recovery.

Keywords: *industrial policy, entrepreneurial state, innovations, structural changes, war, post-war recovery.*

Introduction

The neoliberal economic policy pursued in Ukraine in previous decades caused the country to lag far behind the developed world and its weakness in the face of military aggression by the Russian Federation, and did not ensure “the creation of sustainable infrastructure, the promotion of inclusive and sustainable industrialization and innovation” as one of the Sustainable Development Goals (Kindzerskyi, 2021). At the same time, the Ukrainian government is laying the ideology of market fundamentalism at the heart of the model of future post-war recovery (Svyrydenko, 2022), choosing development directions that preserve backwardness. In particular, we are talking about the “New Agrarian Policy” (National Council, 2022), and the transformation of Ukraine into a “resource center of Europe” (Government portal, 2023). The government does not raise the issue of developing and implementing an industrial policy to develop its own processing industry. Such a policy is biasedly considered in Ukraine as a relic of the Soviet economy. Nevertheless, industrial policy as a separate type of economic policy owes its origin to developed capitalist countries and allowed them to achieve economic, technological and political leadership. Since Ukraine is facing the issue of building a developed economy after the war, it must radically change its attitude to industrial policy, learn the main lessons of its formation in the world and effectively use the positive experience.

Results and Discussion

Industrial policy issues remain on the agenda of many countries as they increasingly focus on developing their own industrial production with a special emphasis on the accelerated development of the processing sector, and consider industrialization as one of the drivers of economic growth. Developing countries and countries with economies in transition see it as an opportunity to achieve high growth rates to reduce poverty and create new high-performance

jobs. Developed countries are creating fundamentally new products, technologies, and entire sectors of industry, thereby gaining new sources of growth and competitiveness in the face of saturated traditional markets and growing technological, environmental, pandemic, and military challenges.

Industrial policy cannot be universal in its content due to institutional, economic, technological, social, demographic and other differences between countries. In view of the Sustainable Development Goals, the UNIDO Lima Declaration of 2013 pointed to the need to achieve inclusive and sustainable industrial development (ISID) as an important means of addressing the challenges of the global community (UNIDO, 2013). At the same time, it did not provide clear recommendations on industrial policy models, recognizing only the existence of different ways to achieve the goals of sustainable development, the responsibility of each country for its own development and its right to determine its own paths and corresponding development strategies. This is obviously due to the lack of unity of opinion on the very concept of “proindustrial policy” and on the institutions and instruments for its implementation.

“Synthesizing different approaches to understanding industrial policy, we can say that it is any type of intervention or public policy aimed at improving the business environment and changing the structure of economic activity towards sectors, technologies or tasks that are expected to create better prospects for economic growth or social welfare than would have occurred in the absence of such intervention” (Warwick, 2013). This approach complementarily combines structural and fundamental factors of development necessary for successful industrialization (McMillan et al, 2017). Structural factors are the subject of “vertical/sectoral” industrial policy. They ensure the outpacing development of certain sectors and production technologies with higher productivity, which creates the desired structural effect of industrialization – the transition to a higher technological level, diversification of production, and increased labor productivity and incomes. The fundamental factors are in the field of “horizontal” industrial policy. They are aimed at creating a favorable business climate, limiting monopoly and supporting competition, developing small and medium-sized

businesses, financing education and training, research and development, and building health care and infrastructure.

There is no clear boundary between “horizontal” and “vertical” policies; it is rather conditional. Moreover, as J. Stiglitz notes, “horizontal” policies, which are supposedly general and neutral, in practice often have a more noticeable impact on certain sectors than on others, making it uneven, which leads to changes in the structure of the economy in the same way as with “vertical” policies (Stiglitz et al, 2013). In addition, as the scientist notes, everything that governments do or do not do in pursuing a “horizontal” policy can, just as in a “vertical” policy, benefit or meet the vested interests of only individuals, narrow social groups, companies and sectors.

The growth of industry in developed countries is supported by a wide range of industrial policy institutions that are used to create the appropriate development factors. They relate to the conditions of capital accumulation, trade rules, market organization, protection of nascent industries, rent distribution, innovation, intellectual property regimes, and the process of knowledge creation and dissemination (Cimoli et al, 2015). Institutions themselves are a formally regulated reflection of policy instruments. They are used by the state to exert regulatory and motivational influence in certain areas on the activities of economic entities and sectors (Table 3.1). This creates the desired technological and economic signals, in particular, for example, in terms of increasing the innovation and technological capabilities of entities, the speed of their learning and adaptation to the environment, expected profits and costs, building certain business models and relations between entities and the state. Taken together, these signals shape the behavior and desire of actors to act in a certain way and in a certain direction, which allows the state to achieve its objectives and policy goals.

Industrial policy went through a long and complex evolution in terms of goals, list of instruments, extent and depth of state intervention, quality of impact on the economy, and relations between the state and business. J. Stiglitz notes that all major developed countries had a high level of intervention in the economy in all areas of influence on entities in order to develop their own industry, regardless of whether these countries realized that they were pursuing industrial policy (Cimoli et al, 2015).

Table 3.1

The example of typology of industrial policy instruments/institutions by spheres of influence and selectivity

The sphere of influence	“Horizontal” policy	“Vertical” policy
Commodity market	Competition and antitrust regulation; Indirect taxes; Regulation of the commodity market; Currency and exchange rate regulation;	“National Champions”; Nationalization/privatization; Subsidies/state aid; State order/public procurement; Price regulation; Trade/foreign trade policy, tariffs, quotas, non-tariff trade restrictions, export support;
Education and labor	Policy in the field of education, professional skills development, and retraining; Educational subsidies/credits; Regulation of wages; Taxation of wages; Social taxes; Labor regulation; Management services;	Formation of targeted skills; Mentoring policy; Special narrow sectoral management services;
Capital market	Monetary regulation; Corporate taxes; Debt policy, borrowing;	Investment funds; Sovereign wealth funds; State development banks;
Land use	The planning of land use;	Zoning of production; Regional cluster policy; Infrastructure of territories;
Technologies	Tax credit for R&D; Budget for science; Regime of foreign investment and technology transfer; Scientific and technical expertise; Foresight studies;	Green technologies; Strategic technologies; State order for R&D; Public procurement of scientific and technical developments and services; Patent activity and the protection of intellectual property rights;
Systemic problems	Entrepreneurship policy and competitiveness; Corporate regulation; Strategic planning of the country; Environmental policy; Security policy; Information support of the activity of subjects.	Indicative planning; Sectoral strategic planning/programming; Sectoral strategies for entrepreneurship development and competitiveness; Sectoral cluster policy.

Source: compiled and supplemented by (Warwick, 2013)

It can be argued that all four industrial revolutions that took place in the world in recent centuries were a direct result of industrial policy, again, even if it was not officially considered as such (Naudé, 2010), and the road to the so-called “free market” in developed countries, as Karl Polanyi once noted, was opened by powerful, centralized, organized and controlled state interventionism (Polanyi, 2001).

The experience of the United States as the world’s largest industrialized economy, which essentially shaped modern technological trends, deserves special attention. The country developed its own special model of industrial policy and partnerships between the state and business in creating innovations and new promising industries. The leading role of the state in the development and protection of the American industry was established more than two centuries ago by A. Hamilton, and it continues to this day (Cimoli et al, 2015). In this regard, W. Lazonick noted that “an understanding of how American capitalism really works calls into question the free market ideology... United States successful entrepreneurship has depended heavily upon government investment in the knowledge base, state sponsored protection of markets and intellectual property rights, as well as state subsidies to support business investment strategies... During the twentieth century, the US state has been far more developmental than the Japanese state” (Lazonick, 2011).

American researchers point to the paradox of US industrial policy. It consists, on the one hand, in the officially declared free market ideology, and, on the other hand, in the practice of carefully and sophisticatedly hidden or disguised direct action of the state towards producers (Wade, 2017), in the formation of a special “entrepreneurial state” over the past half century as a counterweight to the “free market” (Mazzucato, 2013). This “entrepreneurial state”, which is manifested in practice in US policy, is moving away from passive observation of markets and correcting only their traditional “failures”. It assumes a leading role in creating innovative breakthrough and revolutionary technologies and products that are strategically important and promising for the country. The state acts as a venture capitalist with a long-term investment horizon of up to 15-20 years (versus 3-5 years for private venture capitalists). It is the main source of funding for developments at the early stages of their

creation and market launch, covering more than 50% of the costs of basic research, while the private sector accounts for less than 20%, while taking on the bulk of the financing risks when a private investor is not ready to bear them on his own, and most research has an uncertain potential for future returns.

The entrepreneurial state moves away from solving narrow technical issues and the goal of making a profit only by a private owner, and sets itself broad socio-economic goals. On a partnership and horizontal network basis, it engages society and business in identifying problems and determining the directions of transformation, systematically forms the institutional and regulatory environment for this purpose, creates the necessary management, research and financial institutions, and production entities, thus ensuring long-term large-scale structural and technological changes in the country.

The global financial crisis of 2008-2009 and the global COVID-19 pandemic have added to the arguments in many developed countries in favor of increasing the active role of the state in building its own industrial production, creating real rather than virtual wealth, minimizing the dependence of their economies on external critical supplies, forming sustainable production chains within countries, etc.

The U.S. government's efforts in this context focused on, first, intensifying research and development for the benefit of manufacturing, and second, modernizing and reviving manufacturing itself. In 2021-2022, President Biden's administration passed four landmark federal laws to stimulate the economy and industrial production. They were characterized by experts as the new US industrial policy or "Bidenomics". These are "American Rescue Plan Act of 2021 (ARP)", "Infrastructure Investment and Jobs Act", 2021 (IIJA), "CHIPS and Science Act", and "Inflation Reduction Act (IRA)".

The first two laws are aimed at stimulating the development of the American economy through large-scale modernization of the country's entire physical infrastructure. The latter two laws provide for state incentives for the development of American industry in certain areas where the United States seeks to gain leadership and independence from other countries' technologies. In particular, the Inflation Reduction Act pays considerable attention to measures to

develop clean energy sources and decarbonize production, while the Chip and Science Act provides for significant investments (about \$55 billion) in the creation and expansion of semiconductor production facilities in the United States, as well as research and development in quantum computing, artificial intelligence, clean energy, and nanotechnology.

The elements of the entrepreneurial state can also be seen in the EU policy. This policy sets large-scale socio-economic goals and provides for the structural transformation of industrial production to increase the competitiveness of European industry on an innovation and technological basis. In its fundamental development strategies (Lisbon in 2000 and Europe 2020 in 2010), the EU prefers horizontal policy tools. The use of sectoral (vertical) means is limited and officially allowed in some cases as an exception, which, according to European experts, has led to a gradual slowdown in EU development, especially in new high-tech sectors of the economy.

The development of industry in the EU is ensured through the adoption and implementation of strategic priorities that are formed in response to the challenges facing the community¹ Within each priority, numerous sectoral initiatives are formed. The practical implementation of the initiatives involves improving the quality characteristics of the industry, for which appropriate financial resources are allocated. This approach to ensuring structural change is problem-based, not sectoral. In accordance with the problem, scientific research is being deployed, new technologies, models of business and industry organization, new products are being created, personnel are being trained in new professions and specialties, new regulatory norms and standards are being introduced, direct financial assistance is being provided to producers, etc. EU countries (as well as the United States) consider it vital to protect their high-tech industries. Therefore, they impose extremely strict and rigorous

¹ *The European Commission has identified six priorities for 2019-2024: 1) A European Green Deal; 2) A Europe fit for the digital age; 3) An economy that works for people; 4) A stronger Europe in the world; 5) Promoting our European way of life; 6) A new push for European democracy. Amid the need to overcome the negative economic consequences of the COVID-19 pandemic, the EU additionally adopted the Recovery plan for Europe, which provides for a package of incentives worth more than €2 trillion.*

requirements for the protection of intellectual property rights and encourage R&D subsidies.

The European Industrial Strategy is recognized by the European Commission as an entrepreneurial strategy and stipulates that the development of the industry should be innovative, sustainable, smart, green, climate-neutral, circular, digital, and localized within the EU as much as possible (European Commission, 2020). This should lead to the creation of new jobs, increase the resilience of the European economy, and offset the negative man-made impact of industrial activity on the environment.

The war of the Russian Federation against Ukraine, which began in 2022, prompted the EU and the US to focus their efforts on increasing the production of weapons and ammunition to provide military assistance to Ukraine and rearm their own armies. These measures are classic tools of “vertical” industrial policy. They include state orders for weapons production at existing facilities, state investments to manufacturers for the development of new weapons, the creation of new weapons and ammunition production facilities based on the technologies of the fourth industrial revolution, military equipment repair facilities, the development of military infrastructure and logistics, their “digitalization” and automation. These measures will have a stimulating effect on industrial production and the entire economy of Western countries for many years, directly or indirectly through inter-sectoral ties. It will entail new structural and technological changes in these countries under the influence of new ways of warfare, its “digitalization” and “robotization”, the need to develop new types of weapons and ways to protect territories and the population in the future, the need to overcome the external dependence of countries in the production of weapons in the supply of strategic raw materials and components, the need to invent new technologies and materials to quickly overcome the consequences of war for humans and the environment. All these issues will become the subject of industrial policy for Western countries in the coming decades.

The widespread use of selective industrial policy has demonstrated a real “economic miracle” in some East Asian countries that have become new industrial leaders, namely Japan, Korea, China, Hong Kong, Taiwan, and Singapore. The common features of their policies

were: export promotion; attraction of foreign direct investment; macroeconomic policies to encourage savings and selective priority lending to companies; extensive education and skills training programs to promote the ability of their economies to absorb foreign technology and know-how; creation of venture capital funds; and coordination of joint investments (Chang, 2011).

The protection of the emerging industry in these countries was accompanied by strict conditions for companies to achieve certain goals, such as the growth of exports of complex, highly processed technological products. Internal competition was encouraged, support for firms that could not effectively use state aid was decisively discontinued, and policy flexibility was demonstrated in response to changes in domestic or global markets. Such industrial policy proved to be extremely effective in overcoming the challenges posed by the current competitive advantages of these countries, which were based on primitive agricultural production, cheap raw materials and labor.

In contrast to the countries of the West and East Asia, where industrial policy was successful, in Latin America in the 1950s and 1970s and in most African countries in the 1980s and 1990s, it failed and these countries experienced significant deindustrialization (Carmody, 2009; Perez et al, 2009). In Latin America, import substitution policies were widely applied without prioritization, so there were no sectors that were “drivers” of growth. In Africa, political interference in the activities of companies led to the preservation of low-productivity sectors of the economy. The failures of African industrialization are also related to the fact that it was based on the recommendations of the Washington Consensus (Carmody, 2009). Researchers have concluded that trade liberalization has only led to an increase in allocative efficiency (static gains from the redistribution of commodity flows), but has not automatically led to dynamic (growing) efficiency, which is possible due to the development of production (Fagerberg et al 2007). The Washington Consensus approach did not take into account the differences in the demands of entrepreneurs and the capacity of institutions to absorb technology, innovation and learning (Deraniyagala, 2001). It was assumed that knowledge would flow automatically and without problems to developing countries, without

recognizing that this had to be combined with the developed absorptive capacity of the latter and the high social and educational potential of the population (Fagerberg et al 2007). At the same time, it has been empirically shown that trade liberalization has hindered industrial development in small lagging countries by weakening incentives for innovation, imitation and learning by doing (Aghion, 2009), and has directly affected deindustrialization in developing countries (Carmody, 2009).

The contrast between the successes of industrial policy in some countries and its failures in others is related to different approaches to the formation of its goals, content, instruments and institutions for implementation. This has raised the question not so much of the expediency or in expediency of using the policy as such, but rather of its quality, targets and institutional content (Stiglitz et al, 2013), which would minimize the risks of “state failure”. Therefore, approaches to choosing the model and content of industrial policy have evolved. The model in which the state acted as a patron, donor and protector of producers, which included simple production subsidies and strict protectionism, has gradually transformed into a model in which the state is an open equal partner for business and society, an initiator, coordinator and driver in cooperation with them in solving a wide range of socio-economic, technological, environmental, defense and other problems of the country, while not neglecting its entrepreneurial function to create new areas and directions of development with a significant level of uncertainty. “Point” narrow-sectoral approaches to government decision-making have gradually been replaced by systemic, multi-sectoral and multi-aspect approaches that take into account various factors of influence, cover related areas and meet the interests of different segments of society.

Conclusions

The war in Ukraine has become a yardstick for assessing the quality of the economic policy pursued in previous decades, which has led to deep deindustrialization, economic and technological backwardness of the country. It will be difficult to survive the war without at least a partial restoration of domestic industrial production for military needs and maintaining the economic activity of the population. It is impossible to talk about a successful post-war recovery of the country without the development of its own industrial

production.

The experience of wealthy developed countries has shown that industrial policy plays a key role in industrial development. In these countries, there is no question of abandoning industrial policy, but rather what kind of policy it should be in order to meet the public interest and increase welfare, taking into account the specifics of each country, the challenges, goals and objectives it faces, and the failures of previous policy experience. In this regard, the quality of institutional support and content of industrial policy is a prerequisite for its success. This applies both to developed countries and to Ukraine, whose institutional design, unfortunately, has not yet contributed to the development of its own highly developed industry.

Therefore, when forming a system of institutions in Ukraine to implement industrial policy and evaluate its effects, it is necessary to carefully define the policy goal, target group, rationale, scope and orientation of the policy. In the context of setting the goal, the question of what should be the result of the policy should be answered. In defining the target group of the policy, specific sectors, companies, regions, industry-regional clusters, technologies, necessary resources to be involved in production, value chains to be created, products to be produced, etc. should be identified.

Defining the scope of the policy should be concerned with establishing its impact on specific product markets, factor markets (labor, capital, land, mineral resources, technology, etc.). Determining the policy orientation should address the questions of whether the policy will be strategically oriented for the long term or just a reaction to market failures, whether it will focus on current competitive advantages or form new promising ones, whether state intervention will be limited in time or long-term, conditional or unconditional, etc. Only then will it be possible to form an adequate system of institutions to implement the national industrial policy in the implementation of both post-war recovery of the country in the future and now to maintain the sustainability of the war economy.

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**TRENDS AND DRIVERS
OF INTERNET BUSINESS
DEVELOPMENT IN THE
CONTEXT OF UKRAINE'S
INTEGRATION INTO THE
EU**

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Abstract

The study shows the benefits of the EU Digital Single Market Strategy for businesses. It is proved that Ukrainian Internet business and e-commerce have a huge export potential. The paper identifies unresolved issues on the way to the integration of Ukrainian business into the Digital Single Market. The main achievements of Ukraine in the formation of the institutional and legislative framework for adaptation to European norms and business practices are shown. The main strategic programme measures to support Ukrainian business introduced in the EU are investigated. It is proved that strengthening of integration processes in the digital economy, gradual approximation of the regulatory environment and digital infrastructure of Ukraine to the EU level will contribute to the growth of e-commerce and foreign expansion of Ukrainian enterprises.

Keywords: *Internet business, e-commerce, digital transformation, the EU Single Digital Market, small and medium-sized businesses, European integration processes, export of goods and services, entrepreneurship support programs.*

Introduction

Upon acquiring candidate status for EU accession, Ukrainian businesses have gained improved conditions for entry into European markets, facilitating accelerated integration into the economy and the EU Single Market. On May 6, 2015, the EU approved the Digital Single Market (DSM) Strategy. Its aim is the integration of national digital markets within EU member states into a unified digital space. The strategy envisions the removal of barriers to cross-border online trade of goods and services, harmonization with legislation

regulating digital networks and services in EU countries, and investments in infrastructure and technology. The DSM is geared towards upholding the fundamental freedoms of movement of goods, services, and capital in the online space and is estimated to contribute an additional €415 billion annually to the EU economies (Nochvai et al., 2019).

The EU Digital Single Market Strategy empowers businesses and society to leverage the benefits of the new digital era, necessitating the Ukrainian government and businesses to formulate and implement measures for integration. Presently, the EU stands as one of the largest digital markets globally. Ukraine's accession to the DSM will unlock new opportunities for the development of Ukrainian internet businesses across all sectors, foster job creation, and have a positive impact on both businesses and consumers.

Materials and Methods

The research employed both general scientific and specialized research methods, including: comparative analysis (study of the fundamental trends of the formation of a single EU digital market and the development of the institutional and legal framework in Ukraine in the context of European integration processes); induction and deduction (identification of unresolved issues on the path of integrating Ukrainian e-business into the Digital Single Market); abstract-logical analysis (systematization and generalization of factors affecting Ukrainian e-commerce in the conditions of martial law and justification of its development prospects); statistical method (study of specific indicators of Internet business development, particularly e-commerce, and the factors influencing them); generalization and abstraction (study of program measures to support Ukrainian business in the EU, substantiation of strategic directions of Internet business development in the context of EU integration). The research was based on the scientific publications of global and European scholars on the research topic, as well as regulatory acts of supranational regulatory bodies of the EU (European Commission, European Parliament, Council of the EU) which approved the launched initiatives, strategies and support programs for e-business, e-commerce and the digital market in the EU.

Results and Discussion

E-business in Ukraine is developing at a faster pace compared to developed and highly competitive EU's digital markets. Internet penetration, the number of websites, and postal courier shipments from Ukrainian online retailers to customers in Ukraine and the EU are growing. The Ukrainian e-commerce market grew steadily until 2021, with an average annual growth rate of 6%-9%. However, at the beginning of the Russian invasion in 2022, e-sales dropped by 87% to USD 295.85 million USD (Statista, 2022).

The decline in e-commerce sales after the full-scale Russian invasion was the result of the devaluation of the hryvnia, reduced purchasing power of the population and migration, complicated logistics of imported goods, and the occupation of territories. Rising poverty and out-migration continue to have a negative impact on the economy and demographics (Kliuchnyk, 2022). Logistics companies resumed operations in the de-occupied territories a few months after the invasion, and demand for essential goods gradually recovered (Kyrychenko, 2022). In 2023, e-commerce resumed and businesses are operating, although e-trade sales are not expected to reach pre-war levels. By the end of 2023, the volume of e-commerce in Ukraine will reach USD 2,579 million. This is no more than in 2021 (Statista, 2022).

Ukrainian internet business has a high export potential. Before the full-scale invasion, Ukraine's e-commerce exports grew by 30% annually and exceeded 600 million USD in 2021 (Trypolska et al., 2023). The EU remains a priority destination for Ukrainian exports in e-trade. Abroad, Ukrainian companies sell goods through marketplaces (e.g. Amazon, Etsy) and promote their own online stores.

Export-oriented e-commerce has lost the markets of the Russian Federation and Belarus, which accounted for about 16% before the war (Trypolska et al., 2023). In other markets, including the EU, Ukrainian sellers are less competitive due to long delivery times. Air and sea routes are not available, and road transport takes too long to transport goods. This is a huge problem for small businesses in e-commerce.

In 2019, Ukraine began implementing EU digitalisation legislation to obtain full internal market treatment ("digital visa-free

travel”) and integration into the EU Digital Single Market. EU-Ukraine Association Committee in Trade Configuration amended on 22 November 2021 Annex XVII-3 (Rules applicable to telecommunications services) (Ministry of Economy, 2021).

In order to integrate the Ukrainian digital market into the European one and accelerate the development of e-commerce in Ukraine, legal and regulatory frameworks are being developed, and existing regulations are being harmonised and adapted to EU legislation. The Law of Ukraine “On E-Commerce” was adopted in 2015 to fulfill the obligation under Annex XVII-3 of the EU-Ukraine Association Agreement to implement the provisions of Directive No 2000/31/EC (E-Commerce Directive). The Laws of Ukraine “On Electronic Digital Signature”, “On Electronic Documents and Electronic Document Management”, “On Protection of Consumers’ Rights”, “On Personal Data Protection”, and “On Advertising” were amended to include relevant provisions relating to e-commerce. In 2021-2022, the laws “On Mediation”, “On Payment Services”, “On Cloud Services”, and “On Virtual Assets” were adopted.

Ukraine has officially fulfilled its obligations under the Association Agreement on e-commerce. At the same time, the implemented norms are not always harmonised with other legal acts of Ukrainian legislation and are not fully implemented in practice, which is something that needs to be further worked on.

At its meeting on 10 June 2023, the Verkhovna Rada adopted the European integration Law “On Protection of Consumers’ Rights” (Draft Law No. 6134), aimed at approximating national legislation to EU and harmonising the consumer protection system in Ukraine with EU principles, approaches and practices. The adopted Law will allow to:

- implement EU directives and regulations in the field of consumer protection into Ukrainian legislation;
- extend the Law to the food industry;
- define the rights and obligations of consumers in e-commerce;
- provide for the introduction of a Unified State Web Portal for consumers in the field of e-commerce;
- define the information about products and enterprises that it must provide in e-commerce and the responsibility for its absence, as well as the responsibility of the electronic trading platform

(marketplace) for placing goods for sale by other businesses.

The State Service of Ukraine on Food Safety and Consumer Protection will also be entitled to apply to Internet service providers to restrict access to websites of companies that engage in unethical or dishonest behaviour and violate consumer protection legislation.

Ukraine has adopted new laws to integrate into the EU's Digital Single Market, and the existing laws have been adapted to European law. At the same time, the EU has made other changes to its e-commerce legislation:

- the procedure for making electronic payments was revised;
- new rules were introduced to stop unjustified geo-blocking;
- new rules on cross-border parcel delivery services were introduced;
- revised rules for consumer protection in the field of e-commerce;
- rules for the supply of digital content and digital services were adopted;
- new VAT rules for online sales, as well as simplified customs clearance and taxation procedures (e-commerce VAT package) were adopted.

The taxation of goods is worth a separate mention. On 1 July 2021, new tax rules were introduced for the VAT on imported goods in B2C e-commerce in the EU. The sale of goods in online stores is taxed at the point of delivery to the customer with the obligation to apply VAT in the customer's country from the moment the cross-border sale exceeds €10000. The EU also has a "One Stop Shop" reporting system for declaring all cross-border B2C sales through a tax portal in one EU country (European Commission, 2021). In Ukraine, tax legislation is not yet approximated to EU legislation in these areas. If these aspects are addressed and adapted to European legal norms, the situation of e-commerce in Ukraine could change significantly in 2030, as it is currently growing at the highest rate among Eastern European countries.

The EU provides extensive support for the digital transformation of Ukrainian business. Important projects are being implemented. At the end of 2021, the EU launched a three-year technical assistance project "Support to Ukraine's Digital Policy" with funding of over €2.5 million. The aim of the project is to provide institutional support

(advisory and technical assistance) in the field of integration into the EU's Digital Single Market, and to bring the Ukraine's digitalisation policy closer to the requirements of the EU-Ukraine Association Agreement.

The EU4DigitalUA project (2020-2024) is aimed at developing the infrastructure and institutional framework for digital government; digital communications and development of public e-services and digital public services; cybersecurity and data protection (Ministry of Digital Transformation, 2021). The project has a budget of €20.5 million and promotes entrepreneurship. The EU4DigitalUA project is developing the e-Permit – the unified electronic permit system, which digitises licensing and permitting procedures for businesses (European Commission, 2022).

Ukraine joined the Digital Europe Programme, which will run until 2027 and is part of the “digital visa-free regime” with the EU. The EU has exempted Ukraine from paying contributions for 2021-2022 and provided a 95% discount on contributions for 2023-2027. The European Commission has now approved the first work programmes up to 2023: the main one (€1.38 billion); cybersecurity (€269 million); and ensuring the functioning of the network of European Digital Innovation Centres (€329 million). In total, €7.6 billion is provided to finance projects in the areas available to Ukraine (European Commission, 2023a).

The Ministry of Digital Transformation, together with European partners, is working to join the Connecting Europe Facility (CEF) programme, which aims to invest €30 billion in Europe's transport (about €23 billion), energy (€5 billion) and digital infrastructure (€2 billion) in 2021-2027. The digital sector of the programme is developing projects on secure high-capacity digital networks and the 5G system, as well as digitisation of transport and energy networks.

On 28 February 2023, the European Commission announced two calls for proposals for Ukrainian businesses under the joint title “ReadyForEU” with a total budget of €7.5 million (European Commission, 2023b).

The first call, “Business Bridge”, aims to support Ukrainian small and medium-sized enterprises, including those affected by the hostilities. The project will be managed by business support organisations such as the Enterprise Europe Network (EEN), the

European Cluster Network and others. As a result, up to 1,500 Ukrainian small and medium companies focused on growth and sustainable development will be selected to receive direct support of up to €2,500. The total budget is €4.5 million and covers the costs of researching the European market to find partners, legal, organisational or financial advice on setting up a new company or adapting an existing one, advice on intellectual property rights and visits to European trade fairs.

The second call, “Erasmus for Young Entrepreneurs – Ukraine” will help new Ukrainian entrepreneurs gain business experience in European countries. This project will be launched as part of the already established Erasmus for Young Entrepreneurs programme. In 2022, 154 Ukrainian entrepreneurs applied and 79 took part in the programme. The total budget is €3 million. The project will attract up to 430 Ukrainian entrepreneurs and find EU companies which will host Ukrainians.

The EU’s Single Market Programme (SMP) is a €4.2 billion financial support project that will last for 7 years (2021-2027). Ukraine will participate in programmes aimed at strengthening the competitiveness and sustainability of small and medium enterprises (about €1 billion), as well as the creation and dissemination of high-quality European statistics (about €546 million). The initiatives under the Single Market Programme will help Ukrainian entrepreneurs find new business partners in Europe and enter new markets. At the same time, it is another opportunity for European businesses to strengthen ties with Ukraine, invest in Ukrainian business projects, including Internet-business, and contribute to Ukraine’s post-war recovery.

Overall, integration into the DSM is beneficial for Ukraine. The digital transformation of markets and businesses will increase efficiency and contribute to Ukraine’s economic growth. It is estimated that GDP will increase by 2.4-12.1% (USD 3.1-15.8 billion), and the welfare of citizens by 3.6-7.8% (Iavorskyi et al., 2020).

The intensification of integration processes in the digital economy, and the gradual approximation of Ukraine’s regulatory environment and digital infrastructure to the EU level will affect bilateral trade. Ukraine’s exports of goods to the EU are expected to

grow by 11.8-17% (USD 2.4-3.4 billion) and services by 7.6-12.2% (USD 302.5-485.5 million) (Iavorskyi et al., 2020). The DSM provides for mutual access to online markets. In recent years, Ukraine has accelerated the process of e-commerce and expanded the participation of companies in global supply chains. The e-commerce segment in Ukraine accounts for about 4% of the retail market. Prospects for the development of this market are favourable, the growth forecast is 14% annually (IT Association, 2021).

The digitalisation process is ongoing, and Ukraine's integration into the DSM is a logical continuation of the reforms that the Government has been actively implementing in recent years as part of the EU-Ukraine Association Agreement. By intensifying cooperation with the EU, Ukraine has managed to expand access to online markets and e-services in Europe, eliminating administrative barriers and developing e-governance (Ukrainian Centre for Economic and Political Studies after O. Razumkov, 2022). At the same time, it is important to ensure the technical capability and interoperability of digital systems, improve citizens' access to high-speed Internet, obtain quality online services, and improve digital skills.

Conclusions

Integration into the EU's Digital Single Market is a priority for both the Ukrainian government and business. Ukraine is gradually bringing its legislative and institutional framework closer to the European one in the areas of electronic identification, e-payments and settlements, cybersecurity, personal data protection, etc. Ukrainian online business has great opportunities in the context of deepening economic integration and expanding digitalisation processes within the EU's Digital Single Market.

A systematic digital transformation of business processes and access to European and global markets will allow Ukrainian enterprises to take advantage of the developed digital space, attract new customers, and expand abroad. Ukraine's integration into the DSM envisages a number of initiatives and financial support programmes for Ukrainian small and medium businesses launched by the EU. At the same time, the DSM has the anti-corruption impact, improving the quality, transparency, and efficiency of public

digital services and e-government. For business, it means regulation in accordance with European rules and enhanced consumer protection. Ukraine's integration into the DSM will help accumulate investments, increase mutual trade, and boost employment.

Despite the growth in sales and successful overseas expansion, the Ukrainian Internet business is still in its infancy. Its further development is taking place in the context of globalisation and digitalisation. Therefore, it is important for the Ukrainian government and institutions to work on improving the institutional and regulatory framework for e-commerce as part of integration into the EU's DSM and to actively promote the entry of Ukrainian e-businesses into European markets.

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Chapter 4

MECHANISMS FOR THE DEVELOPMENT OF ECONOMIC ENTITIES IN THE FACE OF INTERNATIONAL SECURITY SYSTEM TRANSFORMATION

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BIBLIOMETRIC ANALYSIS OF THE RELATIONSHIP BETWEEN THE CONCEPTS OF “CRITICAL INFRASTRUCTURE” AND “NATIONAL SECURITY”

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Abstract

Currently, in the global world, the security issues of the development of critical infrastructure have become particularly relevant. At the same time, security should be considered as the level of protection of the state's critical infrastructure from real or potential threats created by natural disasters, armed conflicts, environmental, man-made, and military disasters. In this regard, it is necessary to take into account modern threats to the national security of most countries of the world,

changes in the international security system in the context of globalization and European integration. As a result of the study, it was established that the development of critical infrastructure facilities must be considered from the standpoint of ensuring the national security of the state and post-war reconstruction of the economy. It has been proven that it is expedient to pay special attention to the development of a national security strategy for the development of critical infrastructure as a conceptual document. This strategic document should contain the mission and vision of the future, directions for the development of critical infrastructure facilities, and a target block of a number of strategic and operational goals for ensuring the appropriate level of the country's national security.

With this in mind, the purpose of this study is to identify the relationship between the terms "critical infrastructure" and "national security" based on the bibliometric analysis of scientific publications that are indexed in the Scopus database using the VOSviewer tools.

Keywords: *critical infrastructure, national security, conceptual and categorical apparatus, bibliometric analysis, theoretical analysis, relationship, cluster analysis, security environment, protection, sustainability, development, management, strategic management, security strategy.*

Introduction

In the world, the issue of ensuring an adequate level of global security in conditions of unstable development of economic systems has become particularly acute. At the same time, the problems of ensuring the stability and protection of critical infrastructure (Bezpartochnyi et al., 2022, 2023; Bezpartochnyi & Trushkina, 2023; Kwilinski, 2018; Kwilinski et al., 2022; Kwilinski & Trushkina, 2023; Khaustova et al., 2023b; Kyzym et al., 2022, 2023; Remyha et al., 2023; Trushkina, 2021), taking into account modern challenges and barriers that restrain the effective development of the security environment, as well as threats to the national security of states (Bezpartochna et al., 2022; Dźwigoł et al., 2021; Khaustova et al., 2023a; Pushak & Trushkina, 2023) in the international security system (Trushkina, 2023), are gaining special relevance.

Therefore, the governments of most countries of the world pay considerable attention to the development of appropriate national security strategies, concepts of protection and programs for the

development of critical infrastructure from the point of view of national security.

Materials and Methods

In a survey conducted in 2022 by the Center for Army, Conversion and Disarmament Research, it was found that 18% of respondents expect problems of cyberattacks and cyber threats in the future. And 8% expressed the opinion that they do not hope for an effective solution to this problem at all (this point of view is held by the respondents whose organization belongs to the list of critical infrastructure objects). Approximately 90% of respondents believe that their government should do more to protect critical infrastructure from enemy state-sponsored cyberattacks.

The results of a sociological survey conducted by the sociological service of the Razumkov Center with the support of the Konrad Adenauer Foundation Representation in Ukraine from September 22 to October 1, 2022, showed that 56% of respondents choose security. But the choice in favour of security is now significantly less than in 2020, when 66% of Ukrainians preferred security. And this is in a situation where a large-scale war is going on in Ukraine and the urgency of the security issue has increased tremendously.

At the same time, the majority of Ukrainian citizens (49% among 2018 respondents) consider Ukraine's accession to NATO as a priority area for guaranteeing national security after Russian aggression. This is evidenced by the data of a survey conducted from December 13 to 21, 2022 by the Democratic Initiatives Foundation and the sociological service of the Razumkov Center in cooperation with *Evropeyska Pravda*. Thus, 48.9% of the respondents said that it is the membership in the Alliance that guarantees Ukraine's security in the future. About 10% consider the best option to be an agreement on strategic defence cooperation with several allies (for example, Poland, the Baltic States) without the United States. And 8.5% of respondents support a non-aligned or neutral status with international security guarantees for Ukraine. 6.7% of respondents are in favour of an agreement on strategic defence cooperation with the USA.

As a result of a survey conducted by the Kyiv International Institute of Sociology from September 29 to October 9, 2023, it was found that 59% of citizens support Ukraine's membership in the EU

from the point of view of long-term security. And 54% of respondents believe that the priority of ensuring the development of the security space of Ukraine is the accession to NATO.

In addition, it should be emphasized that the situation in Ukraine regarding the functioning of strategic objects of critical infrastructure remains extremely difficult and tense as a result of hostilities. In this regard, today the security aspects of the development of critical infrastructure in Ukraine are of particular importance and require the search for well-founded management solutions at the national level. The importance of this issue is confirmed by the organization and conduct of many scientific and practical events, among which we can point out the round table “Security aspects of managing organizations in conditions of war and post-war reconstruction of the state” (May 12, 2023, Lviv, Lviv State University of Internal Affairs) and Forum “Safety of critical infrastructure and humanitarian mine action” (May 17, 2023, Kyiv, Euro Index company, League of Defence Enterprises of Ukraine with the support of the Ministry of Defence of Ukraine, the Ministry of Internal Affairs of Ukraine, the State Service for Special Communications and Information Protection of Ukraine, the State Emergency Service of Ukraine), etc. During these events, the urgent problems of restoring the safety of life, protection of critical infrastructure, industry and energy of Ukraine in the war and post-war periods were considered.

In view of this, the issue of ensuring the protection and security of critical infrastructure in the conditions of an unstable security space remains extremely relevant and requires the expansion and deepening of research in this direction.

This problem determined the purpose of this article, which is to identify the relationship between the terms “critical infrastructure” and “national security” based on the bibliometric analysis of scientific publications indexed in the Scopus database using the VOSviewer tools.

To achieve the goal, the following general scientific research methods were used: dialectical, historical, formal-logical, axiomatic, theory of logic and hypothetical-deductive, analysis and synthesis, induction and deduction, component analysis, comparative analysis, analogy, classification, structural-logical generalization.

The theoretical and methodological basis of the research is the

provisions of the institutional theory, in particular paradigms of evolutionary development; theory of systems, infrastructure, strategic management, globalization, national interests by H. Morgenthau; geopolitical views of H. Mackinder, N. Spykman, Z. Brzeziński, A. Haushofer; the concept of the clash of civilizations by S. Huntington; mondialist paradigms of F. Fukuyama; the theory of global chaos by C. Santoro; concepts of national security, possible conflicts of interests in the field of ensuring national stability according to J. Anderis, P. Martin-Breen, D. Chandler; models of national stability and development of the security environment.

Results and Discussion

In this article, in order to identify the relationship between the terms “critical infrastructure” and “national security”, a bibliometric analysis of scientific publications indexed in the Scopus database was carried out. According to the concepts of “national security” and “critical infrastructure” in titles, abstracts and keywords, 1952 documents were found for the period 1980-2023 (Figure 4.1).

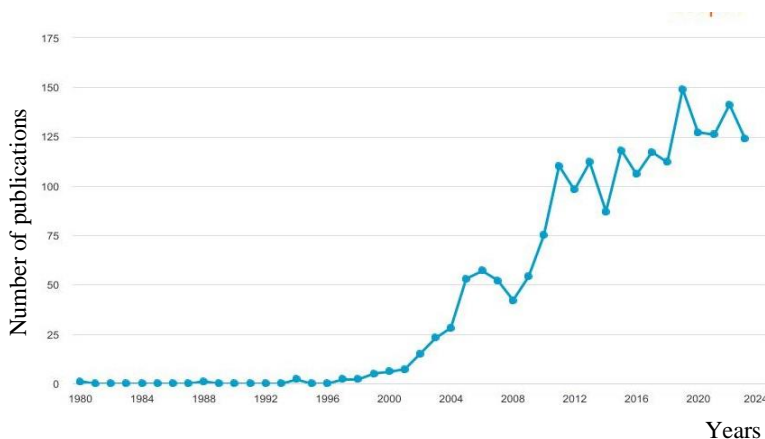


Figure 4.1 Dynamics of the number of scientific publications in the scientometric database Scopus, which highlight the problems of critical infrastructure and national security for 1980-2023

Source: built on the basis of data from the Scopus scientometric database

As the analysis showed, the first publication on the selected topic appeared in the international scientometric database Scopus in 1980. This is the article “Suggestions of a pharmacist to improve the use of

drugs” (G. Antognini) (1980), which highlights the issue of drug safety with pharmaceutical point of view. This is a matter of life safety. And then, until the 2000s, a fairly low level of publishing activity was observed. And only starting in 2003, the works of scientists (David & Sakurai, 2003; Scott, 2003; Williams & Hubbard, 2003; Busuttill & Warren, 2005; Liscano et al., 2005) began to appear in the scientometric base, focusing attention on the current problems of cybersecurity, energy security, substantiation of scientific and methodological approaches to the protection of critical information infrastructure from the standpoint of national security, etc.

In the future, the authors set limitations for the study of the relationship between national security and critical infrastructure. The general sample of the study was limited by field of knowledge and type of documents. That is, only Article, Conference paper, Review, Book, Book chapter were selected. The fields of knowledge studied were: Engineering; Computer Science; Social Sciences; Decision Sciences; Energy; Business, Management and Accounting; Economics, Econometrics and Finance. The new sample consisted of 1725 publications for the years 1988-2023 (Figure 4.2).

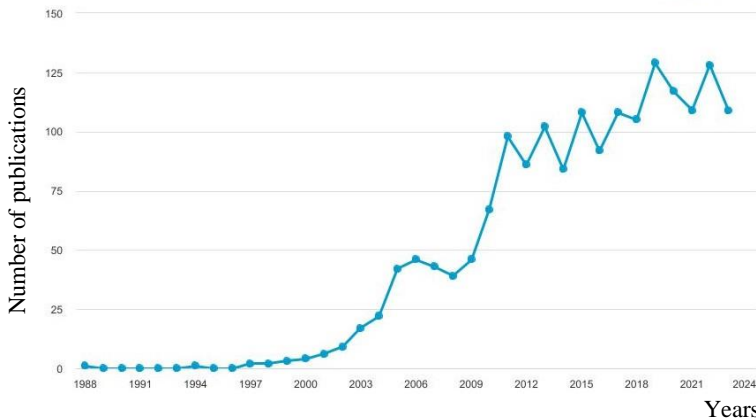


Figure 4.2 Dynamics of the number of scientific publications in the scientometric database Scopus, which highlight various aspects of the development of critical infrastructure from the standpoint of national security for 1988-2023

Source: built on the basis of data from the Scopus scientometric database

Among the most cited publications, the article by S. Rinaldi (2004), which was cited 348 times in a journal indexed by the scientometric database Scopus, deserves special attention (Table 4.1).

Table 4.1

The most cited articles on the development of critical infrastructure in the national security system in the Scopus scientometric database

Author(s), year, title of work	Name of the publication	Number of Scopus citations
Rinaldi, S. M. (2004). Modelling and simulating critical infrastructures and their interdependencies	Proceedings of the Hawaii International Conference on System Sciences	348
Ten, C.-W. et al. (2010). Cybersecurity for critical infrastructures: Attack and defense modelling	IEEE Transactions on Systems, Man, and Cybernetics Part A:Systems and Humans	323
Gunduz, M. Z., Das, R. (2020). Cyber-security on smart grid: Threats and potential solutions	Computer Networks	312
Tehranipoor, M., Wang, C. (2012)	Introduction to Hardware Security and Trust (Book)	283
Vugrin, E. D. et al. (2010). A framework for assessing the resilience of infrastructure and economic systems	Sustainable and Resilient Critical Infrastructure Systems: Simulation, Modelling, and Intelligent Engineering	260
Lewis, T.G. (2006)	Critical Infrastructure Protection in Homeland Security: Defending a Networked Nation (Book)	243
Alcaraz, C., Zeadally, S. (2015). Critical infrastructure protection: Requirements and challenges for the 21st century	International Journal of Critical Infrastructure Protection	185

Source: built on the basis of data from the Scopus scientometric database

The author of this article emphasizes that national security, economic prosperity and national well-being depend on a set of highly interdependent critical infrastructures. Given the importance of their reliable and secure operation, understanding the behaviour of these infrastructures, especially during times of stress, crisis or terrorist attacks, is crucial. At the same time, modelling can provide a significant understanding of the complex nature of the behaviour of critical infrastructure objects and their operating characteristics.

Among the key publications that publish works on the development of critical infrastructure from the standpoint of national security, the following can be noted: International Journal of Critical Infrastructure Protection (24 documents); International Journal of Critical Infrastructure (18); Computers and Security (13), Journal Of Homeland Security And Emergency Management (7), NATO Science For Peace And Security Series C Environmental Security (6), Journal Of Critical Infrastructure Policy (5) (Figure 4.3).

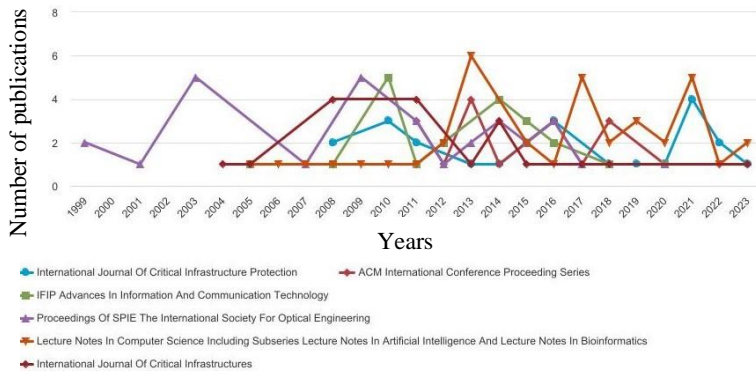


Figure 4.3 Dynamics of the number of scientific publications by sources

Source: built on the basis of data from the Scopus scientometric database

There are 11 documents of the researcher F. Skopik in the Scopus database; 10 – M. Lehto; 8 documents each – E. Matheu, A. Rashid, J. Schneider; 7 documents each – J. Day, A. Masys, H. Thomas and others (Figure 4.4).

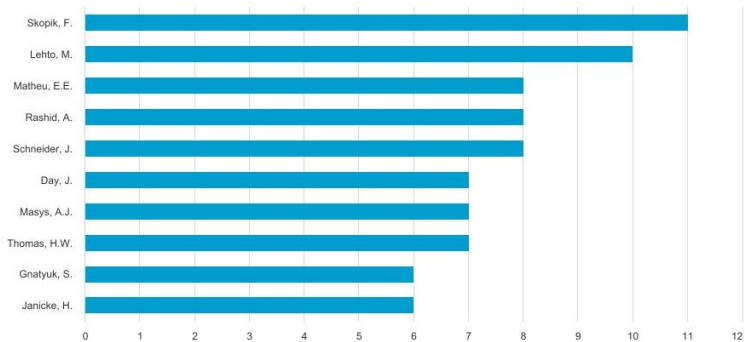


Figure 4.4 Dynamics of the number of scientific publications by authors

Source: built on the basis of data from the Scopus scientometric database

The key organizations involved in solving critical infrastructure development problems in the context of ensuring the country’s national security are Sandia National Laboratories, New Mexico (35 documents); Oak Ridge National Laboratory (20); University of Jyväskylä (17); U.S. Department of Homeland Security (16); Idaho National Laboratory (15) (Figure 4.5).

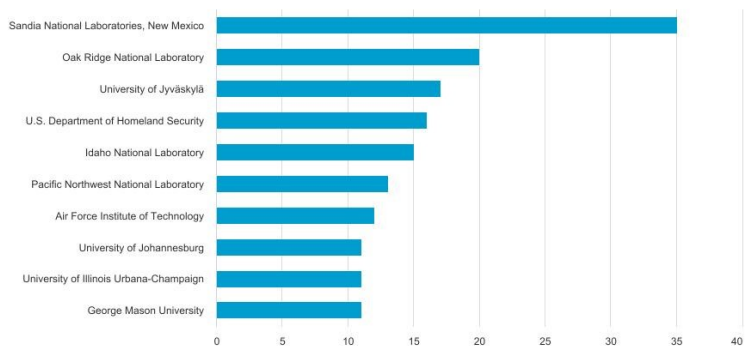


Figure 4.5 Number of scientific publications by organizations

Source: built on the basis of data from the Scopus scientometric database

The results of the analysis show that most of the works on the researched issues are published by scientists from the USA (709 documents), Great Britain (190), Italy (69), China (58), and India (56) (Figure 4.6). In Ukraine, 22 documents were found based on the established search details.

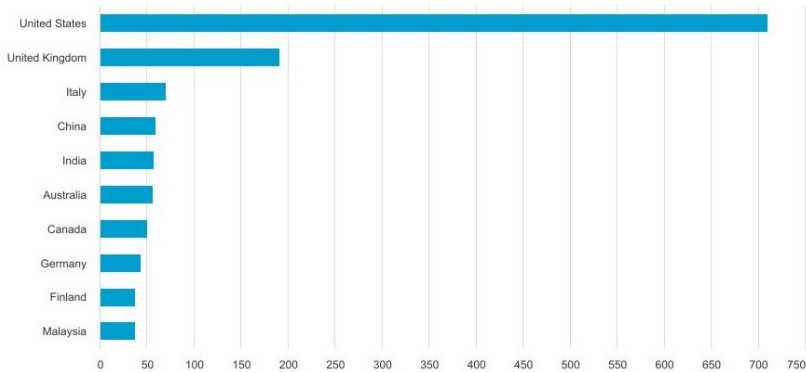


Figure 4.6 Number of publications on critical infrastructure development issues from the standpoint of national security by country

Source: built on the basis of data from the Scopus scientometric database

According to the types of documents, scientific works can be ranked as follows: conference materials (821 documents), scientific articles (555), chapters of books or monographic publications (242), review articles (54), books (33 documents) (Figure 4.7).

For the most part, scientific works on the studied issues are published in the following fields of knowledge: Computer Science (838 documents), Engineering (837), Social Sciences (558), Decision Sciences (174), Environmental Science (161), Mathematics (157), Energy (142), Business, Management and Accounting (111 documents) (Table 4.2).

The main sponsors that finance scientific publications on the critical infrastructure development from the point of view of national security include the following: National Science Foundation (37 documents); U.S. Department of Energy (25); Horizon 2020 Framework Program (22); Engineering and Physical Sciences Research Council (19); European Commission (16) (Figure 4.8).

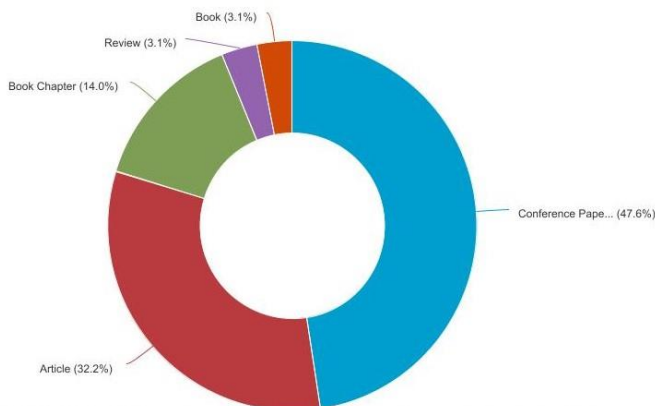


Figure 4.7 Specific weight of scientific publications by types of documents

Source: built on the basis of data from the Scopus scientometric database

Table 4.2

Share of scientific publications by fields of knowledge

Branch of knowledge	Share of scientific publications, %
Computer Science	24.8
Engineering	24.7
Social Sciences	16.5
Decision Sciences	5.1
Environmental Science	4.8
Mathematics	4.6
Energy	4.2
Business, Management and Accounting	3.3

Source: built on the basis of data from the Scopus scientometric database

Further processing and analysis of bibliographic data was carried out using the VOSviewer software, which is a software tool for constructing and visualizing maps of bibliometric networks. VOSviewer software was used to construct network maps of relationships between keywords based on bibliographic records from Scopus databases. The visual results of the obtained map of the bibliometric network are shown in Figure 4.9.

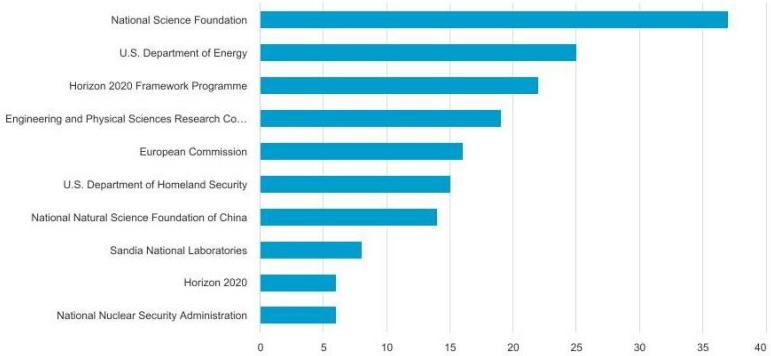


Figure 4.8 The number of documents by the main sponsors who financed the publications

Source: built on the basis of data from the Scopus scientometric database



Figure 4.9 Network visualization of development article citations critical infrastructure from the point of view of national security, implemented using the VOSviewer tools

Source: built on the basis of data from the Scopus scientometric database using the VOSviewer program

The map of the bibliometric network displays the frequency of use of terms by the size of the circle and the intensity of communication, and allows you to track variants of combinations of terms both within clusters and between them. The colour of the circle indicates

that the keyword belongs to a certain cluster. The larger the diameter of the circle, the more often this term appears in scientific publications. Links on the map show the frequency of repetition of keywords in publications, while the smaller the distance between keywords, the stronger the connection between them.

According to Figure 4.9 using the VOSviewer program, keywords can be grouped into 8 clusters. A generalized description of clusters of key phrases in scientific studies on the development of critical infrastructure from the standpoint of national security is presented in Table 4.3.

Table 4.3

Characterization of clusters of key phrases in scientific studies of the development of critical infrastructure from the standpoint of national security

Cluster	The most used term	Number of keywords	Related keywords
1 (red)	critical infrastructure	16	infrastructure, impact, change, evaluation, implementation, risk, opportunities, energy security, strategy
2 (green)	critical information infrastructure	12	analysis, approach, assessment, attack, cyber threats, management system, model, risk management
3 (blue)	national security	9	critical national infrastructure, concept, protection, public private partnership, resilience, state, tools, use
4 (yellow)	cyber conflict	4	modelling, homeland security simulation workshop
5 (purple)	information warfare	4	case study, cyber-attack, threat
6 (blue)	association	3	dam safety
7 (orange)	computer science	3	artificial intelligence
8 (brown)	cyber security	1	cyber, attack

Source: created by the authors using the VOSviewer program

As can be seen from Table 4.3, the development of critical infrastructure is mostly considered from the standpoint of national, information and cybersecurity.

Conclusion

So, the analysis of publishing activity confirmed that starting from the beginning of the 90s of the 20th century, there is a growing scientific interest in the study of security aspects of the development of critical infrastructure. The main reasons for the growing popularity of these scientific studies are the fact that the development of the global world takes place in conditions of constant natural cataclysms, disasters, climate changes, armed conflicts, wars, terrorist acts, and cyber threats.

In view of this, the strategic task of ensuring national security in the international security system of the countries of the world is the protection of critical infrastructure facilities in the context of the effective functioning of the security space.

Visualization of the network map of keywords based on bibliographic data made it possible to distinguish 8 clusters that characterize the key areas of research: critical infrastructure, critical information infrastructure, national security, cyber conflict, information warfare, association, computer science, cybersecurity.

At the same time, the interdisciplinary nature of research is followed, and the geography of scientists and researchers studying this topic is diverse (but with a noticeable predominance of scientists and institutions from the USA, Great Britain, Italy, and China).

Prospects for further research are scientific and methodological justification and development of a security strategy for the development of critical infrastructure in the context of ensuring the national security of Ukraine.

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**ENSURING AN
EFFECTIVE
SYSTEM OF THE
SANITARY
CONDITION OF
RESTAURANT
ESTABLISHMENTS
UNDER THE
HACCP**

<https://doi.org/10.5281/zenodo.10463196>

Abstract

This article addresses the challenges associated with controlling critical points in a food service enterprise to mitigate the risks of food contamination and ensure workplace safety and overall enterprise well-being.

Keywords: *sanitary conditions, HACCP, hygiene, prerequisite programs, color coding, cross-contamination, disinfection, corrective actions, monitoring, verification, checklist.*

Introduction

The sanitary condition of enterprises stands as a crucial component of state policies globally, and Ukraine is no exception

(Bilousova et al., 2023; Dudarev et al., 2023; (Skrynnyk & Kuzmin, 2022)). The state has implemented a range of documents and programs to systematically oversee the hygiene of equipment, premises, personnel, and production processes, aiming to prevent product contamination and the spread of infectious diseases. Ongoing training and vigilant monitoring of rule adherence ensure that staff comprehends the pivotal role they play in maintaining food safety. Presently, meeting elevated hygiene and safety standards is considered a guarantee for satisfying diverse segments of the population.

The sanitary condition of foodservice facilities hinges on various factors, encompassing adherence to hygiene standards, product quality control, and consumer safety (Moskalchuk et al., 2022; Yurchenko et al., 2022; Zaporozhan et al., 2022). In the foodservice industry, sanitation is not merely a standard but a fundamental prerequisite for ensuring both product quality and safety. Ensuring safe food transcends the mere removal of defects or dirt; it necessitates stringent quality control, adherence to technological production standards, a qualified workforce in the production sector, and effective monitoring at every production stage.

In recent months, amid the legal regime of martial law, Ukraine has enacted several regulatory acts aimed at regulating strategic relations to ensure food security. This paper delves into the significance of sanitary control in fostering reliable and high-quality operations of food service enterprises in the current environment.

Actuality of theme

Maintaining high standards of hygiene is paramount for food companies to ensure the safety and quality of their products. The evolving nature of requirements and standards places significant emphasis on the design of production facilities, the adoption of advanced equipment solutions, and the strict implementation of hygiene standards across all facets of the company. Achieving cleanliness and vigilant monitoring for nonconformities necessitate the utilization of appropriate equipment, which stands as a critical component of a successful program.

Given the perpetual evolution of requirements and standards, continual adaptation and review of these plans are indispensable. Moreover, the training and development of employees regarding

hygiene issues play a pivotal role in ensuring that food establishments are not only safe but also in full compliance with established standards.

The aim of the research is to explore the implementation of prerequisite programs in the catering enterprise, delineating overarching requirements for the organization of production processes and the upkeep of sanitation within the restaurant establishments under scrutiny.

Materials and Methods

The investigation drew upon studies conducted by Ukrainian and international scientists and specialists specializing in food safety issues.

Results and Discussion

(a) Implementation of a prerequisite program at the catering establishment

Restaurant establishments, being food service businesses, should strive to minimize the risk of contamination within their production facilities and dining areas. Achieving this goal requires an understanding of the current sanitary condition of the enterprise and the identification of ways to enhance the safety of production conditions and finished culinary products.

The cornerstone document governing rules and regulations concerning the enterprise's identified problem, particularly its sanitary condition, is the prerequisite program. This program delineates specific requirements tailored to each establishment based on its configuration and location features. These requirements are obligatory and aim to mitigate hazards while exercising control in the processes of raw material storage and the preparation of dishes offered by food service establishments. Adherence to these regulatory requirements ensures compliance with food safety and quality standards in the European Union (Krysanov et al., 2019).

(b) General requirements for the design and equipment of workplaces

Paying attention to hygienic design and construction, proper location, and adequate technical facilities is crucial for effectively

preventing and minimizing hazards. This involves conducting regular safety audits, risk assessments, and implementing appropriate control measures (DSTU ISO 22000:2019, 2019).

Production facilities' areas should be designed to ensure that equipment and materials are positioned correctly to prevent cross-contamination. To achieve this, production areas (workshops) should be clearly identified and labeled based on their purpose.

The working area of the establishment should be divided into six functional areas, depending on the risk of contamination of raw materials, semi-finished and finished products, and ready-to-eat food. The color coding of functional areas is outlined in Table 4.4.

Table 4.4

Color coding of room areas

Zone color	Zone name
blue	Premises for visitors
green	Production premises
light green	Warehouses
red	Bathrooms
yellow	Service premises
brown	Technical premises

The color coding of a restaurant establishment according to the explication of the premises is shown in Figure 4.10.

The company must take effective measures to prevent cross-contamination. According to a systematic review, the average levels of gluten contamination in certified foods from food service establishments are 42 %, and in industrial products labelled as gluten-free – 13 % (Wieser et al., 2021).

Potentially hazardous food raw materials should be processed in a separate room or in areas (sections) separated by a partition from the areas (sections) where the finished food is produced (Codex Alimentarius, CAC/RCP 39-1993, 1993).

The surfaces of walls, floors and ceilings shall be made of non-absorbent, washable and crack-free materials; in addition, the floor shall be made of non-slip materials. Doors are non-hygroscopic, stable and have a smooth and undamaged surface (National standards body of Ukraine, DSTU ISO 22000:2019, 2019).

Table 4.5

Explication of the premises of a catering establishment

No.	Title	No.	Title
	Premises for visitors		Service premises
1	The lobby, the hall	30	Director's office
2	Dining room	31	Accountant's office
3	Lobby	32	Waiters' and bartenders' rooms
4	Wardrobe	33	Waiters' and bartenders' wardrobe
5	Women's toilet room	34	Staff quarters
6	Men's toilet room	35	Showers, toilets
7	Toilet in the washroom	36	Storage room for cleaning tools and equipment
8	Premises for additional services		
9	Premises for targeted events		
	Production premises		Technical premises
10	Hot department	37	Electrical room
11	Cold department	38	Heating station
12	Bread cutting room	39	Supply air chamber
13	The production head's room	40	Exhaust chamber
14	Tableware dishwasher		
15	Kitchen dishwasher		
16	Egg processing room		
17	Distribution centre		
18	Greenery processing workshop		
19	Preparation shop		
	Warehouses		
20	Booting area		
21	Storekeeper's room		
22	Cooling chamber for storage of dairy products, fats and gastronomy		
23	Cooling chamber for storage of meat and fish semi-finished products		
24	Cooling chamber for storage of fruit and vegetable semi-finished products		
25	Pantry for groceries, wine, spirits and other beverages		
26	Bulk storage room		
27	Vegetable pantry		
28	Engine room		
29	Washing and storage room for containers and equipment		

Depending on the nature of the process operations and the risks involved, buildings and areas, equipment and facilities should be located, designed and constructed in such a way as to (Codex Alimentarius, CAC/RCP 39-1993, 1993): minimise the crossing of process flows, to minimise contamination, and to prevent various

types of contamination by improper containment of chemicals. Surfaces and materials are made of non-toxic and durable materials. Protection against pest access and reproduction was effective.

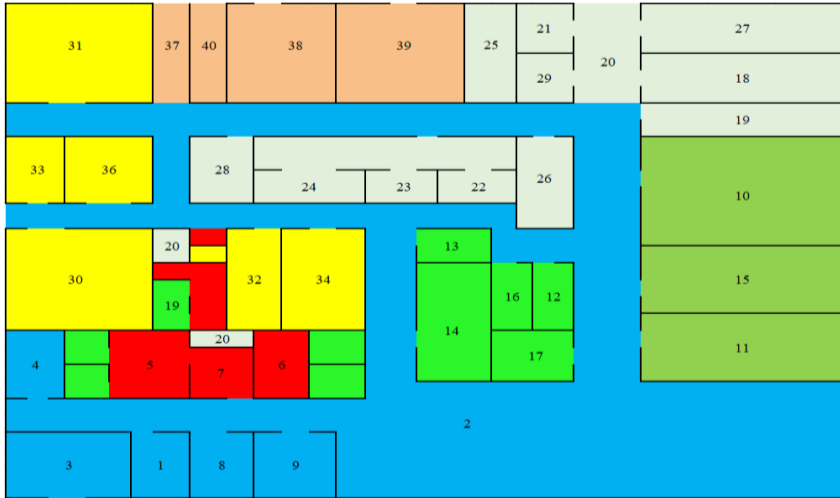


Figure 4.10 Color coding of a restaurant establishment

Cleaners, detergents and disinfectants used for cleaning must be fit for purpose and used in accordance with the manufacturer’s instructions, labelled, stored outside the production area and used in a manner that does not cause food contamination (National standards body of Ukraine, DSTU ISO 22000:2019, 2019).

Highly prepared semi-finished products should be stored in labelled containers with the name and date of preparation. This is to ensure freshness and prevent cross-contamination (Ministry of Agrarian Policy and Food of Ukraine, Order No. 590, 2012).

(c) Sanitary and hygienic requirements for the territory of the enterprise

Passages, aisles and areas located on the territory of the enterprise should be cleaned of garbage daily, watered 2 times a week in summer, and cleared of snow/ice and sprinkled with sand in winter.

Garbage bins should be located away from the loading bay door on a separate, paved area for short-term storage of garbage in

containers with closed lids. Under the influence of COVID-19 and other global viruses, establishments should use red bins with a capacity of 60 to 120 liters, equipped with a durable red garbage bag, pedal and lid with special COVID-19 labelling, for temporary waste storage (World Health Organization, 2020).

Storage should be carried out in closed labelled containers for no more than one shift, and the amount of waste should not exceed 60%. Containers must be located separately from food storage areas in a closed area (Ministry of Agrarian Policy and Food of Ukraine, Order No. 590, 2012).

Waste storage areas shall be kept in good condition. Transport intended for the removal of containers and waste bins is prohibited for the transport of food raw materials and finished products (National standards body of Ukraine, DSTU ISO 22000:2019, 2019).

The responsible cook of the catering establishment must ensure that there are mats for cleaning shoes and a yellow warning sign “wet floor” at the entrance.

Every month, on sanitary days, the area should be cleaned, equipment, walls, and floors should be washed using detergents and disinfectants approved by the Ministry of Health of Ukraine for these purposes (Resolution of the Cabinet of Ministers of Ukraine No. 863, 2023).

The fast food outlet shall be cleaned at least once a week, and the floor shall be cleaned as needed.

In order to prevent cross-microbial contamination, a multi-layer disinfectant mat is placed at the entrance/exit to the restroom to disinfect the soles of shoes. The sanitary condition is checked by a permanent commission (HACCP group) appointed by an enterprise order after the sanitary day.

(d) Sanitary and hygienic requirements for the production area

As a rule, the minimum size of the production area should be at least 7 m².

The walls, partitions, structures and equipment in the production area shall be painted in light, cool colors. Paints are used in such a way as to avoid the release of chemicals into the air, but they must have positive conclusions from the state sanitary and epidemiological examination.

Floors and stairs should be kept clean and free from slippery surfaces caused by spilled grease, water mixtures and other substances. The choice of flooring depends on the facility and its operations, such as the collection of raw materials, food production, preparation, processing and use of materials in processes that may be exposed to water (Rahman, et al., 2020).

Walls, doors and fixtures in production areas should be wiped down and have protective devices to prevent contamination and product damage. Ventilation systems and exhaust devices should be designed to maintain temperature and humidity requirements.

(e) Sanitary and hygienic requirements for the administrative and amenity area

The group of service and amenity areas is designed in a single zone, connecting it to the groups of production areas by corridors. The wardrobes are designed for street and work clothes, with the number of storage spaces according to the number of employees in the shift. Separated by partitions for clean and soiled workwear, they are equipped with clothes hooks. Recreation areas are sized according to the number of employees, but not less than the minimum required. Amenity areas are regularly cleaned with hot water and disinfectants, using special equipment and toilet disinfectants.

Bathrooms should be cleaned with separate equipment that is not used for cleaning other areas. This will help prevent the spread of pathogens (Barber & Scarcelli, 2009).

The washroom should be provided with a “checklist” that indicates the schedule for cleaning the washroom.

(f) Sanitary and hygienic requirements for raw materials, technological process and finished products

All food and non-food products supplied to the company, as well as food and beverages produced, must comply with applicable regulations.

The condition of ingredients, packaging and other materials must be checked and confirmed before they are approved. Raw materials and components that require special storage conditions (e.g. a certain temperature) are systematically checked and recorded to confirm that

the required storage conditions are met (Gál & Demény, 2015).

Raw materials with bacterial contamination exceeding the permissible limits (butter, cow's milk), according to the conclusion of the company's bacteriological laboratory, can only be used for the production of semi-finished products, such as baked or liquid products made with the use of high temperatures (Park et al., 2007).

(g) Cleaning equipment

Cleaning equipment includes all tools used for cleaning floors, walls, doors, windows, plumbing, etc.: mops for wet cleaning, mop holders, mobile units with buckets for clean and dirty water, brushes and dustpans for dry cleaning, stiff brushes for surfaces and seams, napkins, sponges, rubber gloves. Cleaning equipment for production units is intended for spot cleaning by personnel only in designated areas.

Where necessary, devices for disinfecting tools and equipment should be available. These devices should be made of corrosion-resistant, easy-to-clean materials and be connected to a hot and cold water supply (Codex Alimentarius, CAC/RCP 39-1993, 1993).

For cleaning and disinfection, use a washing bath with hot and cold water and special disinfectant solutions. The enterprise must have the necessary means for washing, drying and disinfection, as well as handwashing sinks activated by foot, knee or sensor. Toilets for staff are located to avoid the risk of contamination.

(h) Monitoring and corrective actions in case of non-compliance

The HACCP Team Leader controls the sanitisation of the production areas, dining room, warehouse and administrative areas.

In case of violation of sanitary requirements, the staff notifies the production manager. The latter determines the degree of danger, corrects the situation and notifies the director to stop production. The director or his acting director can stop the process. Once corrected, it is necessary to avoid recurrence by finding out the cause and eliminating it. This requires the knowledge and responsibility of employees, so the correction procedure has a clear procedure and roles assigned to employees.

(i) Verification of the background programme

Market operators analyse the hazards that may arise from the use of water and auxiliary materials for food processing, food contact items and materials. Based on the results of such studies, control measures are developed and implemented (Baba & Esfandiari, 2023).

If verification is based on testing of samples of final products or direct sampling from the process, and the tests reveal that the samples do not meet the acceptable level of food hazard, then the organisation should treat the questionable part (batch) of the product as potentially hazardous and take corrective actions (National standards body of Ukraine, DSTU ISO 22000:2019, 2019).

(j) Staff training

The production manager is responsible for briefing and familiarising production personnel with the requirements. The briefings are: initial, when the document is put into effect, periodic, which is completed every six months, and extraordinary when making changes to the prerequisite programmes and when taking corrective actions. The employee must personally sign to confirm that he or she understands the requirements of this prerequisite programme.

Conclusions

Due to the growing importance of the sanitary condition of food establishments, the results of the work emphasise the importance of systematic monitoring and training of staff on hygiene standards to prevent food contamination and disease. The sanitary condition of food establishments is a crucial factor in ensuring product quality and safety. Prerequisite programmes and appropriate equipment for monitoring industrial hygiene prove to be key components in this process. The joint efforts of government, businesses and consumers are essential to create a safe food system.

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**MODERN
PROBLEMS OF
DOMESTIC
ENTERPRISES'
INTERNATIONAL
ACTIVITIES**

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Abstract

In the article the current problems of the international activities of domestic enterprises, related to hostilities in the country and globalization transformations are considered. Current directions and measures at different levels aimed at improving the situation in the field of export-import activities of enterprises are characterized, in particular, it is necessary to strengthen financial state support, reform the regulatory, tax system and customs legislation, strengthen infrastructure and information support, intensify work on involvement in

production activities all available working population. In addition, it was emphasized that in the existing conditions, economic success in the field of international activities of enterprises significantly depends on the ability of managers to use strategic planning tools, and therefore, to form adequate strategic plans and ensure their effective and timely practical implementation.

Keywords: *enterprise's international activity, military operations, seaports, export, traffic blockade, state support, strategic planning, globalization transformations.*

In modern business conditions, military operations have become a catastrophic factor in the negative impact on international activity and the formation of strategic changes in enterprises on a global scale.

During the war, Ukrainian economy suffered catastrophic losses. Due to the war, according to the NBU, the economy would lose up to half of the annual GDP by the end of the year. This means that every week the economy of Ukraine, without losses and destruction, costs about 50 billion UAH.

A large number of Ukrainian enterprises found themselves in places of active hostilities and moved to safer areas or stopped operating at all. It is obvious that the smaller the number of active enterprises, the more losses the country itself will suffer in the form of decrease in production volumes, exports and imports, and monetary budget revenues. Even those companies located relatively far from hostilities suffer from shortages of raw materials and logistical problems.

According to the EBA, only 17% of companies are operating normally, while every third company is not working. A third of the companies plan to resume business over time.

It is easier for service sector enterprises and companies working with foreign clients, representatives of intellectual and creative work and intellectual professions to leave and start work outside of Ukraine. This fact has a very negative impact on the economic situation as a whole.

Industrial, logistics enterprises and farmers have a significant attachment to the territory and are limited in mobility, and therefore in the development of international activities and income.

Enterprises of the agrarian sector, which not only represent the most profitable branch of Ukrainian exports, but are raw material suppliers for other food enterprises, found themselves in difficult conditions. They have a specific territorial attachment, and their business cannot be postponed or transferred.

Many workers of peasant (farming) farms went to the territorial defense or were mobilized. Therefore, another problem of international activity arises – it is a personnel shortage, and the labour force, as it is known, is the important factor of production.

Ukrainian enterprises and the market as a whole lack working capital, fuel, fertilizers and many other things, necessary for production and international activities, because the country imported large volumes of fuel from Russia and Belarus. These supplies stopped immediately with the beginning of the war. In addition, Russia blocked the sea lanes, which could easily compensate for the lack of fuel.

When sowing began in the southern regions of Ukraine (primarily in the Odessa region), more than 22000 hectares of the planned 750000 hectares were sown. In the Mykolaiv region, field work began only in those areas where military actions did not take place, that is, on a very small area.

The market of metallurgical products and the metallurgical industry as a whole are also in a difficult situation due to export dependence on sea transportation. The majority of the industry's enterprises are located in the south-eastern region of Ukraine, where active military operations are ongoing.

Enterprises do not have the opportunity to freely ship finished products due to the occupation of ports and sea routes.

Thus, there is an important task of reorienting the supply of products from the ports of the Black and Azov seas to other routes, since in peacetime international transportation of about 90% of ore, grain, and large-sized cargoes were carried out by sea ports. Alternative options for providing sea transportation are currently being discussed with international partners.

Some industrial enterprises, for example, “Azovstal”, began to preserve their own production even in the first days of hostilities, reducing the economy more and more. The largest operator of this market, the company “Metinvest”, reported that enterprises of the

metallurgical industry of Mariupol, as well as “Zaporizhkoks” and “Zaporizhstal” are in the stage of active preservation, and “Zaporizhvognetryv” is in the stage of temporary preservation of technological equipment. PrJSC “Avdiiv Coke Chemical Plant” and many other enterprises of the industry were destroyed and functioning in the mode of partial preservation.

Since the beginning of hostilities, the list of types of products that export is subject to licensing by the Ministry of Economy in accordance with Resolution of the CMU No 1424 dated 12/29/2021 has been changed by the CMU several times. Thus, in accordance with Resolution No 207 of March 5, 2022 and Resolution No 259 of February 12, 2022, the CMU added to the list of products that export is subject to quotas and licensing: millet, buckwheat, rye, oats, beef livestock, mineral fertilizers (phosphorus, nitrogen, potash and complex), as well as sugar and salt. In addition, mandatory export licensing of chicken meat, meslin, eggs, wheat, corn and sunflower oil was introduced.

CMU Resolution No 353 dated March 24, 2022 eased export restrictions on fertilizer exports, in particular, detailed the list of types of products for nitrogen fertilizers and increased the size of quotas – from 0 to 210000 tons.

Applications for export licenses for these types of products are considered according to the procedure established by the Ministry of Economy, and export licenses for these types of products are obtained based on the application for a monthly quota of 70000 tons.

As before, the lion’s share of the country’s foreign exchange earnings comes from the sale of raw materials, which amounts to hundreds of millions of tons of products every year, the transportation of which is mainly carried out by sea routes, a number of which are currently blocked.

Therefore, an important problem that needs to be solved in order to partially restore export-import capabilities is the establishment of new transport routes for the transportation of raw materials and goods to foreign consumers.

In the near future, railway and road transport should become a reliable alternative to sea deliveries. Ukrainian railway is working on doubling the capacity of crossings at the border with the EU to increase international deliveries.

Another problem is that the European railway is difficult to use for the transportation of certain types of bulk products. Currently, it is very difficult to find European-style wagons for transshipment of such products at the border. There is a shortage of trains, locomotives, transshipment points with terminals. There is a lack of special vehicles that can transport by road.

According to experts, the situation can be improved by streamlining transportations. And compared to the beginning of hostilities, when sometimes the railways were in chaos and the subjects of international activities could not fully use even the existing capacities, now the railways managed to radically change the situation.

Moreover, Ukrainian railway confidently declares that it will be able to increase the volume of transportation that requires the gradual implementation of a complex program aimed at the reorganization of logistics chains. It includes the construction of terminals, the introduction of transshipment mobile capacities, the formation of insurance programs for international carriers. In addition, the European Commission is developing special trade routes for the export and import of products and is already trying to organize the so-called “green corridors”.

It should be noted that at the end of March, the government issued an order “Some issues of guaranteeing the safety of shipping in the water area of Ukrainian ports in the Danube region and transportation by rail” (War economy..., 2022). The Ministries of Economy, Infrastructure and Finance were instructed to allocate funds from the state budget for relevant measures. They are aimed at indemnifying losses from military actions in the event that policyholders would refuse to provide insurance coverage for these risks.

It should be noted that Ukrainian metallurgical enterprises have high hopes for railway transportation. Now they are looking for alternatives to international shipping by sea, in particular metal products. Previously, the vast majority of such transportations were carried out through the port “Mariupol” and other Black Sea ports.

It should also be noted that due to the occupied seaports, there were problems both with the import of raw materials into the country (in particular, metallurgical coal for steel production) and with the

export of finished goods.

Currently, Ukraine sends iron ore to the Far Eastern and European markets.

The percentage of deliveries to China is insignificant. But for the EU, the lack of Ukrainian raw materials will be felt, since 46% of the EU's iron ore needs are provided by Ukrainian exporters.

The export of finished metal also decreased significantly. In particular, the supply of flat rolled products decreased almost 10 times – from 437000 tons in February to 47000 tons in March.

Some metallurgical items were not exported at all. This is due to the physical destruction of metallurgical facilities and the stoppage of the production process. We also had to stop a number of plants in other cities, including in relatively safe areas, due to logistical problems.

According to experts' estimates, Ukraine will lose more than 60% of the production of iron ore enterprises due to military actions.

It should be noted that in order to meet the state's need for certain types of products, a number of goods have been determined, the export of which was currently prohibited. These are: silver, incl. platinum- and gold-plated silver, semi-wrought or unwrought, or in powder form other than bankable metals; gold, including platinum-plated gold, semi-wrought or unwrought, or in powder form other than bankable metals; salt; rye; buckwheat; oats fit for human consumption; phosphorus, mineral or chemical fertilizers; mineral, potassium or chemical fertilizers; mineral or chemical fertilizers containing up to three nutrients: (nitrogen, phosphorus, potassium); other fertilizers.

We will also indicate the list of products for the export of which it is necessary to obtain a license. These are: wheat and a mixture of rye and wheat; anthracite; meat of domestic chickens; eggs of domestic chickens; live cattle; frozen beef; meat and edible meat offal, in brine or salted, smoked or dried; edible flour from meat or meat offal; sugar; millet; meat of cattle.

As already mentioned, today the economy is faced with big problems. Production volumes of the main types of export products decreased. In addition, a number of ports are occupied, and therefore a significant part of international trade is blocked.

The regional logistics, social, marketing, and engineering

infrastructure continues to be destroyed. There is the outflow of human resources abroad and its redeployment to the west of the country (War economy..., 2022).

In the conditions that have formed, economic success depends significantly on the ability of managers at different levels of the hierarchy to form adequate strategic plans and ensure their effective and timely practical implementation.

It is becoming more and more obvious that post-war development, membership in the EU, modernization of the economy and intensive reconstruction of destroyed cities inevitably await the state. However, without adequate actions from the part of the authorities regarding the introduction of appropriate economic instruments, the existing potential of revival may not be realized.

We will remind that the total losses from the transport blockade, in particular the commercial seaports, which provided about 65% of the country's international trade, would amount to roughly 3-5 billion dollars USD every month and this is without taking into account the destruction of infrastructure facilities due to constant bombing (Datsenko, 2022).

Taking it into account, the government urgently introduced a number of important regulatory innovations aimed at reducing the fiscal pressure on production and stimulating the development of small businesses.

The transition to the 3rd group of the simplified taxation system was allowed for taxpayers with a turnover up to 10 billion UAH with an unlimited number of employees.

According to the new rules, simplicifiers must pay a tax of 2% of income instead of income tax and VAT. It is expanded the list of transactions for which the single tax payer of group 3 will be exempt from VAT. The period during of which taxpayers may not comply with their tax obligations without the application of sanctions is extended if they do not have the possibilities.

Customs legislation was partially liberalized.

Thus, mandatory payments for the import of goods and cars were partially cancelled (Reun, 2022).

All this is evidence that the formation of the strategy of post-war economic development has already begun.

At the same time, the well-known international research company

Advanter Group states that as a result of the military operations in Ukraine, 54% of enterprises have completely ceased operations, 25% have practically stopped, 21% have relocated, and 31% have not had time to do it (War economy..., 2022).

During military operations, the state becomes the key actor.

Temporarily, it is necessary to switch to manual management of the economy, and here the state decides what will be the key priority and what the state support should be aimed at.

In view of the above, state banks and the National Bank of Ukraine should take on particularly important function regarding lending to economic entities.

The main task now is to focus on supporting production, moving it to relatively safe regions. At the same time, the state should do everything possible to stimulate the reorientation of the economy towards infrastructural support and support of the army (Danylyshyn, 2022).

In order to encourage business, it is possible to develop partnership and mobilization tasks, because business must be a partner for the state in order to restore it.

Particular attention should be paid to export-oriented businesses: their task should be to increase the volume of exports in order to increase foreign exchange earnings.

To stimulate the economy during military operations and in the conditions of global transformations, it is necessary to reform the regulatory and tax systems in order to simplify the conduct of all economically significant procedures.

In the conditions of globalization transformations, traditional means of management do not fully objectively correspond to the realities of today's world: the politics of economy, social development, and business. Changes in the situation on the global market, the structure of the national economy, the development of enterprises and other changes require new management approaches to the activities of enterprises, in particular their international activities.

The international activity of an enterprise differs from the activity of the enterprise conducting business within the country, in particular, that is directly related to the formation of interstate business relations, which provide an opportunity to obtain more

advantages: access to international labour markets (qualifications and prices), access to raw material sources, mastering new markets, increasing the volume of production, foreign exchange earnings and others.

The relevance of the study of the features of strategic planning of the international activities of enterprises is determined by the presence of certain problems of ensuring the efficiency of their functioning, achieving a dynamic balance with the international environment, and finding directions for development in the conditions of globalization.

In the modern conditions of globalization transformations, the study of the features of strategic planning of the international activities of enterprises, in particular, approaches to the formulation and implementation of international business strategies, is gaining relevance.

In the conditions of European integration and globalization transformations, strategic planning acts as a necessary component in the course of formal forecasting of problems in the future and opportunities for the development of international activities of enterprises. During strategic planning, according to scientists (Dunska, 2013; Nemtsov & Dovhan, 2001; Shershnova, 2004; Herasymchuk, 2000), it should keep in mind a certain process related to the formation, evaluation and adoption of business development strategies, in particular international one.

The tasks of strategic planning should also include control of execution and adjustment of plans. It is on the basis of forecasting the condition of the enterprise in the future and analysis of the external environment the system of forming the strategy of the development of enterprise activities, both on the national market and on the international market, is built.

The importance of strategic planning to ensure the development of enterprises is related to the need to form development directions in the context of diversification of international activities, preparation for modern international breakthroughs and challenges, the need to integrate various operations and their coordination on the scale of the all international activity of the company.

Therefore, in modern conditions, in order to develop the international activity of the enterprise, there is a need to develop a

strategy of the development of international activity, ultimately aimed at ensuring the development of all entire mechanism of the international activity of the enterprise and increasing its efficiency.

Thus, during the analysis of the problems of the international activity of Ukrainian enterprises, a sharp drop in the volumes of their international operations was established. The occupied ports do not work, and therefore a large part of international trade is blocked. The engineering, transport and logistic, social and marketing infrastructure of the regions continue to be destroyed. The production of the main types of products that make up Ukraine's export potential has decreased. There is a mass outflow of personnel abroad and their movement to the west of the country. A large number of workers were mobilized. Enterprises suffer from a shortage of fuel, personnel, fertilizers, working capital, raw materials, and difficulties in shipping finished products.

In the existing conditions, economic success significantly depends on the ability of managers at different levels of the hierarchy to form adequate strategic plans and ensure their effective and timely practical implementation. It is becoming more and more obvious that post-war development, membership in the EU, modernization of the economy and intensive reconstruction of destroyed cities inevitably await the state. However, without adequate actions from the part of the authorities regarding the introduction of appropriate economic instruments, the existing potential of revival can not be realized. Much has already been done, but much remains to be done: strengthen financial state support, reform the regulatory, tax system and customs legislation, strengthen infrastructure and information support, and intensify work on involving all working population in production activities.

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Chapter 5

FORMATION OF EFFECTIVE MECHANISMS OF PUBLIC ADMINISTRATION AND MANAGEMENT IN THE FACE OF TRANSFORMATIONAL CHANGES

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**EUROPEAN
INTEGRATION OF
UKRAINE: REALITIES
AND PROSPECTS
AGAINST PROBLEMS
AND EXPECTATIONS OF
THE EMPLOYMENT
SPHERE' REFORMING**

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Abstract

*Obligations regarding the convergence of labor legislation and the normative principles of the Ukrainian employment sphere' functioning with the EU *acquis communautaire* presupposes the need for adequate consideration of the employment regulation' existing practice, the Ukraine' legal system best developments. Quantitative and qualitative assess' attempts of the pace and scope of the Association agreement implementation testify to numerous problems with the spread of the EU norms and practices in a number of labor legislation' sections, in particular, in the field of social protection of the hired personnel and the self-employed at the individual and collective levels, the policy and practice of employees' occupational health and work safety, their anti-discrimination and gender equality.*

Keywords: *workforce, employment sphere, labor legislation, European integration, globalization challenges, Ukraine' socio-economic policy.*

Introduction

Activities to bring national labor legislation to the European Union norms, regulations and standards, as well as measures to appropriate national employment sphere' reforming have been ongoing since Ukraine signed the Association agreement with the EU and approved the National program for the adaptation of Ukrainian legislation to the European Union legislation (Law dated 03/18/2004 No. 1629-IV). Therefore, Ukraine voluntarily undertook to implement a set of measures that create the basis for our state' further integration into the political and administrative structures, the labor market, the goods' and services' internal market, and the social protection systems of this powerful cross-border community within the framework of above-mentioned international agreement with the EU.

Taking into account the course and intensity of the implementation processes of the unilateral measures' system to bring the legislative system and the employment sphere into compliance with the mandatory minimum of EU legislation (acquis communautaire), experts from a number of national and international state and scientific institutions single out 2 major periods of consistent implementation of Ukraine's intentions to join the EU – until 2017 and from the last date to the current period (with the extension of certain measures until 2024).

A significant range of obligations regarding the convergence of labor legislation and the normative principles of the Ukrainian employment sphere' functioning with the EU *acquis communautaire* presupposes a broad interdisciplinary and interdepartmental approach to the development and implementation of relevant measures, as well as the need for adequate consideration of the employment regulation' existing practice, the Ukraine' legal system best developments. Only in this case we can expect a viable adaptation of the labor legislation and employment sphere of Ukraine to the generalized provisions of the European Union law.

Quantitative and qualitative assess' attempts of the pace and scope of the Ukraine obligations' implementation under the Association agreement made by governmental and non-governmental expert structures testify to numerous problems with the spread of the EU *acquis communautaire*' norms and practices in a number of labor

legislation' sections, in particular, in the field of social protection of the hired personnel and the self-employed at the individual and collective levels, the policy and practice of employees' occupational health and work safety, their anti-discrimination and gender equality.

The pace and qualitative characteristics of the obligations' fulfillment under the Association agreement also should be coordinated with the current realities of the national socio-economic situation, particularly, with the needs of social protection of citizens' vulnerable and other target groups (including in the field of shadow employment, non-standard labor relations, legal and illegal pendulum and interstate labor migrations), the policy' priorities of social inclusion, social security and solidarity in meeting the common and socially necessary needs of the entire population, the territorial and functional communities' spectrum (agrarian, resource-extracting and other mono-specialized communities, in the first case, by brunches, sectors, types of economic activities and their clusters, in the last case).

Materials and Methods

Up to the peculiarities of the legislation screening procedure, which is usually carried out by the EU towards the candidate country, the criterion for the obligations' fulfilling stipulated by the Association agreement is the adoption of the Laws of Ukraine and / or other regulatory legal acts that have fully agreed the national legislation' certain areas and directions upon the EU acquis (with the comparison made on the basis of the relevant acquis' norms). At the same time, separate legislative, organizational and administrative measures, which contribute to the convergence of the Ukraine' labor legislation and the employment sphere to the specified norms and have been already implemented by ministries and departments are considered to be actions to promote the implementation of the Agreement' existing provisions, which have not brought positive results yet. The rapprochement degree is assessed by the scope of constructive law-making and the pace of adoption and implementation of relevant regulatory and by-laws documents into the national legal system and employment regulation practice. Therefore, the progress towards bringing them to certain EU standards and requirements can be interpreted as ineffective or as

being carried out in accordance with the Association agreement plan, in need of acceleration or in the final stages.

In general, the progress of implementation of the Association agreement with the EU in the area of Ukrainian social policy and labor relations in 2017 was estimated at 52%; this indicator at that time was ahead of the indicators for most sectors of harmonization of national legislation and the EU *acquis communautaire* (Office of the Vice-Prime Minister for European and Euro-Atlantic Integration of Ukraine, 2018). As of 2022, the results of the obligations' implementation in social policy, organization and regulation of labor relations were estimated at 54%, which was one of the lowest indicators of the corresponding screening against the background of the overall progress in the Association agreement implementation that was determined at 72% (among worst indicators – fulfillment of obligations in the areas of financial cooperation and measures against fraud – 24%, protection of consumer rights – 48%, transport, transport infrastructure, postal and courier services – 53%) (Office of the Vice-Prime Minister for European and Euro-Atlantic Integration of Ukraine, 2023).

Having analyzed progress in the implementation of principles and tasks in the areas of social policy, employment and equal opportunities from articles 419–420 of the Association agreement, the European Commission assessed the level of Ukraine' preparation as initial in the analytical report “Conclusion of the European Commission on Ukraine's application for membership in the European Union”, dated February 1, 2023 (European Commission, 2023).

Activities in the sphere of adaptation of Ukrainian labor legislation to the provisions of the European Union law take place in three main areas: normalization of the labor legislation' basic principles; prevention of discrimination and ensuring employees' gender equality; guaranteeing the safety work of the employed (Office of the Vice-Prime Minister for European and Euro-Atlantic Integration of Ukraine, 2018, 2023; European Commission, 2023; Chyzhmar Yu.V., 2020; Makohon O., 2023; Shevchenko S., 2023).

Results and Discussion

The already passed period of adaptation of Ukrainian and EU legislation has evidenced that the most active process of bringing national labor legislation to current EU Directives, regulations and guidelines is taking place in:

- coordination of production norms, regulations and standards (both of technical and technological processes – in particular, in aspects that directly determine the conditions and level of employees' labor safety, as well as of the final products themselves);
- provision of certain standards of social equality for the population groups' spectrum in terms of implementation of employment rights, adequate material basis for preservation and reproduction of professional and qualification potential (own and their families' members), accumulation of certain pension savings upon completion of the socially active working period of life;
- balancing the interests of employers and employees regarding: the level and rates of capitalization of individual and collective labor potential, its value in production costs, parameters of distribution and redistribution of income from economic activity; approaches to maintaining the desired flexibility of business entities and production processes in the dynamic conditions of the functioning of national, macro-regional and world economies, outlined by the newest technological modes.

In general, according to the monitoring results, activities related to the adaptation and implementation of EU norms and standards have been significantly intensified in recent years on the following issues: stimulation of the increase in the level of the population employment; creation and preservation of jobs, in particular, for forcibly displaced persons; reduction of tension in the labor market by involving clients of the State Employment Service in active employment promotion programs; improvement of labor relations taking into account international norms and standards, which are monitored and distributed by the ILO; raising the level of wages in Ukraine; regulation of problems of temporary workers, collective dismissals, ensuring labor safety requirements, work of women (pregnant women and workers who have given birth to children), amounts of social leave, remote work of domestic workers, prohibition of discrimination based on characteristics of race, sex,

skin color, health status, sexual orientation, etc. (Chyzhmar Yu.V., 2020; Office of the Vice-Prime Minister for European and Euro-Atlantic Integration of Ukraine, 2018, 2023).

The main shortcomings and problems of adaptation and implementation of common EU norms and standards in the labor legislation, business and management practices of Ukraine, which were summarized by the Analytical report “Conclusion of the European Commission on Ukraine’s application for membership in the European Union”, revealed the urgent need for additional steps, first of all, regarding: further settlement of salary arrears; improvement of social dialogue (in particular, the provisions of the Law of Ukraine “On social dialogue in Ukraine” and their implementations), strengthening of non-discrimination in the employment sphere; increase of the principles’ harmonization level in the sphere of occupational health, labor protection and safety; improvement of the labor inspections’ system; harmonization of labor law in the transport sector; regulation of informal employment, strengthening the protection of employees with partial employment in the private and public sectors, including persons who have a non-standard form of employment (for example, freelancers) and perform work under a fixed-term contract; ensuring the freedom of employees’ movement; improvement in the field of workers’ gender equality (European Commission, 2023; Makohon O., 2023; Shevchenko S., 2023).

In addition to above-mentioned problems, the experts who have analyzed the report of the European Commission also point out: the lack of Ukraine’s development socio-economic doctrine as a strategic theoretical basis for bringing labor legislation of Ukraine into line with EU legislation; the shortage of a systematic national policy for the labor legislation development; the chaotic planning and low quality of preparatory analytics for bringing Ukraine’s labor legislation into compliance with the EU legislation; the ambiguity of the formulation and interpretation of the “safe flexibility” concept of labor relations, enterprise, economy as a whole, which is used to justify the government initiatives regarding the employment sphere reforming that are most discussed by the national society nowadays; disadvantages and contradictions of social dialogue (Makohon O., 2023).

According to the broad scientific community, the tactics of labor law reforming chosen by government structures weakly corresponds with European social policy' standards; hence, this tactics can't ensure the growth and stabilization of economic and human development indicators currently or in the more or less distant perspective, which is extremely important for increasing production' volumes and profits, as well as for improving the competitive properties of the workforce and products on foreign markets. As claimed by the National Institute of Strategic Studies' experts, further increase of the competitiveness of production base and products in the conditions of adaptation of EU value guidelines in the field of hired labor and entrepreneurial activity involves: rising up the cost of material, technical and organizational support of the production base and its resource part as well; transition of employers in technologies' area from their established determinism to choice (Chyzhmar Yu.V., 2020).

Consequently, we should emphasize the growth of the measures' relevance to activate and stimulate employees to decent reproduction and increase of their own professional and qualification potential in the process of labor relations' modernization and macro-regional unification (at the EU level and within the EU). The topicality of correlation of such corporate policy (in particular, regarding professional mobility, career growth in labor collectives), as the base of above-mentioned tendencies, with national and regional socio-political and socio-economic guidelines is increasing.

Along with obligations regarding the unification of labor law' key provisions, the conditions for this are also assured by EU legislation. According to articles 145–150 of chapter IX “Employment” and articles 151-161 of chapter X “Social Policy” of the Treaty on the European Union functioning, which is based on the main social rights set forth in the European Social Charter (signed in 1961) and the Community Charter on workers' basic social rights (1989), EU member states and EU candidate states have the opportunity and legal incentives to develop national labor law more deeply. Thus, national labor law (including that of Ukraine as a candidate for joining the EU) must take into account (European Commission, 2023; Makohon O., 2023):

- existing trends towards the progress of the labor law science, the effectiveness of approaches to legal technique and law enforcement;

- the level of legal maturity, legal awareness, legal culture of individual and collective labor relations' subjects in their activities, which creates certain legal consequences for them;

- the range of national and Pan-European goals for promoting employment, improving living and working conditions according to guidelines: enabling their coherence while maintaining improvements; ensuring proper social protection, dialogue between administration and employees; preserving high employment and measures against exclusions as priorities of the long-term strategy of human resources development;

- the goals of sustainable economic, social and environmental development of developing countries, aimed at poverty' eliminating;

- the principle of consistency of national labor law with the effective implementation of fundamental and priority conventions of the International Labor Organization, as well as the ILO Declaration on basic principles and rights in the work (from June 18, 1998). The impact of the global financial crisis on the world economy and the international community led to the adoption of the aforementioned Declaration due to the: awareness that economic development is important, but not sufficient to ensure equality and social progress, overcome poverty; the need to strengthen the connection between social progress and economic growth, within which the guarantee of compliance with basic principles in the field of labor is of particular importance. Each of the EU member states determines independently which ILO conventions correspond to the vision regarding the provision of social and labor rights of the labor relations' subjects, which is adopted at the national level, however, the EU encourages the member states to ratify the ILO conventions in the view of common fundamental values;

- the principle of not using labor standards established in ILO conventions for protectionist purposes in trade.

Thereby, we are talking about the development of a coordinated employment strategy by EU member states and countries applying for membership in order to promote, use and increase of competitiveness of a qualified, trained and adapted workforce and

labor markets that respond quickly and effectively to economic changes and challenges for the benefit of certain common long-term goals.

On the other hand, article 153 of the Treaty on the EU functioning defines the legal institutions in the regulation of which the Union must support and complement the activities of the member states within the framework of the common requirements' formation for: improving the working environment to protect the employees' health and safety; working conditions; employees' social welfare and social protection; protection of employees in case of their employment contract termination; informing and consulting employees; representation and collective protection of the interests of workers and employers; employment conditions for citizens of third countries who legally reside on the Union' territory; integration of persons excluded from the labor market; equality between men and women regarding opportunities in the labor market and attitudes at work; struggle with social isolation; modernization of social protection systems (European Commission, 2023; Makohon O., 2023; Shevchenko S., 2023).

In general, the above-mentioned approaches of the EU *acquis communautaire* to the adaptation of national labor law and its systemic reforming are extremely relevant for Ukraine, as they largely contradict the consistent (since 2014) efforts of government institutions to stimulate entrepreneurship by drastically reducing its social burden, as well as the social guarantees' narrowing as a mechanism for significantly strengthening competition in the labor market.

The pace and qualitative characteristics of the obligations' fulfillment under the Association agreement should be coordinated with the realities of the national socio-economic situation, in particular with:

- the needs of social protection of citizens' vulnerable and other target groups (including in the sphere of shadow employment, non-standard labor relations, legal and illegal pendulum and interstate labor migration);
- the policy' priorities of social inclusion, social security and solidarity in meeting the common and socially necessary needs of the entire population, the spectrum of territorial and functional

communities (agrarian, resource-extracting and those ones of other mono-specialization, in the first case, by branches, sectors, types of economic activity and their clusters, in the last case);

- the trends of increasing labor shortage in the economy of Ukraine and its regions as a result of military operations of the last two years and the expected irreversible migration of the working population' significant part (up to 23-32%).

A business-centric approach to reforming labor relations and labor legislation in Ukraine under the pretext of its adaptation to the EU *acquis communautaire* was fully embodied in the draft Law “On Labor” (in the 2022 version). The needs to increase the flexibility of national enterprises and industries in response to the challenges of current economic realities and competitiveness problems, as well as to expand representation on foreign product markets (in particular, in the European Union countries) this draft law connects with:

- a drastic reduction in the employers' social burden (as a result, a reduction in deductions, which will be further redistributed through the funds of social protection and employment promotion);

- a simplification of the procedures for the workforce' individual and collective release, including their duration and cost for the employer;

- a spread of mechanisms to guarantee payment only for actual time of work (without taking into account force majeure and forced downtimes not due to the hired personnel' fault) and according to informal corporate standards (within tariff-free wage systems), which will further stimulate the spread of non-standard labor relations with the mediation of employer' socially significant functions, civil law contracts (as a basis for regulating an average worker' employment), and will also create manipulative grounds for working hours' regular extension (in particular, at enterprises with a significant logistics component).

The obvious goal of such changes are to: increase the supply of national products on the foreign markets of Europe and all over the world due to social dumping (reducing the labor cost, costs of workers' reproduction as a production factor); strengthen competitive relations in the labor collectives and in the hired workers' sectoral markets in order to speed up the labor force' turnover, to select the personnel as highest quality as possible;

transfer the main responsibility, material and time costs for the reproduction of the professional and qualification potential of an employee (as well as his family members of pre-working and working age) to the households themselves.

Such a strategy is quite suitable and well-founded, if the long-term priority of the Ukraine' socio-economic policy is the development of resource extraction, intensive agriculture and a limited range of agro-industrial complex' industries (with a minor level of agricultural raw materials' processing), a number of services' branches in the structure of the systemic service of international transport corridors and tourism industry. At the same time, this is the shortest way to: establishing Ukraine as a raw material appendage of the EU and the world economy; stagnating social and economic processes (in particular, in the aspects of territorial economic complexes' diversification, their science-intensive modernization, increase of the income' and living' level); deteriorating the national professional and qualification potential, social institutions and systemic mechanisms for its reproduction and improvement (including by stimulating cross-border irreversible labor migration of highly qualified employees, reducing the mobility and marginalization of the workforce' other segments, especially the low-skilled, informally employed and in seasonal activities).

Therefore, the identified problems and difficulties of the Ukrainian labor legislation reforming within the obligations' framework of the EU association Agreement testify to the needs for more careful consideration of the already formed national practice of the employment sphere' regulating along with the intensification of the *acquis communautaire*' implementation in the sphere of observing the social and labor rights of an average employees and labor teams, guaranteeing labor safety in the conditions of the economy' technological base diversification, as well as legitimization of the best international standards and benchmarks for improving the working life' quality.

The 111th International Labor Conference emphasized the need for systematic coordination of political actions at the international, regional and national levels with social issues, since only such a strategy will allow to resist growing economic inequality (in particular, in dimensions of: citizens' deprivation from social

protection; wages below subsistence minimum; tendencies towards bankruptcy of micro- and small enterprises; gender inequality in wages) (Trade Unions Federation of Ukraine, 2023). The ILO announced the following priorities: ensuring a balanced consideration of environmental, economic and social aspects, in particular, during the international financial system' restructuring; conducting a coordinated policy on issues of social protection and decent work and increasing investments in this sphere.

Conclusion

The set of measures to adapt the Ukraine' legislation and the employment sphere to the EU *acquis communautaire* highlights a significant part of the requirements for technical and technological support of production processes and standardization of products in accordance with modern technological modes. A technologically backward country implementing a long-term strategy of reproducing its own technological backwardness, narrow specialization and poverty stagnation (including as a result of deliberate limitation of income redistribution through the systems of education, professional development, solidarity welfare and social protection) will not have reasonable prospects for membership in EU and improvement of the competitive positions of a wide range of national producers.

The sustainability and public recognition of comfortable quantitative and qualitative parameters of work life, including wages (as well as household and *socium* conditions of employees, self-employed and their family members) play a key role in improving the workforce' professional and qualification parameters, initiating and implementing incentives for diversifying the employment sphere, national and territorial labor markets, expanding the country' foreign economic specialization, increasing the Ukrainian producers' competitiveness in clusters of modern technological modes' branches (neo-, post-industrial).

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**TAX CONTROL
AS AN WAY OF
STATE
MANAGEMENT
OF BUDGETS
REVENUES**

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Abstract

Based on the study of individual elements of the legal mechanism of tax control, it was established that tax control is an effective mechanism of state management of budget revenues in the financial system of Ukraine in the conditions of modern challenges. Currently, in the legislation of our state, the main form of tax control is a tax audit, which is the most effective method of identifying and ensuring payment of undeclared, not assessed and thus not included into budget taxes and is provided by

comparing tax declarations (calculations) submitted by taxpayers, with actual data on their financial and economic activity. Proposals for improving the procedure for carrying out documentary checks by introducing amendments to the Tax Code of Ukraine and local regulations of the State Tax Service of Ukraine with a view to regulating tax legal relations and ensuring equality of taxpayers and state bodies in the process of verification are provided in modern conditions of complex challenges for the Ukrainian economy and society.

Keywords: *country's financial system, legal regulation, fiscal risk, financial legal relations, taxpayer, tax law, tax control, tax verification.*

Introduction

Systemic changes in financial, economic and socio-political system that have taken place in Ukraine in recent years “have resulted in a transition from a planned economy based on overall and comprehensive state governance in all its spheres to a market economy, where the main influence of the state on economic processes is mediated through government regulation” (Usenko, 2007).

The sphere of state management of its external and internal functions with the help of finance is also subject to state regulation. Such regulation is aimed at the accumulation of funds into the state's property by means of legal mechanisms that ensure the process of taxation of individuals and legal entities. The direct mechanisms of redistribution of national income in the tax system of our state are taxes, fees, rentals and non-tax payments. Their functions determine their nature and are derived from the functions of finance. As tax payments perform similar tasks, but in a narrower range.

The main function of taxes of any state is a fiscal function. According to this basic function, taxes fulfill their main purpose – to fill the revenue of the state budget of Ukraine and local budgets of all levels. Financial resources from tax revenues make the income of the state to meet the needs of society.

Legal regulation of the tax system, that is – the tax legislation is formed in the direction of fiscal regulation of tax relations. In accordance with the principle of state fiscal sufficiency, the law establishes the procedure for administering taxes as a control over accrual, timeliness and completeness of transfers to the budget, and

also the competence of state controlling bodies is determined on the same principle.

Among the domestic scientists dealing with the issues of tax legal research, analysis of the Tax Code of Ukraine and other acts of tax legislation, as well as the process of tax control, it is necessary to note the works of Voronova L., Demidenko L., Dmitrenko E., Golovko L., Gulak O., Krynitskii E., Kucheryavenko M., Kurylo V., Lukashev O., Lukianets D., Mushenok V., Subbotovich Y., Poznyakov S., Sliusarenko S. Usenko R. and others.

In particular, Kurylo V. and Mushenok V. carried out analyze current scientific items on the legal provision of budget support and its main instruments definition of a place of budget support in the system of state regulation of development of the national economy and implementation of critical analysis of priorities of state Financial and Budget policy of Ukraine and providing necessary proposals improving the effectiveness of such policies (Kurylo & Mushenok, 2016, 2017).

The collective monograph (Kurylo V., Golovko L., Gulak O., Kurylo I., Mushenok V., Poznyakov S., Sliusarenko S.) is dedicated to the scientific and legal study of the principles, means and methods of legal regulation of tax relations in the agricultural sector of the Ukrainian economy, the peculiarities of the tax regulation of the agricultural sector of European states, promising directions for the development of domestic tax legislation in the context of the European integration course of Ukraine (Kurylo et al., 2022).

The work Mushenok V. and Sitnichenko E. “Environmental taxation: the EU paradigm and its implementation into Ukrainian legislation” investigates the problem of global scale – reducing anthropogenic pollution of the environment by choosing an optimally effective system of environmental taxation. The issue has been discussed at international forums by international organizations and world-leading countries (Mushenok & Sitnichenko, 2020).

In an individual monograph entitled “The financial and legal principles of the state agar policy of Ukraine” and in his other scientific works Mushenok V. to considered conceptual and theoretical and practical bases of financial and legal regulation of the state policy of Ukraine. The legal relations of budget financing, taxation, state insurance, pricing as components of financial and

legal regulation in the agrarian and others sectors of the national economy are investigated. In his works as a scientist The scientific and applied problem of the state financial and legal provision of the agrarian sector has been solved and a holistic doctrinal approach to the formation of the concept of such provision has been developed through the implementation of budget expenditures by types of agricultural activity, as well as the implementation of state tax, insurance, price and other incentive-investment programs. The peculiarities of the existing financial-legal forms and methods of realization of the state policy in the agrarian sector are revealed. The content of legal means of financial provision (budget, tax, insurance, price) of the effective functioning and development of the domestic's economy agrarian sector is determined and disclosed. Some examples of foreign experience of forming the financial and legal principles of state policy in the agrarian sector are revealed. It is determined to improve the financial principles of the domestic state policy combining the entrepreneurial initiative of agrarian subjects with state control over the use of budget funds, tax exemptions and other financial and legal preferences. The complex of conceptual theoretical and methodological proposals for improving the financial and legal principles of state policy in the agrarian sector of Ukrainian economy regarding its economic, administrative, environmental and ecological components has been formed (Mushenok, 2013, 2017).

However, constant changes in the strategic directions of domestic tax policy, as well as the adoption of a codified normative legal act of the tax legislation – the Tax Code of Ukraine in recent years, led to the lack of clear scientific regulation of the issues of definition in the mechanism for the implementation of documentary checks by state tax control bodies.

The purpose of this article is to implement a partial description of the legal mechanism for the implementation of tax control as one of the main elements of the regulation of tax relations and, based on the results of the study, to submit proposals for improving the norms of the Tax Code of Ukraine as regards the use of the procedure for conducting documentary checks by the bodies of the State Tax Service.

Materials and Methods

In writing the article used acts of tax laws for the period of Ukraine's independence, including the rules of the Tax Code of Ukraine, which regulate the system of local taxation. To ensure the reliability of research results apply such methods of scientific knowledge as a historical and legal, system analysis and formal-legal.

Results and Discussion

In budget system of our state own sources primarily filling budgets may include the national and local taxes, fees and charges as well as non-tax revenues and intergovernmental transfers. The issue of improvement the process of formation the budgets and search for reserves of their increasing is extremely important during the building process of independence of our country, because over the years there is a negative trend to reduce the share of own source revenues in the structure of local revenues and, consequently, increasing the number of subsidized budgets. Lack of stable own revenues significantly limits the impact of local government on socio-economic development of their areas. Expanding and optimizing sources of budgets is an extremely important task, the solution of which will increase the level of financial independence and stability state end united local communities and qualitative performance of their tasks and functions.

We consider that one of the priority and important tasks of modern tax policy is the reform of the main principles of legal regulation budget-tax system. In the tax system of our state the main type of state financial control – tax control is regulated by the Tax Code of Ukraine (hereinafter – the TC of Ukraine). According to the TC of Ukraine (item 41.1), it is determined that the controlling bodies are the bodies of incomes and charges – the central executive body, which ensures the formation of a single state tax, state customs policy regarding the administration of taxes and duties, customs payments and implements state tax, state customs policy, its territorial bodies (Tax Code of Ukraine, 2010).

It should be noted that the main function of public financial authorities is to exercise control, which is a mandatory element of any field of public administration. Organization of control is an obligatory element in the management of public financial funds, since such a management entails a responsibility to society

(Mushenok, 2013a).

The main goal of the government control bodies is to ensure strict observance of the provisions of tax legislation by taxpayers (individuals and entities). In our opinion, the level of efficiency of control activities of such bodies directly depends on the level of budget revenues, and the control itself “serves as a guarantee of satisfaction of public property interests and an important factor in the financial security of the state, its socio-economic stability and prosperity” (Mushenok, 2013b).

According to the current TC of Ukraine, the main form of tax control is tax audit. It is this form of control is most effective in terms of identifying and securing the payment of undeclared, not accrued or timely not included in budget taxes. Tax audits provide direct control over the completeness and accuracy of tax calculations, which can only be realized by comparing tax returns (calculations) submitted by taxpayers with actual data on their financial and economic activity.

According to the TC of Ukraine regulatory authorities have the right to conduct desk, documentary (scheduled or unplanned, on-site or off-site) and the actual verification (item 75.1) (Tax Code of Ukraine, 2010). As a result of practical application of the TC Ukraine by regulatory authorities in the process of tax administration, particularly during the unscheduled inspections becomes apparent imperfection of certain financial provisions of law and the need to improve them by amending such act of tax legislation.

The subject of documentary verification is the timeliness, authenticity, completeness of accrual and payment of taxes and fees, as well as compliance with currency and other legislation, monitoring compliance is assigned to the regulatory authorities; employer compliance with legislation on the employment contract, registration of labor relations with employees (salaried individuals) and which is based on tax declarations (calculations), financial, statistical and other reporting, tax and accounting registers, which are provided for by law; primary documents used in accounting and tax accounting and related accrual and payment of taxes and fees; meeting the requirements of other legislation, monitoring compliance is assigned to the regulatory authorities as well as received in accordance with the procedure established by legislation by the controlling body

of documents and tax information, including on the results of inspections of other taxpayers (Tax Code of Ukraine, 2010).

It should be noted that the criterion for conducting documentary scheduled inspections is the risk of non-payment by taxpayers. The frequency of planned documentary checks is determined depending on the degree of risk in activities of such taxpayers. Inspections are provided in the schedule of documentary checks with such periodicity: taxpayers with a small degree of risk are included in the schedule not more than once every three calendar years, the average – no more than once every two calendar years, high – no more than one once per calendar year (Tax Code of Ukraine, 2010).

The study of the provisions of this legal norm of the TC of Ukraine showed the existence of the following legal defects and inconsistencies, which, according to our convictions, are to be eliminated from the main regulatory legal act of the tax legislation.

Considering the specific results of the author's research, and in particular, we note that in paragraph 14.1.221 of Article 14 of the TC Ukraine contains the following definitions of risk. Risk is the probability of the failure to declare (partial declaration) tax liabilities by the taxpayer, failure by the taxpayer of other legislation, control over which is entrusted to control authorities (Tax Code of Ukraine, 2010).

In connection with the fact that “the category of risk plays a crucial role in the process of organizing the state financial control over taxpayers” (Gulac et al., 2019), which is also defined in the norms and regulations of the TC of Ukraine, we consider it appropriate to make an addition to this Code by formulating a unified definition that would contain a comprehensive and complete theoretical and legal structure for determining the state tax risk as a financial and legal category.

Using the materials obtained as a result of the research, we propose the following definition: risk (tax risk) is a fiscal probability, preventing the state from avoiding and minimizing by the taxpayer paying due taxes and charges and other payments on the results of his/her business, which resulted in income or other benefits of material or immaterial character.

Developing this wide general theoretical subject matter within the framework of financial and legal relations, it is necessary, in our

opinion, to pay attention to the problematic issues of the imperfection of the legal mechanism for carrying out a documentary planned inspection of the taxpayer. In particular, in accordance with Paragraph 2, Clause 77.4, Article 77 of the TC of Ukraine, the right to carry out such verification is provided only in the case where the payer, not later than 10 calendar days before the day of the said inspection, has been handed over a receipt, or a written copy of the order on conducting the documentary planning check and written a notice indicating the date of commencement of such verification (Tax Code of Ukraine, 2010).

In our opinion, the establishment of such a term significantly reduces the probability of ensuring the state control body of the control of compliance with the requirements of the rules of tax and customs legislation. The provision for advance notice to the payer of a documentary check must be deleted or the term should be reduced to three days.

This collective author's scientific position finds its confirmation of expediency in the analysis of prescriptions: Article 75 (Types of inspections), Article 78 (Procedure for carrying out non-scheduled documentary audits), Article 79 (Peculiarities of conducting documentary non-visiting checks) of the TC of Ukraine (Tax Code of Ukraine, 2010).

In particular, the Tax Code of Ukraine states:

– documentary unscheduled inspection is not provided for in the work plan of the controlling body and is conducted in case of at least one of the circumstances specified in this Code (paragraph 4, subsection 75.1.2, clause 75.1, Article 75);

– a documentary unscheduled non-direct verification is carried out by officials of the controlling authority solely on the basis of a decision of the head of such body, issued by an order, and provided that the taxpayer is notified of such decision in written form with a registered letter with confirmed delivery to him/her personally or his/her authorized representative of a copy of the order for conducting a documentary non-scheduled non-visiting inspection; and a written notice of the start date and place of such verification. Execution of the terms of this article gives the officials of the controlling body the right to start a documentary non-stop check (Clause 79.2, Article 79) (Tax Code of Ukraine, 2010).

In our opinion, the legal mechanism of documentary off-schedule on-site verification is most effective in the implementation by the state authorities of measures to control the timeliness, reliability, completeness of accrual and payment of taxes, and also allows more expeditiously to detect violations of tax, currency and other legislation, including: the conduct of economic activity without state registration, concealment of employment relations with a hired worker, etc.

The analysis of the norms of the Tax Code of Ukraine showed that the feasibility of carrying out the aforementioned changes in the legislation is confirmed by the information of the State Fiscal Service of Ukraine, which states that the most effective and operative means of detecting violations of tax legislation is precisely unscheduled inspections, which were carried out by the fiscal authorities of Ukraine on the basis of the fact that the results of inspections of other taxpayers or the receipt of tax information revealed facts indicating possible violations by the taxpayer of tax, currency and other legislation, the control of which is entrusted to the bodies of the State Tax Service (Mushenok, 2017b).

Despite the apparent positive nature of such a legal mechanism for conducting documentary out-of-pocket checks, in our opinion, it needs some improvement. Article 78 of the TC of Ukraine, which regulates the procedure for carrying out such inspections, stipulates that a documentary off-schedule external check is carried out in case of at least one of the following circumstances: the results of inspections of other taxpayers or the receipt of tax information revealed facts indicating possible violations by the taxpayer of tax, currency and other legislation, the control of which is entrusted to bodies of the state tax service, if the taxpayer does not provide an explanation and documentary confirmation to the mandatory written request of the State Tax Service body within 10 working days from the date of receipt of the request (Tax Code of Ukraine, 2010).

From the analysis of the provision of this legal norm of the TC of Ukraine, it is obvious that the state provides the main guarantees for taxpayers when implementing tax control measures. However, in our opinion, it is necessary to remove from Article 78 of the TC of Ukraine on the rules for conducting a documentary tax audit only if the taxpayer does not provide explanations and their documentary

confirmations to the mandatory written request of the state tax service body within 10 working days from the date of receipt of the request. Because under the conditions: presence of an act of verification of another taxpayer signed by officials of the body of the State Fiscal Service and by the taxpayer himself or his legal representative; obtaining tax information on possible violations by the taxpayer of the Constitution of Ukraine, the TC of Ukraine of other laws on taxation, current international treaties on taxation, the consent of which is binding on the Verkhovna Rada of Ukraine, decisions of local governments on local taxes and fees; it is evident that an unannounced documentary check is carried out immediately.

In addition, the provision of a ten-day period for the taxpayer to prepare a reply, with explanations and their documentary evidence, to the mandatory written request of the SFS body, may lead to tax evasion or minimization through the cessation of activities or the abandonment by the officials of the location of the legal entity, etc., which will lead to the avoidance of financial, administrative or criminal liability.

Conclusions

The tax system is the main source of budget revenues an important element of market relations. From this point of view, the disclosure of the essence and the most important characteristics of the functioning of the tax control mechanism in the tax policy of Ukraine is relevant. Adoption of the TC of Ukraine made it possible to bring understanding of the main ideas of the tax policy to the taxpayer, by combining in one normative legal act of the material and procedural parties the regulation of the tax system. In particular, it was clearly stated in the codified normative act that the issue of the formation of an exhaustive list of taxes and duties collected in Ukraine and the procedure for their administration, the competence of the controlling bodies, the powers and responsibilities of their officials during the tax control, the possibility of challenging taxpayers unlawful decisions of controlling bodies.

The TC of Ukraine, as the main regulatory legal act regulating the taxation process, contains a number of legal defects and other inappropriate manifestations in the elements of the mechanism of legal regulation of tax relations, in particular the definition of the

concept of "risk" we investigated. Such a state of affairs negatively affects the effectiveness of law, since it does not ensure the principle of legality of tax relations and leads to additional fiscal impact of state control bodies on taxpayers.

As a result of the application of the TC rules of Ukraine by the controlling bodies in the process of tax administration, in particular when conducting unscheduled on-site inspections, it becomes apparent that the requirements of certain financial-legal norms of this act and the need for their improvement are becoming imperfect. That is why it is necessary to make changes in the procedure of tax authorities to carry out documentary planning and unscheduled inspections, by removing the rules on the possibility of conducting such inspections only subject to compliance with the ten-day period. As this norm makes it difficult and sometimes impossible to carry out effective and timely tax control and bring tax law violators to legal liability.

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**THE
IMPLEMENTATION
OF EMPLOYMENT
POLICY IN
UKRAINE:
PROBLEMS AND
OPPORTUNITIES
FOR
IMPROVEMENT**

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Abstract

The article emphasises the relevance of improving the state employment policy in view of martial law and post-war reconstruction of Ukraine. The problems of implementing employment policy at the regional and local levels have been substantiated. The factors causing the problems of employment policy were identified, taking into account the peculiarities of rural, youth employment, employment of categories of the population with special needs. Measures to improve community-based employment policy because of the challenges of the war and the post-war period in Ukraine are proposed.

Keywords: *employment, unemployment, employment policy, labor market, shadow employment, Employment Centres.*

Introduction

One of the current social-economic challenges in Ukraine is the problem of employment, unemployment and ensuring the effectiveness of employment policy. The labor market has seen several unfavorable developments because of the ongoing COVID-19 pandemic and Russia's full-scale invasion of Ukraine. The destruction of the material and technical base of businesses, the

closure of enterprises, the growing level of threats and danger due to Russian aggression, internal and external migration, the economic crisis, and the decline in the purchasing power of citizens have caused some problems in the labor market, a decline in employment and an increase in unemployment. The situation with employment and unemployment is a determining factor in the level of welfare in the country, social-economic growth, and competitiveness of the national economy in the period of post-war development. The labor market has undergone significant changes in recent years, which requires a theoretical and applied rethinking of its future development. There is a need to improve and increase the effectiveness of the state employment policy.

It is necessary to analyze in detail the implementation of the state employment policy to minimize the negative effects of unemployment. It is also advisable to develop on this basis a system of actions aimed at ensuring effective employment, increasing the economic activity of the working population and social protection in case of unemployment. Identifying ways to increase employment even before the end of hostilities and the start of economic reconstruction in Ukraine will help accelerate the labor market recovery, balance it, and prevent chronic insecurity.

Materials and Methods

The research on the labor market, employment and unemployment, and the essence and implementation of the state employment policy are the focus of the attention of Ukrainian economists and lawyers. Problems of employment and unemployment have been considered in the works of K. Bahriy, N. Liubomudrova, K. Markevych, O. Pyschulin, I. Shtunder, T. Lunova, V. Onikienko, L. Yemelianenko, L. Tkachenko, V. Petiukh, O. Hryshnova and others. The issues of state regulation of employment, the essence and directions of implementation of the state employment policy are the subject of works by V. Vasylchenko, A. Mas'ko, E. Havrylov, O. Brazhko, N. Zelisko, A. Havryliuk, L. Chorna, E. Kachan, D. Teslenko, Z. Gbur and many others.

The research is based on the provisions, principles, and methodology of modern economic theory and law, works of Ukrainian and foreign scholars, laws and regulations of Ukraine, and

current trends and patterns of the genesis of the theory and practice of employment policy implementation. In this research was used such general scientific methods of analysis, as dialectical, analysis and synthesis, economic, and mathematical. Specific methods include the method of classification and grouping, formal logic.

Results and Discussion

The current labor market in Ukraine is characterised by a series of problems. One of the problems is the high unemployment rate. The insufficient number of vacancies compared to demand leads to lower wages and economic instability, rising youth unemployment, shadowing of the labor market, and lack of adequate social protection. A significant problem remains a mismatch between the professional qualifications and training of personnel and needs of the business. It limits their opportunities in the labour market and reduces their competitiveness. Exploitation, poor quality of work, the migration of young and skilled workers abroad in search of better working conditions and wages are the consequences, leading to the loss of talented professionals.

Following the approaches of researchers Masko, 2017; Havrylov, 2016; Kovalevskiy, 2016; Brazhko, 2015; Zelisko & Havryliuk, 2015; Fedorenko et al., 2008; Chorna, 2012), the state employment policy can be defined as a set of social, economic, administrative, legal, organizational, and institutional measures and actions aimed at providing full employment and efficient functioning of the labor market. The main objective of policy in this area is to promote effective employment of the economically active population. The state employment policy includes general and special measures. General measures include those aimed at creating an enabling environment for the labour market and thus apply to the economically active population. The specific measures include those aimed at social protection and prevention of the harmful effects of unemployment.

By the Employment Policy Convention, No. 122 of the International Labour Organization (ILO), ratified by Ukraine on 19.06.1968, each ILO member country considers the development and implementation of active employment policies aimed at ensuring economic growth, raising welfare, and promoting freely chosen and effective employment as its essential objective (Employment Policy Convention).

Public employment management is an indispensable component of the state's social-economic policy. It has to be based on a systematic approach and it requires interaction and coordination of all stakeholders: public authorities at all levels, non-governmental organizations, employers, and employees (Kachan, 2011). The Law of Ukraine "On Employment of the Population" defines the objectives, tools, and principles of employment policy (Law of Ukraine..., 2013).

Employment policy implemented at the national, regional, and local levels. Each of these levels has its specific features and objectives.

The analysis of the state policy implementation in the field of employment at the regional level, based on the example of communities in Lviv region, has revealed some significant problems:

- shadowing of the labor market and informal employment;
- a growing imbalance between supply and demand in the labor market, especially in terms of professions and qualification levels;
- high youth unemployment;
- problems with employment in rural areas because of the lack of sufficient jobs;
- employment of internally displaced persons (IDPs);
- issues of employment of persons with disabilities and veterans who participated in hostilities.

It is necessary to solve them by researching the level of business economic and investment activity in the Region and the motivation of enterprises and organizations to legalize employment and increase the number of jobs.

The main factors behind these and other problems in the labor market are the crisis situations that have been accompanying the national economy in recent years, caused by the COVID-19 pandemic, the military conflict in eastern Ukraine since 2014, and the full-scale invasion of the Russian Federation and the outbreak of war in Ukraine.

Moral values and law-abiding behavior often are disregarded in the labor market and the labor relations system. The praxis of legal nihilism has become almost the norm, manifested in the deliberate disregard of labor law and reinforced by the low level of trust in government at all levels.

Many employers resort to some violations regarding employment and the creation of the appropriate working environment for employees in such circumstances. In particular:

- There are no labor contracts between the employer and the employee in a series of cases, and the information on the number of employees is incorrect.
- Sometimes, civil law contracts concluded with employees that do not provide for the employee to be in an employment relationship with the company and limit the employee's rights to protection.
- Pay full or partial salary "in an envelope".
- Paying the minimum wage in an incomplete amount or not indexing wages.
- Violations of the law on working times, overtime work, work at night, or on public holidays without appropriate payment, which in principle are manifestations of labor exploitation.

Shadow and informal employment are most common in agriculture, food production and sales, construction, tutoring, and self-employment.

The informal labor market results from a range of causes:

- Economic (macroeconomic situation in the country);
- Political (war, trust in the government, etc.);
- Social-demographic (in crisis, shadow employment is seen by citizens as a non-alternative way to improve their well-being and earn income due to low wages and declining living standards, tolerance of illegal wages even at the cost of deprivation of social protection and guarantees, and labour migration)
 - Legislative (outdated and ineffective legislation on the labour market and employment).

Some scholars reckon that the shadowing of the labor market and labor relations is primarily due to such political factors (Hetman, 2016):

- corruption at all levels of government, bribery, and red tape;
- prejudice on the part of public authorities towards business entities;
- low level or even lack of political will of the authorities at all levels to address the problem;
- low level of public trust in the government and its leaders;
- inefficiency/absence of public control over the actions of public

administration officials;

Russia's full-scale invasion of Ukraine.

One of the most acute issues of the labor market is the provision of jobs for young people. Youth employment is an effective indicator not only of the situation on the labor market, but also of the economic and social development of the country as a whole. Youth disemployment is caused by the failure of education received and the needs of employers, lack of work experience and necessary skills, and a contradiction between the requirements of employers and the interests of young people in terms of working conditions and remuneration.

Young people tend to choose the most prestigious professions at the bachelor or master's level of qualification (lawyer, manager, economist, IT specialist). Instead, businesses need mechanics, engineers, technologists and professionals in the working professions. In addition, employers are mostly convinced of the inadequate quality of educational services, and thus the low level of qualifications of graduates.

This problem exacerbated by several factors, including the lack of an effective system of mentoring and practical training during education, the formality of internships, and the low level of competitiveness of young people in the local labor market. At the contemporary stage, the educational market in Ukraine is focused on higher education, while the prestige of working professions is constantly decreasing. All of this creates an imbalance in the labor market by specialty and skill level, causing unemployment among young people.

The situation with youth employment also has a social aspect. According to sociological surveys, graduates of educational institutions mostly have high expectations of future employment and salaries: 53% – overestimate their abilities; 51% have excessive requirements for career growth; 31% – excessive expectations regarding working conditions (Public Administration..., 2020).

It is important to focus on the following aspects of youth employment: lack of work experience, stable relationships with employers, young people's ambition, their profession, mobility, possession of the latest knowledge, their vision of the future, and employment prospects.

A factor that causes the problem of youth unemployment is the insufficient efficiency of the regulatory framework for protecting young people in employment. It concerns the absence of regional programs for temporary employment of young people studying, protection of students from salary discrimination, and the legislative unregulation of student salaries during internships or training.

A big challenge in the implementation of employment policy is to provide jobs for internally displaced persons because of the war unleashed by Russia, whose number is growing due to the ongoing active hostilities in Ukraine. They are mainly women with children, making it difficult to find a job. There are also problems with providing jobs for IDPs, such as the lack of suitable work in terms of specialty, work schedule, and level of pay. The employment problem exacerbated by regional differences in the industry structure of the eastern and western regions. Many displaced people worked in manufacturing, primarily heavy industry, and moved to agro-industrial centers. In addition, companies perceive IDP workers as a temporary labor force with a number of social needs, so they are in no hurry to hire them.

Another problem with the realization of employment policy is the low level of employment in the countryside. The emphasis of regulating the employment of the countryside in modern conditions is to provide social protection, promote the creation of additional jobs, and expand the labor market in villages and towns. This partly caused by the seasonal nature of the business, the introduction of new technologies that replace peasant labor with modern machinery and the growing role of agricultural holdings and large agricultural firms that require fewer workers.

The problem of employment of people with special needs and disabilities is particularly acute. It is not only about ensuring their employment by encouraging employers to do a better job, but also about the necessity to create specialized jobs. Factors contributing to this problem include the need for social adaptation of disabled people, insufficient communication between stakeholders, including employment centers, Non-governmental organizations, and businesses, and the lack of effective regional rehabilitation programs for people with disabilities, which makes it impossible to find suitable jobs for them. It is especially true for the employment of

people with disabilities in villages.

Despite legal requirements to employ people with disabilities, businesses are reluctant to hire them, even if they have to pay fines. Employment of such citizens requires the creation of special conditions at the workplace, sometimes – additional costs for retraining by the recommendations of doctors and rehabilitation specialists. There is a widespread belief among employers that employees with disabilities are less productive and unable to perform their jobs well, due to physical and psychological problems. The solution of this problem is possible with active awareness-raising activities of Employment Services.

Other problems include: the instability of employment in times of war; the likelihood of being fired due to reorganization, closure or optimization of the company's staff, or the company may send you on unpaid leave for an indefinite period; a decrease in the number of people who apply to employment centers because they do not consider their activities to be effective or because there is a chance of being sent to public or other socially important work, especially in the current war conditions; and a reduction in the time required to find a job (Employment Experience..., 2023).

We have to take into account the peculiarities of the labor market and the structure of the Ukrainian labor force when we talk about employment policy. It is important to analyze the share of people employed in the service sector. It is much lower compared to the developed world and even some post-socialist countries. At the same time, the share of people employed in agriculture is four times higher than in the EU.

An important aspect of improving employment policy at all levels is to take into account new forms of labor relations, such as freelance, home-based work, remote and part-time employment, etc. There is a growing need to adapt domestic legislation to the new realities and norms of international labor law.

To summarize the analysis of the problems of employment policy implementation, it is necessary to emphasize that its main problem at all levels are the prevalence of passive measures implemented mainly by the State Employment Service. While its effectiveness is primarily determined by active measures – the creation of favorable financial, credit, investment, regulatory and legal conditions for

intensifying business activity and creating jobs.

The problem of low employment is solved by expanding the scope of labor and stimulating companies' interest in creating new jobs. In order to promote employment growth at the regional level, it is necessary to create an environment to attract additional investment in the development of community economies.

We believe that a reserve for creating additional jobs at the community level is the development of long-term programs aimed at popularizing, increasing motivation and interest in business, and developing entrepreneurial initiatives. The staff of Employment Centers should provide consultations on the organization, conduct entrepreneurship regularly, and stimulate self-employment through their own business.

Solving the problem of job creation in small and remote villages requires unconventional approaches from local governments and Employment Centers. This means maximizing the advantages of rural areas, developing traditional crafts and agricultural production, organizing green and ecological tourism, etc. Local government should provide traditional crafts such as pottery, cheese-making, beekeeping, growing vegetables and fruits and processing them locally into jams, tinctures using exclusive traditional technologies, etc. Thus, solving the problems of rural employment and creating additional jobs in rural areas is possible with the use of the following actions:

- development of labor-intensive agricultural production: growing vegetables, berries, mushrooms, greenhouse products;
- increasing cooperation with restaurants and other catering establishments, supermarkets, for which crop and livestock products will be grown by small households;
- intensifying the creation of small family farms that, using modern technologies, will supply quality dairy products to the market in accordance with regulatory standards;
- creation of cooperatives for the harvesting of medicinal plants, mushrooms, berries, and their drying for further use in the pharmaceutical and food industries;
- establishment of family farms in remote villages to grow organic agricultural products on their plots that meet the requirements of IFOAM Basic Standards or national BIOLAN standards, and support them in its implementation.

An effective tool to increase jobs is to raise awareness among employers about the benefits and compensation payments in case of job creation or recruitment of people with special needs, internally displaced persons or veterans and combatants. In addition, such work should be conducted with the population and employers on the benefits of legal employment, formalization of labor relations in order to create conditions for social protection; on preventing discrimination in job advertisements and possible recruitment. For this reason, it is necessary to constantly monitor the database of vacancies, employers, and their compliance with the conditions under which they hire employees. It is important to intensify awareness-raising activities among labor market participants on the legalization of recruitment, payment of wages, and the benefits of socially responsible business. It is necessary to organize systematic meetings of local and regional Employment centers together with residents, representatives of public administrations, self-government, tax authorities, the Pension Fund and business leaders.

It is necessary to develop a system of measures adapting the qualifications and professional level of employees to the requirements of employers and trends in the labor market. In addition, this system of interventions will aim to increase the competitiveness of the economically active population of the district to eliminate the imbalance of the labor force. It would be effective to organize cooperation between educational institutions and employment centers to ensure prompt processing of data on available and prospective vacancies. There is also a need to pursue an active policy of vocational training, retraining and advanced training for the unemployed. To this end, it is necessary to organize training commissioned by employers according to individual curricula and programs, expand the competencies of the workforce, promote the development of integrated working professions, provide internships for the unemployed at enterprises, and conduct education and training on the basics of entrepreneurship.

Socially vulnerable categories of the population require special attention in obtaining vocational training opportunities: the disabled, young people without a profession, orphans in long-term unemployment, veterans and combatants, etc. The importance of remote forms of providing such services in the context of military

situation is growing.

Providing coherence between the needs of the labor market and vocational education, specialties and qualification levels of the labor force requires solving a number of tasks in the activities of Employment Centers:

- Establishing appropriate structures that would carry out strategic planning of market needs by profession and specialty;

- Introducing modern effective methods for forecasting labor market needs by profession and specialty, taking into account the cyclical nature of social-economic development;

- Analyzing the need in demanded professions at the level of regions, industries and enterprises;

- Developing the market of educational services in accordance to the needs of the labor market, social-economic development of the region and the whole country;

- Involvement of companies in the process of training specialists at all stages: from the development of educational programs and plans to practical training, internships, retraining and advanced training during the period of employment;

- Transition to the practice of early detection of trends in social and economic development, technological changes and changes in the structure of professions, specialties, and skill levels;

- Creating an effective network of informing all labor market participants about the situation, trends, problems and prospects in order to adjust the process of training and retraining.

Regional employment centers should facilitate recruitment of socially vulnerable people who cannot compete on equal terms in the labor market. It will be beneficial to hold mass events such as job fairs, conferences, roundtables, and discussion clubs to develop organizational approaches to addressing issues of job creation, vocational rehabilitation, and social protection of people with disabilities. In order to improve the success of rehabilitation programs for people with disabilities and combatants and to find them suitable jobs, workers of regional employment centers should establish close cooperation with the Medical advisory commission, and Medical and social expertise and participate in meetings of these commissions. It will allow individualized vocational and labor rehabilitation programs tailored to meet the needs of professions and

specialties in the labor market and increase the competitiveness of this category of workers.

Conclusions

In the improving employment policy, the emphasis should be on the effectiveness and modernization of the training process, increasing the capacity of the business sector, targeted and individual approaches to the provision of social services by employment centers to citizens with special needs, people with disabilities, expanding employment and improving mechanisms for influencing the job search and dealing with unemployment.

The regional employment policy should aim at achieving the following objectives:

- promoting the creation of additional jobs;
- improving the level of employees' qualifications and matching them with the needs of the labor market;
- strengthening communication between employment centres and raising awareness of the list of social services provided by them;
- promoting the employment of certain categories of socially vulnerable citizens (people with disabilities, veterans, combatants) whose competitiveness in the labor market is lower.

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**INFORMATION TECHNOLOGIES AND
DIGITALIZATION OF BUSINESS
PROCESS MANAGEMENT IN CURRENT
REALITIES**

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**THE USE OF
ARTIFICIAL
INTELLIGENCE IN
SUPPLY CHAIN
MANAGEMENT: A
DETAILED
OVERVIEW**

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Abstract

Integrating artificial intelligence into supply chain management has become a driving force for change, changing traditional practices and optimizing various aspects of the supply chain. This article provides a comprehensive overview of the applications of AI in supply chain management and highlights its impact on efficiency, cost reduction, and overall performance. Key AI technologies include machine learning, predictive analytics, and artificial intelligence-based robotics. The report also explores the challenges and opportunities associated with the widespread use of AI in supply chain management.

Keywords: *Artificial intelligence, Supply chain, Management, Applications.*

1. Introduction

A fundamental change in supply chain management is evident in the global market, and artificial intelligence plays an important role in changing traditional practices. Artificial intelligence technologies such as machine learning, robotics, and data analytics offer unprecedented opportunities to improve supply chain efficiency, reduce costs, and improve overall efficiency (Pournader et al., 2021). The trend of interactive artificial intelligence includes algorithms that can process user input. Complex forms of this technique can perform complex tasks in simple teams, and empathize with people (Dash et al. 2019).

From the general trend of artificial intelligence, it is clear that there are different types of interactive artificial intelligence with various applications, ranging from geolocation and navigation, facial recognition, chatbots, digital assistants, voice text dictation, and electronic payments. In logistics and the supply chain, this increases the efficiency of the business, as employees' daily work becomes less enjoyable and provides a more automated experience (Baryannis et al., 2019).

Given the impact of AI on the supply chain industry so far, experts expect the trend of interactive subsets of AI to continue to evolve over the next five years. This significantly impacts the logistics company's customer-centric business strategy, as use cases have been identified in several workflows at all stages of supply chain operations (Sharma et al. 2022). The constant use and scalability of interactive AI technology in warehouses and other work environments, as well as background workflows, illustrates the possibilities of human-machine collaboration. This article will look at and analyze several artificial intelligence applications in supply chain management (Toorajipour et al. 2021).

The paper has several chapters. First, the article begins with an introduction. This, in turn, ensures the use of artificial intelligence in the supply chain in various management scenarios. Third, the article presents the challenges and opportunities associated with the use of artificial intelligence. Finally, the article ends with the concluding remarks.

2. AI applications in supply chain management processes

2.1. Machine learning for demand forecasting

Accurate demand forecasting is one of the biggest challenges in managing the supply chain. Machine learning algorithms with the ability to analyze huge datasets improve forecasting accuracy by considering various factors such as historical sales data, market trends, and external influences (Aamer et al., 2020). This led to better inventory management and stock cuts, ultimately optimizing the entire supply chain. Machine learning techniques are used to predict demand because they can use advanced algorithms to analyze historical sales data and identify patterns and trends that traditional methods may ignore (Preil et al., 2022). Time series analysis techniques, a common machine learning method, are used to predict future demand based on historical data models, providing a solid foundation for decision-making. This practice allows organizations to more accurately predict future demand, improve inventory management, and reduce the risk of inventory shortages (Goli et al., 2021). The flexibility of machine learning algorithms ensures continuous learning and adoption, ensuring that predictive models remain effective in a dynamic and changing business environment. Machine learning algorithms can automatically adapt to seasonality, bidding, and other factors that affect demand, making the forecast more subtle and accurate. Incorporating machine learning into demand forecasting reduces the number of forecasting errors and increases customer satisfaction by ensuring that products are available anytime (Sohrabpour et al., 2021). Taking into account external factors such as weather, economic indicators, and market trends, machine learning models provide a complete picture of variables that affect demand. Machine learning models can efficiently process large amounts of data, making them suitable for industries with large and complex supply chain networks. The use of machine learning for demand forecasting optimizes the inventory level and contributes to the supply chain's overall efficiency, reduces costs, and improves the organization's competitiveness.

2.2. AI for predicted inventory optimization analysis

Predictive analytics uses historical data and machine learning algorithms to predict future trends, which is a subset of predictive

analysis that allows organizations to optimize inventory levels (Qi et al., 2023). By identifying data models and correlations, AI will help reduce additional inventory and transportation costs and ensure that products are available when needed (Pallathadka et al., 2023). Predictive analytics increases customer satisfaction by improving product availability and fulfilling orders faster by providing accurate forecasts and inventory level recommendations. These predictive analysis models help companies identify trends and patterns in customer behavior to make decisions based on inventory levels and turnover data (Raziee, 2023).

Forecasting analysis plays a key role in exploiting all the advantages of resources, using historical data and statistical algorithms to predict future demand accurately. Learn about current predictive analytics techniques and adapt to changing circumstances with dynamic real-time inventory management (Modgil et al., 2022). Forecasting analysis facilitates the adoption of strategic decisions and helps organizations to efficiently allocate resources and prioritize inventory elements based on how they contribute to common business goals. Integrating predictive analytics with inventory optimization allows you to reduce costs by reducing additional inventory costs and ensuring the availability of products to meet customer needs. By analyzing factors such as seasonality, market trends, and market activity, predictive analysis improves the accuracy of inventory planning and reduces the likelihood of overproduction or stocks (Gijsbrechts et al., 2019).

Fluctuations in demand are determined by predictive analysis, which allows companies to quickly respond to market fluctuations and maintain a smooth and efficient supply chain. Predictive analysis is an active approach to stock optimization, which allows companies to simplify their operations, reduce transportation costs, and ultimately gain a competitive advantage in the market.

2.3. AI applications in warehousing

Smart robotics is increasingly used in warehouse operations to simplify gluing, packaging, and delivery processes. Warehouses that use artificial intelligence-based robotics reduce manual processing errors, and improve team accuracy and customer satisfaction (Pandian, 2019). Equipped with artificial intelligence algorithms,

autonomous robots navigate the warehouse environment, optimize ways to return products and reduce the flow of orders effectively. Using machine learning algorithms, AI-powered robotics can continuously improve its effectiveness by learning from previous experiences, making warehouse operations more accurate and faster (Loske et al., 2020). The flexibility of artificial intelligence-based robotic systems allows them to process different products and adapt to different shapes and sizes without constantly re-registering them. By integrating artificial intelligence with robotics, these machines can adapt to dynamic inventory conditions and make real-time decisions based, for example, on inventory changes and ordering priorities (Zhang et al., 2021). Artificial intelligence-based robotics transforms warehouse operations by introducing automation that improves efficiency and reduces human work in pickup, packaging, and shipping areas. The use of AI-powered robotics in warehouses is a strategic investment for organizations seeking to improve operational efficiency, scalability, and competitiveness in rapidly changing supply chain management.

2.4. AI application in transportation network

The application of artificial intelligence in transport is one of the most important directions the world is taking to organize transport systems more efficiently. The rapid expansion of artificial intelligence technologies has and will have a major impact on the transformation of the transport sector. These technologies are designed to create a safer, more efficient, and environmentally friendly transport system. Many researchers have studied and demonstrated the benefits of AI in transportation.

A seamless transport network is an integrated system in which vehicles, infrastructure, and passengers are interconnected and collaborate through IoT. Such a system implements safe automated driving technology (Abduljabbare et al., 2019), efficient traffic flow management (Boukerche et al., 2020; Jaiswal et al., 2020), optimal route planning (Hu et al., 2020), and other innovative features.

One of the key innovations in IoT solutions for the smooth operation of the transport network is advanced automated driving technology, which increases traffic safety and efficiency and reduces accidents. This technology allows vehicles to make real-time

decisions, considering road conditions, other vehicles, and traffic flow (Machin et al., 2018).

Second, we will seek to optimize and manage traffic flow more efficiently, dynamically adjusting it with the help of IoT algorithms, reducing congestion and improving the efficiency of the journey for all travelers (Boukerche et al., 2020). These solutions will be implemented using intelligent signaling devices based on a continuous data analysis process (Jaiswal et al., 2020).

Thirdly, the application of IoT solutions in the transport network will allow the development of an automatic route planning system, taking into account a variety of variables that can be analyzed in real-time, such as road conditions, air quality, volumes and qualities of goods transported, the efficiency of vehicle use, the need for storage facilities on the route and other factors, in order to plan the routes of freight transport and to assess the necessary factors for the planning of the routes that are most favorable to passengers. This solution optimizes travel routes and reduces energy consumption (Hu et al., 2020).

In summary, it can be said that the application of AI technologies in the transport network has both positive aspects, such as increasing the efficiency and safety of the transport system and automated planning of optimal routes for both cargo and passenger transport, as well as challenges in the legal field, large investment need in creating a safe and efficient infrastructure by transforming vehicles (Okrepilov, et al., 2022).

3. Challenges and opportunities

3.1. Data security and protection

Integrating AI into supply chain management raises concerns about the security and confidentiality of sensitive data. Organizations must implement robust cybersecurity measures to protect against potential threats and ensure the confidentiality and integrity of the data processed by AI systems (Kuzlu et al., 2021). Implementing strict encryption and access control protocols helps protect data from unauthorized access and ensures that only authorized persons can access sensitive data. Security and privacy issues are key elements in deploying AI to supply chain management to protect sensitive data (Mohanta et al., 2020). Privacy concerns arise when AI systems

collect and process personal data, such as customer preferences or employee data. Compliance with data protection regulations, such as the General Data Protection Regulation (GDPR), is essential to maintain compliance and protect people's privacy. Regular security and vulnerability assessments should be carried out to identify and address potential weaknesses in AI systems, thereby reducing the risk of security breaches or cyberattacks. You can prevent unauthorized access or data leaks during recording or transmission by using secure data storage methods such as hibernation (Janssen et al., 2020). Collaborating with trusted technology partners and suppliers who prioritize security and privacy can provide additional security when using AI SCM. Training staff on good security practices and raising awareness of the potential risks associated with using AI in SMS can help reduce human error and prevent data breaches (Bao et al., 2019).

SCM AI systems often require access to large amounts of data, including customers, vendors, and ledgers, so data security is a priority. Anonymized data may be used to mitigate privacy risks and ensure that personal data is not disclosed through AI-powered SCM processes (Manheim et al., 2019). The development of clear data processing policies and procedures, including data storage and erasure guidelines, will ensure responsible and secure processing throughout the life cycle of AI-powered SMM processes. Security is essential to protect AI systems and the data they process from cyber threats or potential security breaches. This could include investing in strong cybersecurity measures and implementing data encryption protocols.

3.2. Skills shortages and workforce adjustment

Under Artificial intelligence using Enterprises, there is a serious shortage of manpower, which requires knowledge of subsidies, compensation measures, and the rules on artificial intelligence. Applying AI in supply chain management requires a skilled workforce capable of effectively understanding and using artificial intelligence technologies (Su et al., 2021). Collaboration between academia and industry can help bring together AI applications in countries by providing a team of qualified professionals. Experts with extensive knowledge in data analytics, machine learning, and

programming are critical to successfully using AI SCM. Adopting AI technologies requires a skilled workforce capable of developing, managing, and optimizing AI technologies (Dawson, 2021). Organizations should invest in recruiting and retaining talents with AI and ICM experience by employing or providing internal training programs. Training programs and initiatives must be developed to address the skills gap and equip workers with the skills needed to use AI in this support process. Existing experts in the field of subsidies and compensatory measures should provide continuing training and training opportunities to understand AI and its potential impact on subsidy and balancing processes (Babina et al., 2022). To successfully integrate AI into the supply chain, reducing the skills gap and promoting staff compliance with training programs and initiatives is essential. Regular assessments should be carried out as part of targeted training initiatives to identify and address skills shortages to ensure that the workforce works with durable AI-enabled materials and balancing systems (Anderson et al., 2020). Building a diverse workforce by combining skills and experience allows you to gain new perspectives and innovative ideas on how to use artificial intelligence in SCM. Functional teams of experts on sustainable control, data scientists, and experts from AI should be established to facilitate cooperation and knowledge sharing on projects for the deployment of AI.

3.3. Costs of implementation

While AI offers long-term savings, the pre-installation costs can be a barrier for some organizations. However, as technology advances and becomes more and more accessible, the overall cost of installing AI should decrease, creating better opportunities for businesses of all sizes (Altan et al., 2021). The deployment of artificial intelligence in supply chain management entails various costs, including initial deployment costs, ongoing maintenance, and training costs. The initial costs associated with the implementation of AI in the SCM may include the purchase of AI software, the purchase of hardware infrastructure, and the integration of AI systems with existing SCM technologies (Hansen et al., 2021). Infrastructure costs shall be incurred to meet the computing needs of AI systems, including high capacity, data storage, and network

capacity. Maintenance costs are necessary to ensure the smooth operation of AI systems. This includes regular updates, bug fixes, and troubleshooting system monitoring. Training costs are incurred when staff are trained on how to use AI systems and how to communicate effectively with them using SCM. This may include training, seminars, or hiring AI professionals to help you in the introductory process (Maity et al., 2019).

The costs of collecting and compiling data are essential for collecting and processing the data needed for AI-powered SCM processes. This may include cleaning, data integration, or obtaining external data sources. Integration costs are related to integrating AI systems with existing SCM technologies, such as enterprise resource planning (ERP) or warehouse management systems (WMS). Adaptation costs can arise if the implementation of AI in the SCM requires the adaptation of AI algorithms or models to the specific needs of the business or industry (Alexopoulos et al., 2020).

When assessing the cost of using artificial intelligence in the SMC, it is important to consider the long-term return on investment. Until the initial costs are identified, the potential benefits, such as efficiency, cost savings, and better decision-making, can ultimately outweigh the initial costs.

4. Conclusions

The deployment of artificial intelligence is a transformational supply chain management process that helps redefine how organizations manage their businesses. From forecasting demand to stock automation, from the reorganization of the transport network to better blockchain traceability, AI technologies are transforming the supply chain environment. While there are challenges due to the potential benefits associated with efficiency, cost reduction, and better decision-making, the integration of AI is an important factor for organizations looking to stay competitive in today's dynamic business environment.

With the development of artificial intelligence, continuous research and development will further develop supply chain management capabilities and open up new opportunities for innovation and optimization. The successful integration of AI into the supply chain requires a strategic approach and the integration of

AI at all levels of decision-making: strategic, tactical, and operational, cooperation with stakeholders, and a commitment to address challenges to exploit this disruptive technology's potential fully.

The use of AI to increase the value of supply chain management ensures extremely accurate forecasts and decreases costs. AI technologies are being developed and applied in the supply chain so that one of the most important business functions works as smoothly as possible, filling parts of the gaps made by people.

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**THE LINK BETWEEN
DIGITALISATION AND
LOGISTICS BUSINESS
COMPETITIVENESS**

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Abstract

This paper examines the current challenges faced by the logistics sector. After outlining the context, a literature review on the relationship between logistics and strategic management in gaining and increasing competitiveness. This bibliometric analysis, covering the period from 2021 to 2023, provides insights into the field of digitalisation. The study reveals that the most cited paper in digitalisation pertains to the circular economy, while papers on logistics digitalisation received no mentions in top-cited papers, and those on supply chain digitalisation had considerably lower citation rates. The author constructed six clusters to gain a deeper understanding of the research landscape. In conclusion, the results of this analysis suggest a discrepancy in the attention given to different aspects of digitalisation, with topics such as circular economy and industry-centric themes dominating the literature. The need for further research exploring the link between digitalisation and logistics and supply chain competitiveness is underscored, given the theoretical importance of this connection.

Keywords: *logistics, supply chain, digitalisation, bibliometric analysis, cluster analysis, competitiveness.*

Introduction

Logistics is experiencing a profound transformation, propelled by the ever-increasing forces of globalization. This global integration leads to cost reductions within transportation and significantly enhances overall operational efficiency, resulting in substantial benefits for the global economy (Kovács, 2016). Furthermore, it fosters progress in various critical aspects of logistics, collectively shaping a more agile and competitive supply chain network that facilitates global trade, benefiting industries and economies worldwide. The primary aim is to enhance logistics chain efficiency, transparency, and traceability while simultaneously addressing negative externalities. Simultaneously, the digital economy is exerting a transformative influence on the broader logistics landscape, encompassing areas such as inventory management, supply chain optimization, information systems, sustainability, risk management, customs compliance, last-mile delivery, warehousing, and demand forecasting (Merenkov, 2018; Bobrova, 2019).

Nevertheless, the shift toward digitalisation presents formidable challenges for numerous supply chains deeply rooted in need to maintain competitiveness within specific geographic regions while accommodating diverse logistical demands (Anwar, 2019; Fruth, 2017). Successfully navigating the digitalisation process necessitates precise strategic planning and comprehensive business process reengineering (Remondino, 2018). Within the logistics realm, one paramount objective is the integration of logistics processes shared among diverse companies. This integration is pivotal in closely coordinating various logistics activities along the supply chain (Shibasaki, 2021), optimizing material flows tailored to meet customer requirements, ultimately resulting in enhanced reliability and agility in responding to market dynamics. This exploration will be facilitated through an extensive review of relevant literature and an investigation into how digitalisation can bolster efficiency within the logistics sector. Digital innovations are poised to empower logistics operators, driving efficiency gains and cost reductions (Dobrovnik, 2018). They also unlock opportunities for new business

models through advanced data management techniques like Big Data (BD), Data Mining (DM), and Business Intelligence (BI). These technologies facilitate strategic optimization, operational efficiency, and tactical advancements. As mentioned earlier, the application of digitalisation in logistics is not isolated; it extends its influence into broader economic areas to enhance competitiveness and minimize environmental impact. Striving for “smartness” equates to adopting leaner, more efficient approaches, enhancing attractiveness, and boosting competitiveness. Technologies like Artificial Intelligence (AI), Internet of Things (IoT), Big Data (BD), blockchain, and others enable more efficient workflow management and process modeling for heightened efficiency. The reconfiguration of logistics chains by integrating advanced technologies such as IoT, BD analytics, and autonomous robotics transforms the supply chain management model from a linear structure into an integrated one. This integration facilitates omnidirectional information flow, reducing costs and heightened responsiveness to consumer demands, thereby stimulating employment (Kraft, 2021). This modern supply chain is faster, more flexible, atomized, accurate, and efficient, driven by predictive analysis, real-time planning, and data integration from suppliers and service providers into a “supply chain cloud” (Wu, 2013). When transformed into information, data is invaluable for modeling organizational processes and identifying interdependencies between variables (Kayikci, 2018). Blockchain technology introduces a new way of interacting in the supply chain, establishing trust through consensus and removing the need for intermediaries, thus improving efficiency and enhancing safety and traceability. This systemic approach has significant traction through the digitalisation of specific processes, as demonstrated in various research studies (Borowski, 2021) contributing to the advancement of the circular economy. In summary, digitalisation in logistics is revolutionizing the coordination of goods, optimizing supply chains, and enhancing operational efficiency through advanced technologies such as AI, IoT, Big Data, and blockchain.

Materials and Methods

The author researched the papers published on digitalisation. The bibliometric analysis on digitalisation in the period of 2021-2023 shows that the most cited paper in the area of digitalisation is

dedicated to the circular economy topic. The paper about logistics digitalisation has no papers mentioned, and the paper about supply chain digitalisation has much lower cites than other papers and is in the twelve place.

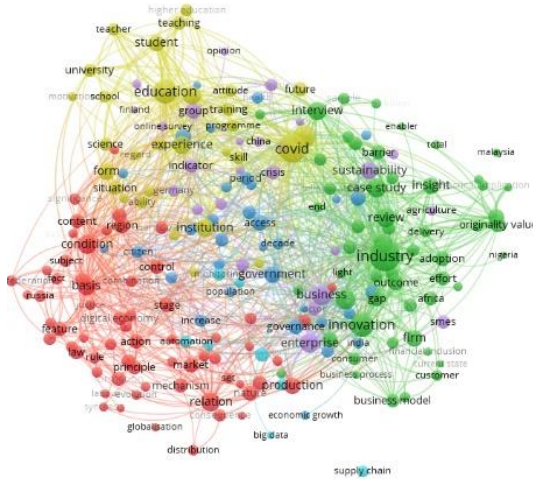


Figure 6.1 Results of bibliometry analysis: six clusters

The author, with the help of Vow viewer, constructed 6 clusters. The results for each group are presented below.

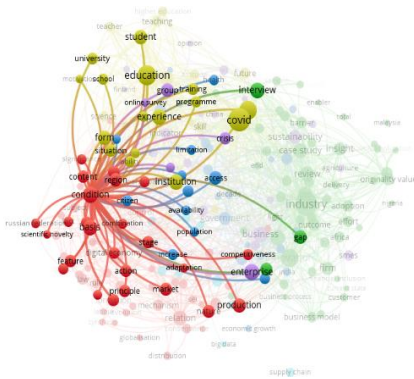


Figure 6.2 The first cluster

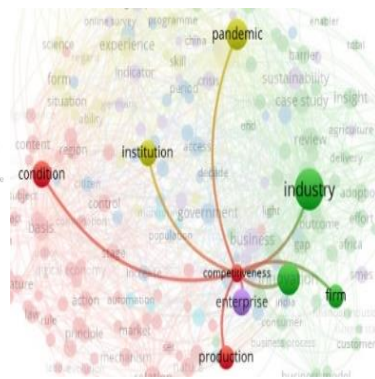


Figure 6.3 The first cluster: the links of word “competitiveness”

The first cluster consists of words: condition, region, content, feature, action, basis, stage, market, competitiveness, production, digital economy, relation, etc. The word “condition” is the most cited and has 178 links, 55 occurrences, and a total link strength – 554. The other most popular words are “relation” and “basis”: the word “relation” has 176 links, 56 occurrences, total link strength – 469, and “basis” has 173 links, 50 occurrences, total link strength – 549. The fourth most popular word is “production” having 161 links, 43 occurrences, and total link strength – 387. The fifth and sixth most popular words: “stage” has 153 links, 32 occurrences, and a total link strength of 316, and “region” has 145 links, 40 occurrences, and a total link strength – 355. The seventh most popular word is “action” with 139 links, 30 occurrences, and total link strength – 281. The word “competitiveness” has 140 links, 24 occurrences, and a total link strength of 250. It is linked with production, industry, firm, enterprise, institution, pandemic, innovation, and condition (Figure below).

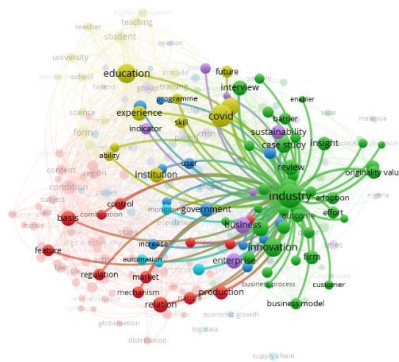


Figure 6.4 The second cluster

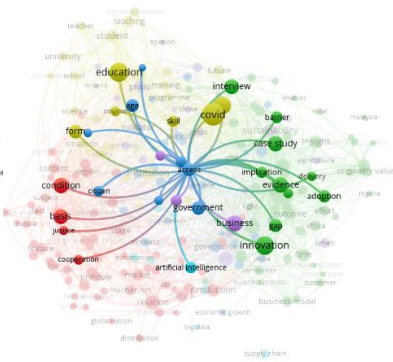


Figure 6.5 The third cluster

The second cluster consists of words: industry, innovation, leadership, performance, business model, collaboration, complexity, delivery, digital solution, digital platform, manager, review, case study, etc. The most popular word is “industry” having 201 links, 145 occurrences, and total link strength – 961. The second most popular word is “innovation” with 191 links, 83 occurrences, and complete link strength – 688. The third most popular word “case study” has 160 links, 56 occurrences, and total link strength – 410. The fourth and the

fifth most popular words: “review” has 161 links, 55 occurrences, and total link strength – 376, and “performance” has 158 links, 63 occurrences, and total strength links – 372.

The third cluster comprises access, availability, user, age, citizen, population, city, ICT, communication technology, progress, challenges, investment, increase, productivity, governance, government, economic growth, sustainable development, and health. The word “access” is the most cited one and has 166 links, 41 occurrences, and total link strength – 392.

The fourth cluster consists of words: ability, digital skills, experience, situation, covid, relevance, motivation, learning, higher education, school, science, teaching, training, learning, university, institution, etc. The word “covid” is the most cited one and has 203 links, 123 occurrences, and a total link strength – 880. It shows that covid has the highest impact on digitalisation. The second most popular word “education” has 176 links, 90 occurrences, and total link strength – 706.

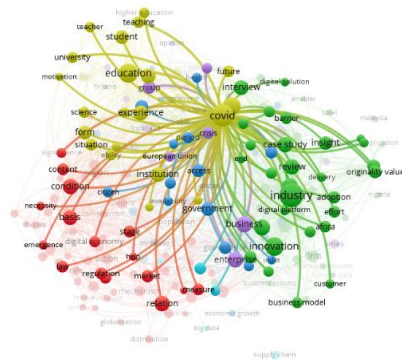


Figure 6.6 The fourth cluster

The fifth cluster consists of words: business, enterprise, SMEs, entrepreneurship, EU, Europe, crisis, circular economy, agriculture, etc. The word “business” is the most cited one and has 183 links, 64 occurrences, and a total link strength – 550. The second most popular word, “enterprise” has 173 links, 58 occurrences, and total link strength – 509.

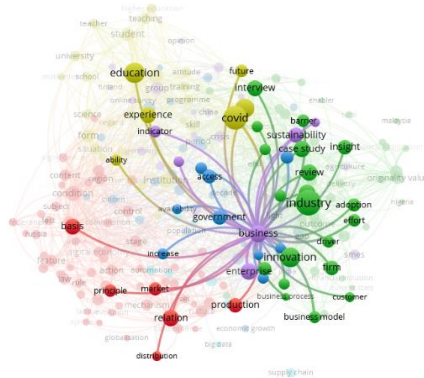


Figure 6.7 The fifth cluster

The sixth cluster comprises artificial intelligence, automation, big data, usage, monitoring, thing, supply chain, and workplace. The word “artificial intelligence” is the most cited one and has 107 links, 31 occurrences, and a total link strength – 189. However, the term “supply chain” has 69 links, 21 occurrences, and total link strength – 88.

The bibliometry analysis results show that the application of digital technologies for logistics business competitiveness has no links, and supply chain business competitiveness has gotten little attention. However, in theory, the link between digitalisation and logistics business competitiveness is highlighted.

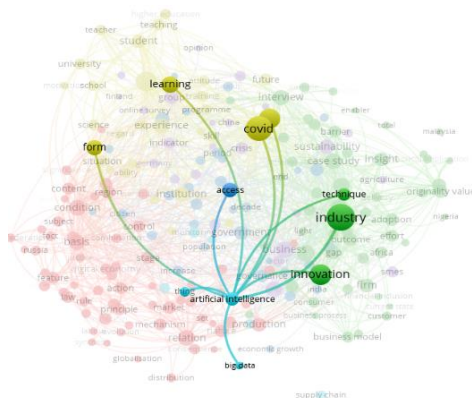


Figure 6.8 The sixth cluster

Results and Conclusions

The analysis of the period from 2021 to 2023 revealed that the most cited paper in the field of digitalisation is dedicated to the topic of the circular economy. Papers on logistics digitalisation were not mentioned, and articles on supply chain digitalisation had considerably lower citation rates than other subjects. A cluster analysis based on keyword associations identified six distinct clusters of terms, each representing a group of related concepts and keywords.

Furthermore, it's important to note that the link between digitalisation and logistics was notably absent in publications from 2021 to 2023. The analysis of publications from 2021 to 2023 is due to the overwhelming volume of available publications, potentially overlooking relevant earlier research. However, the publications identified a connection between digitalisation and the supply chain during the bibliometric analysis.

The analysis of recent literature and keyword associations indicates the significant impact of globalization and digitalisation on logistics and supply chain management. The study reveals that the topic of digitalisation in logistics and its relationship with business competitiveness has received limited attention in the literature. While the concept is theoretically highlighted, there are few papers on this subject.

In conclusion, the results of this analysis emphasize the need for further research in the field of digitalisation in logistics, particularly focusing on its practical implications for business competitiveness. Understanding the challenges and opportunities that digitalisation presents in logistics and supply chain management is crucial for businesses seeking to adapt to the changing landscape of the global economy.

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**STATE AND
PROSPECTS OF
APPLICATION OF
BLOCKCHAIN
TECHNOLOGY IN
ACCOUNTING**

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Abstract

Efficient organization of accounting at an enterprise is impossible without the application of information technology and its effective use, and is becoming increasingly important in the process of enterprise management. Digitalization is one of the main trends in the development of the national economy and influencing on changes in approaches to organizing, running and managing business. This necessitates modernization of accounting as a system for collecting, processing and

storing information about the company's activities, a promising tool for which may be blockchain technology, which is an ordered distributed database of all transactions conducted by enterprises. The advantages of using blockchain technology are transparency, security, reliability, speed, time and resource savings, decentralization, increased trust between system participants, improved document management, and professional development of accountants and auditors. In terms of the digitalization of the national economy, blockchain technology should become one of the priority areas for the development of the accounting system.

Keywords: *digitalization, blockchain, accounting.*

Introduction

Global digitalization is steadily spreading to all areas of life. Singapore, the United Kingdom, New Zealand, the United Arab Emirates, Estonia, Japan, and Israel are the leading countries in the development of the digital economy. These countries have set a course for digital development in the areas of transport, education, electronic media and the latest technologies. Around the world, the share of the traditional economy is declining and the digital economy is growing, providing huge benefits for countries and businesses. Instead, Ukraine has only recently embarked on a course of development of the digital economy at the state level, and the first step in this direction was the Cabinet of Ministers of Ukraine's Resolution No. 67R of 17 January 2018 "On the Concept of Development of the Digital Economy and Society of Ukraine for 2018-2020". The Vice President of the Association "Innovative Development of Ukraine" Valerii Fishchuk noted that the document was written in such a way that in addition to conceptual things, i.e. the concept itself, an action plan, responsibility, and deadlines were also approved (Fishchuk V., 2018). In the modern world, it is difficult to imagine the process of accounting at an enterprise without the use of automation tools.

The flow of information is currently developing quite rapidly. In the scientific literature, the impact of digitalization on the processes of socio-economic development has been compared to the effect of the industrial revolution (Tenyukh Z.I., Pelekh U.V., 2022). One of the developers of the concept of the fourth industrial revolution,

Klaus Schwab, founder and president of the World Economic Forum in Davos, noted that, similar to the use of electrification in the XIX century, digitalization in the XXI century blurs the boundaries between the physical, biological and digital spheres through the comprehensive merger of management technologies (Schwab K., 2016).

Literature review

Many economic scientists and practitioners have studied the problematic issues of applying information technologies in accounting, in particular, Benko M., Garkusha S., Zasadnyi B., Ivakhnenkov S. and others. However, there are still questions about the place and role of information technology and its effective use in the organization of accounting at enterprises. The specifics of blockchain technology have been studied by many foreign scholars, but both theoretical and practical aspects of its use in the domestic accounting system and the prospects for its application in Ukraine, taking into account the trends in the national economy and the provisions of the current regulatory legal acts in the field of accounting and auditing, remain insufficiently studied. This determines the relevance of the research topic.

The aim of the study is to reveal the significance and peculiarities of using blockchain technology in the national accounting system.

Results and Discussion

The global COVID-19 pandemic and Russia's armed aggression have posed complex issues for businesses to implement effective document management. In these conditions, paper-based information processing and data transfer proved to be inconvenient and in many cases impossible. As noted by Nazarova K.O. and Moiseenko O.M., the COVID-19 pandemic has become a trigger for accelerating the digitalization of accounting procedures and, accordingly, inevitable changes in communications between enterprises, institutions and accounting departments, transformation of accounting processes and technologies for performing operations (Nazarova K.O., Moiseenko O.M., 2020). According to some scholars, digitalization includes modern processes of automation not only of accounting, but also of

enterprise management processes in general (Loboda N., Chabaniuk O., Kolba R., 2021). In scientific sources, the definition of “digitalization of accounting” is not clear, so Teniukh Z.I. and Pelekh U.V. proposed that digitalization of accounting should be understood as the possibility of integrated use of various types of software for display in accounting of business transactions (Teniukh Z.I., Pelekh U.V., 2022).

The accounting system is heavily influenced by technical-technological factors (e.g. specialized accounting software, e-banking, cloud data storage, etc.), which are driven by the growing digitalization of the national economy. Data processing using digital technologies is faster and avoids errors that can occur when processing documents manually. The use of digital technologies makes it possible to quickly search for information, because the success of the enterprise as a whole depends on the speed of making informed decisions.

The process of enterprise digitalization can be represented by the following stages: 1) enterprise analysis, goal setting and strategy formation; 2) technology implementation; 3) analysis of the results obtained.

The first stage involves analyzing the business processes and strategic assets of the enterprise, which involves assessing the efficiency of all departments, production, internal and external communications, both in the usual way and with the help of new technologies, defining the goal that the enterprise is striving for through digitalization, and developing a strategy to achieve it. It should be remembered that the main goal of innovative technologies is to simplify business processes, not to completely transform the business.

The second stage involves engaging digitalization specialists to developing a detailed action plan, applying the necessary digital tools, and determining the time for introducing technologies (testing, correcting technical errors, training staff/customers to work with the services).

At the third stage, its effectiveness is analyzed and evaluated to ensure that it generates additional revenue, but not to the detriment of the budget. Otherwise, the approach to implementing a particular digital technology should be reconsidered.

The digitalization of the accounting system has many benefits, in particular, reducing labour costs, minimizing human error, improving the quality of accounting information analysis, reducing duplication of information across different platforms, and allowing for the rapid processing of large amounts of information. The technology that can provide this is blockchain. The scientific literature substantiates the need to modernize the accounting system in response to the active digitalization of socio-economic processes.

Ukraine has experience in implementing blockchain technology in some areas, such as the land registry, electronic trading, the register of real estate rights, copyright registration, the electronic equivalent of the hryvnia (e-hryvnia), etc.

An accountant in today's environment can use a variety of software products to keep records or generate reports, organize document management, etc. According to Sytnyk I.P. and Fomina V.S., the future of accounting should include the use and implementation of blockchain in the practice of accounting at the enterprise (Sytnyk I.P., Fomina V.S., 2019). A blockchain is a database of all transactions carried out in a system that created in the form of blocks of information, each of which contains a certain number of transactions, and each subsequent block contains part of the information of the previous block.

Whenever a transaction performed, the system notifies you of it, simultaneously making a record in a new block. This allows you to track all financial transactions in real time and report changes, while preventing errors or fraud. Unlike other databases, you cannot change or delete records, only add new ones. Such a database is autonomous (all functions are distributed among the participants) and decentralized (not owned by any participant). That is why blockchain technology now considered ideal for accounting, as it allows you to track all business transactions, be aware of all changes, avoid errors and distortions or other manipulations with information, etc. In essence, this technology is a distributed data registry that records information about all transactions made by users. Information combined into blocks and chains cannot be forged or falsified. This technology gives users the right to view information and track its movement.

From a technical point of view, this technology makes it possible

to manage operations from different devices. The technology can be updated using smartphone applications, providing convenience for users, increasing the relevance of modern technological trends. This simplifies and accelerates the modernization of the technology itself and enables the prompt implementation of measures to ensure the cybersecurity of information and system participants.

The significant advantages of using blockchain technology in accounting include the following:

- the ability to track all financial transactions, which is ensured by open access to information;

- forming a high level of trust between stakeholders, as they are notified of any information movements and have the opportunity to verify all new information, as transactions are carried out only after their approval by the participants;

- the possibility of public control over changes in the system;

- confidentiality of information about participants;

- safe and reliable data storage, as any updates and changes in information are recorded on several computers connected to a single network;

- saving time and resources;

- high degree of system security against failures, hacker attacks and hacking;

- the legitimacy of the information is ensured by confirmation in the blocks with electronic signatures;

- reduced audit time, as many audit functions can be automated with smart contracts, reducing the time required for the auditor to review records;

- the possibility of participation of a large number of entities entitled to record transactions in the database, etc.

Despite this, blockchain technology is not without some drawbacks and limitations. For example, if the transaction information is entered inaccurately (with errors), it will not be possible to cancel it. System reliability risks increase if a single device accounts for more than half of its technical capacity. The practical application of this technology requires quality material-technical support and modern information technology, licensed software for each participant, which requires considerable investment.

The application of blockchain technology in the accounting system should be addressed in a comprehensive manner, which implies the need to coordinate and combine measures implemented at the micro (enterprises, companies) and macroeconomic (state) levels. In particular, at the national level, this implies a clear understanding of the prospects of using this technology in the national accounting system, the development of an appropriate regulatory framework, and at the microeconomic level – the readiness of entrepreneurs to make technical modifications and invest in them properly (purchase of the latest computer hardware, software, equipment of accountants' workplaces, etc.).

Another important factor is the readiness of the enterprise's personnel to work with innovative information technologies, and the availability of IT specialists in the enterprise's staff who are able to install and promptly eliminate technical violations in the functioning of modern technologies. At the same time, the enterprise's partners, customers, and suppliers should also be prepared to work with new approaches and adapt to them quickly. To this end, stakeholders should be made aware of the benefits of switching to blockchain: higher data reliability, faster payment processes, and the ability to verify data in real time.

The introduction of blockchain technology in accounting will, on the one hand, minimize the number of paper documents and improve document management, and, on the other hand, simplify access for auditors and regulators to review information on transactions carried out by the enterprise. The application of this technology helps to simplify the process of inventory, calculation and payment of taxes, accounts payable, accounts receivable, etc.

The introduction of blockchain technology into practice brings positive economic, managerial, and technological effects: transparency of transactions, increased trust between counterparties, accelerated inventory processes, improved document management, prevention of falsification and forgery of information, security and reliability, cost savings for accounting, automation of accounting and audit processes, etc.

The use of blockchain in the automation of information processes of enterprises' activities is to create a register or ledger of records in a digital environment. In other words, a database created with a high

level of protection against falsification or destruction of records. The information generated in this way registered once without subsequent changes or destruction. At the same time, blockchain will allow to create a common infrastructure for storing data of different counterparties. This technology creates the prerequisites for displaying both sides of a transaction simultaneously in the general ledger in real time, even if each accountant and auditor, each company maintains a private database.

The Big Four accounting firms are making significant investments in blockchain technologies (Prokhorov M.V., 2019). For example, Ernst & Young in 2018 began developing the “Blockchain Analyzer” platform to collect data on client transactions and analyze it for the purpose of auditing blockchain assets, liabilities, equity, and smart contracts. PwC in 2018 created an audit service that audits the services of blockchain companies to confirm the correctness and efficiency of the use of this technology.

Researchers consider the disadvantages of blockchain technology to be economic and technical features, including energy dependence, high cost, threat to system integrity, etc. (Korol S.Ya., Klochko A.O., 2020). At the same time, the author notes that the possibilities of using blockchain technology in the accounting system are not fully explored and that further developments in this area are needed.

The digitalization of administrative, business and production processes is aimed at increasing labour productivity, simplifying production procedures, ensuring control over the enterprise’s activities, and reducing costs by creating special programmes that can be used to analyze activities and identify deviations in the production process. Digitalization as a process of digitization of accounting information is an evolutionary step in the development of accounting practice, and therefore is extremely relevant in terms of scientific research and theoretical substantiation.

The software should be adapted to the specifics of the accounting environment at a particular enterprise.

Conclusions

The study suggests that the prospects for the development and implementation of cloud technologies and blockchain technologies in accounting meet the requirements of today. The widespread

application of the latest technologies requires not only the reorganization of accounting and auditing at the enterprise, but also leads to the automation of certain areas of professional activity of accountants and auditors and sets the task of acquiring new skills and abilities, continuous improvement.

Blockchain technology is changing the nature of modern accounting and expected to become a way to significantly automate accounting processes in accordance with regulatory requirements. The prerequisites for the transition of enterprises to this technology are solving a number of issues, in particular the creation of appropriate legislation, industry standards and accounting rules; attracting investment (the technology is complex and requires high initial costs); promoting the professional development of domestic specialists, etc.

Therefore, in view of the above, the transition to new technologies should be gradual and involve interaction between government and business within the country and between countries of the world, and prevent negative consequences. This topic remains relevant. Prospects for further research are to identify ways to adapt blockchain technology to the needs and peculiarities of the Ukrainian accounting system, current legislation and existing business and management models.

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**INTEGRATED
REPORTS –
REFLECTION
FRAMEWORK OF
THE COMPANIES’
SUSTAINABLE
EXIGENCIES**

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Abstract

The paper at hand studies the integrated reports as reflection frameworks of the sustainable development’s exigencies. The integrated reporting refers to the process of combining the financial and non-financial reporting into one document to offer a definitive and coherent image on a situation, organization, or a specific subject. This concept is often used within the business, governmental environment and other environments to present data and information in a more comprehensible and easier to follow manner. Presenting detailed and contextual information on the reporting perspectives and experiences is exposed using qualitative research. In this manner, one could comprehend the profoundness of this subject from its beginning to its evolution. As a follow up to the research, it has been found that integrated reporting is useful to synthesize information from multiple sources in an accessible and easy to understand format, thus facilitating decision taking and efficient communication towards different interested parties.

Keywords: *integrated reports, sustainability, sustainable development.*

Introduction

The concept meant to bring together the principles of sustainable development and the financial development is found under the form of integrated reporting (Dima, Popa & Farcane, 2015). In a general sense, the integrated reporting is seen as an approach of the business model which would create value within the company, supporting long-term objective planning (Adams, 2015). More and more companies introduce information which belong to the social, environmental, sustainability responsibility or any other type of non-financial information within annual reports or individually drafted reports. The instruments and mechanisms used are important as they ensure credibility and trust for the companies' reports, especially if one takes into account that the investors are the first to be addressed within these reports. The companies are encouraged to benefit from the advantages of presenting in detail some non-financial data, because presenting in a distinct manner financial and non-financial information does not always demonstrate what the company wants to transmit. Providing a clear and true image of the companies on the long-term represents an advantage for the interested parties and for the company in its whole. In other words, the result of the integrated reporting must reflect a clear communication which would express aspects regarding the strategy, governance, performance, and the perspective of a company, in relation with the external environment. All these aspects lead towards value creation on the short as well as long-term (IIRC, 2013b).

In order to promote integrated reporting, the company must establish the relevance of the sustainability actions considering the company's activity. It must also establish its priorities, risks, opportunities and the impact through which the sustainable development influences the financial performance. The integrated reporting is comprised of the ensemble of every report which reflects the financial and non-financial performance of a company.

The sustainable development, through integrated reporting, consists of the opportunity of integrating aspects related to accounting regulations in a determined period of time (Chiriac, 2014). Large companies draft integrated reports which have the main purpose of making public the impact they have on the economic,

environmental, or social domain. The process of integrated reporting is addressed to the large companies and protrudes past the classic method of reporting information.

All the elements that the reports contain include actions and activities which reflect the progress and the effort made. In this sense, there are guidelines meant to offer support in the process of preparing integrated reports. In practice, the reports drafted by companies are interconnected with the sustainability, the mission, the vision or the values of the company (Ecles, Krzus, 2010).

The common denominator regarding sustainable practices of the companies refers to the reporting manner, respectively the integrated reporting. Thus, the way companies managed to implement within their business model policies of international reporting is reflected. Reporting by respecting the pylons of the sustainable development is defined through an ecological approach, a social or a governance one and it defines the non-financial indicators of performance.

With time, companies have given more and more importance to the drafted annual statements. Taking into account economic, social and environmental aspects, the financial and non-financial performance of a company is a more and more common requirement found within the investors' interests (IIRC, 2013b). The performance refers mainly to the company's profit, and it is based on the financial documents that any company drafts periodically, the financial performance and the capacity to innovate by adding value on the short-term, medium-term, and long-term. In parallel, the non-financial performance is defined through the environmental, social, and economic elements from the company's activity.

Materials and Methods

Currently, the business world has witnessed a fundamental change of the operation paradigm. Today, the organizations cannot exclusively follow the short-term profit as they must take into consideration their impact on the society and the environment. The sustainable exigencies of the companies become more and more evident, imposing the adoption of a holistic and responsible approach in order to prosper in the future.

Regarding the approached methodology, the paper is based on qualitative research, drafted as a follow up to the analysis of theoretical approaches regarding the context of integrated reporting.

Choosing the qualitative research is due to the fact that the profoundness of the analyzed concepts can be developed only through this manner. The method of association is present by interconnecting the companies' exigencies regarding the sustainable development and the integrated reports the companies draft. As an information source, the paper is based on books, articles published in specialty magazines, as well as websites which have focused in the past or currently focus on the approached subject.

Internationally, the most spread reporting model is the GRI model, being the one the companies report to whenever they build their reporting framework. Regarding the reporting framework, a common situation would be the one where the companies build their own reporting framework based on multiple standards. Choosing to publish their own reporting scale has the advantage that the company takes in more and more international standards, elements which can be adapted to the companies' specific activity (IIRC, 2013b).

The information collection process represents, in fact, a familiarization with what the company's activity represents, as well as the objectives the company considers, something that an outside individual is not familiar with through information collection and their transmission, one awaits a reaction. For instance, there can be reactions that would change the company's procedures, which could have benefits on the long-term. Offering an answer to the provided information is difficult to accomplish without the company having in its competence non-financial reporting (Directiva 2014/95/UE).

The Reporting Framework of Sustainable Development

The companies have signaled, with time, difficulties regarding understanding standards of integrated reporting. Although, the companies which draft integrated reports are aware of the process' implications. In the situation where data processing is made by a beginner, it is imposed that the next stage of the reporting process is assured by an experienced individual or even one of the managers, as the whole process should be assured without any errors occurring.

The lack of some procedures assumes that the employee which deals with the non-financial reporting is often distressed, because the individual has the duty to draft the report, and it does not have any authority in relation with other departments for information collection that it needs. Moreover, the respective individual may not

have the necessary time to collect the data. That is why the implications the non-financial reporting has must firstly refer to the company's management as one imposes approaching the non-financial report subject in terms of a high understanding standard. Then, this task must be given to the manager of a department to communicate in better conditions with other departments where they may obtain the necessary information.

The reason for which the companies build their own reporting model can be explained through the fact that the models offered by the International Reporting Standards are perceived as hard to follow or can be considered inefficient due to the fact that it does not reflect the company's reality. Finally, if the company is not pleased with the reporting model offered by the international standards, it shortly abandons the idea, due to the low relevance of the information offered on the long-term.

The non-financial reports drafted by the companies have evolved yearly, by reporting more and more indicators, precisely to offer more details regarding what goes on with the processes and the company's departments. A benefit of the growth of the number of indicators is that the company is getting comfortable with extending the reported indicators and with more involvement in this process. The non-financial reporting is in fact the component which highlights aspects which were mostly unused by the company, and they were considered as part of the final product or the service the company offers to the clients.

In order to analyze the influence exerted on sustainability reporting by regulatory bodies in the field of accounting, it is recognized that their rendering in SASB is an important and significant one. To create the indicators of performance evaluation in the domain of sustainability, one may use the contents of the accounting standards and techniques by the Sustainability Accounting Standards Board (SASB, 2018). The accounting's role in this concept is that of a measuring and quantification instrument of the sustainable development judging by the way its objectives are accomplished. By officially adopting the objectives of sustainable development established in 2015 within the UN Summit and by starting the implementation in 2016, the IFAC has identified a series of eight objectives (IFAC, 2016). These objectives are headed

towards accounting practitioners which practice accounting and can significantly contribute towards shaping the context in which the global agenda of sustainability has developed. A first step towards knowing the role the accounting practitioners have in accomplishing objectives involved the IFAC hosting sessions of debating the implications of the accounting profession. More exactly, one debated the way the accountants can contribute internationally to the success of the sustainable development's objectives, as well as the significance these objectives have for the accounting practitioners. The involvement refers to the support given to companies to clarify the role they have in the process of sustainable development, on the global agenda (Nichita, 2019).

The IASB president has mentioned the reporting of some elements generated by climate changes, and as a result of his affirmations, two directions have resulted, both referring to sustainable reporting (Hayes, 2019). A first direction refers to the reporting of social responsibility focusing on the companies' behavioral changes, requesting them to offer information regarding their contribution towards improving the society by developing environmentally sustainable activities. This way is headed towards the good of everybody, and the society is seen as a mirror of this type of reporting. With that being said, the perspective of integrated reporting has an increased importance and has an impact on the elements of the companies' sustainable development, detrimental to the public good. This aspect follows supplying the investors with information related to the way the sustainability problems may have an impact on the financial performance of the company in the future.

Regarding the role the IASB has and the relationship between the non-financial and financial reporting, Hoogervost (2019) is of the opinion that IASB is not capable of being directly involved in the domain related to sustainable reporting. Conceiving the standards of sustainable reporting involves expertise the IASB does not have. Moreover, within this domain there is a large number of regulation organisms active (Hayest, 2019).

Even though the financial reporting is the IASB basis, one may recognize the limitations the organism has especially that the financial statements offer a reduced volume of information that refer to provisions and aspects of sustainability. This framework that IASB

offers comes to support the needs the investors have, starting from 2010 when the Management Commentary Practice Statement guide was published. Though optional, this guide comprises good practices and guidelines which helps conceive the first component part of the annually drafted financial reports. The good practices and guidelines, which refer to drafting management reports, come as a support regarding the financial statements provided in an extended manner.

The main targeted aspects in the process of accomplishing sustainable development as well as the multitude of actions and initiatives made internationally contributes to the development of the accounting sphere. The developed actions together with the main and secondary objectives of the sustainable development are as follows:

Table 7.1

<p><i>Creating partnerships to accomplish objectives</i></p> <ul style="list-style-type: none"> • Increasing resource mobility locally, including the international support given to countries under-development. This is all to increase tax and other income collection capacity; • Finding additional financial resources from different sources for countries under-development; • Additional international support regarding the consolidation of the capacity of implementing national plans for achieving objectives of sustainable development; • Policy coherency and consolidating macroeconomic stability globally; • Consolidating the Global Development Partnership with the help of agreements for mobility and information, expertise, technology, and financial resources exchange which help accomplish the objectives of sustainable development at every country’s level, especially those under-development.
<p><i>Quality education</i></p> <ul style="list-style-type: none"> • Ensuring equal access to education, including the higher education. One must strive for higher quality at an accessible price; • Ensuring the fact that the population reaches an adequate level of literacy.
<p><i>Gender equality</i></p> <ul style="list-style-type: none"> • Ensuring equal opportunities for women for every level of decision taking within the political, economic, and public life.
<p><i>Climate action</i></p> <ul style="list-style-type: none"> • Consolidating the resistance to natural disasters for every state;

<ul style="list-style-type: none"> • Adapting some measure to evaluate climate changes within policies, strategies and national plannings; • Increasing education quality, the level of awareness, as well as the human and institutional capacities to reduce the effects caused by climate change, adaption as well as observation.
<p><i>Responsible consumption and production</i></p> <ul style="list-style-type: none"> • Supporting companies in adopting sustainable practices and information regarding sustainability and reporting frequency.
<p><i>Industry, innovation, and infrastructure</i></p> <ul style="list-style-type: none"> • Modernizing infrastructure and industries towards sustainability, with increased efficiency; • Facilitating sustainable and adaptable development of the infrastructure within states under-development, through financial support.
<p><i>Decent work and economic growth</i></p> <ul style="list-style-type: none"> • Promoting economic growth in compliance with national standards; • Promoting policies headed towards development, which would support entrepreneurship, creativity, and innovation.
<p><i>Peace, justice and efficient institutions</i></p> <ul style="list-style-type: none"> • Substantial reduction of corruption and bribing phenomena; • Creating some efficient responsible and transparent organisms on every level.

Source: IIRC (2013b)

The sustainable development creates numerous research opportunities, yet to be explored. The accounting sphere, through professional accountants, is under analysis of the role and impact of the practitioners in this domain (Bebbington, Russell, 2017). Through the drafted study, it results that the speciality literature is not varied when one refers to the empirical studies which would demonstrate a direct relation between accounting and economic development (Venter, Gordon, Street, 2018). IFAC highlights the accounting's contribution to the principles supported by the UN, including quality of life, education, responsible consumption, innovation, resource protection, equality etc. (IFAC, 2016). The actual tendency is to focus all the efforts on an international plan to ensure economic sustainability. The present context regarding international sustainable development reflects through the work of accounting practitioners and the normalization organisms, work based on the drafted reports as well as the study made in the domain.

Results and Discussion

Based on what was presented, one was able to materialize the actions targeting objective accomplishment by Ensuring quality education, Gender quality and Partnerships for objective accomplishment.

From an accounting point of view, the impact of the sustainable development assumes changing the accounting activity to accommodate the requirements of the parties interested by the financial-accounting information of the company (Dumitrana et al., 2009). Even if the subject of sustainable development is a more and more debated concept lately, within the specialty literature from the accounting domain as well as the management domain one imposes the necessity of clarifying what the concepts refer to and the contextual framework where they are used (Godemann et al., 2014).

In an erroneous manner, the idea of sustainable development is just a simple research subject debated in numerous occasions. Within the domain of accounting and finances, the empirical research has become a coherent research domain. This idea is born from the fact that, apart from the intense debate of the subject, most of the existent research does not take into consideration the complexity of the aspects the sustainable development implies (Nechita, 2019). The UN has proposed 17 objectives of sustainable development, through which one wants to promote activities and actions in important domains, and which have a critical status as reported globally (UN, 2015). The professional accountants are part of the category of individuals involved in the objectives of sustainable development having the important role of bringing towards completion these objectives, even though the research studies which approach the subject of sustainable development are numerous within diverse disciplines, but especially within the management and business domain. The implications the objectives of the sustainable development have within the domain of accounting are considered a novelty element from the perspective of the specialty literature, but the analysis of every aspect starts to take shape (Bebbington și Unerman, 2018).

Conclusions

Considering the above, the exposure of aspects of financial and non-financial order trains towards the awareness of their importance

for the company and one supports the adoption of financial and non-financial aspects in an integrated reporting system. For the competitive market, the key element with regard to the main user is the integrated reporting.

One appreciates that the integrated reports offer a complete and complex image of the companies' general performance. Through reports, the companies active on the competitive market hand over towards analysis all the aspects regarding the created value, financial, human, social, intellectual as well as natural capitals. All these capitals complete each other and compete with each other. Therefore, the accounting practitioners must comply and experiment with the process of adaptation to the dynamic model of integrated reporting. The major interest towards becoming sustainable which the companies present is the simple motive that it consolidates the business on the long-term, as well as because there is pressure from the market, thus intervening competitiveness. In order to cope with challenges, as well as pressure, the companies have to integrate within their own strategy sustainable components, as an answer to the environment and the market trend and the external pressure exercised at a microeconomic and macroeconomic level of the global environment.

In conclusion, the sustainable development is characterized as being a complex operation with implications and aspects which cannot be neglected as they are necessary for a better understanding of the integrated reporting phenomenon. With time it has been proven how sustainability has raised the interest for multiple areas of activity and sectors. It is remarkable that the influences from the sphere of sustainable development, especially those related to the domain of accounting, represent a challenge for research as well as for those interested. One must highlight the accounting's contribution towards accomplishing the objectives of sustainable development which, as seen through UN's 2030 Agenda, creates new opportunities and ways for research, including: creating measurement indicators for the sustainable performance based on accounting techniques; reconsidering relevant subjects for sustainability (ecology, economic equity, economic responsibility etc; reevaluating conceptual frameworks (Bebbington & Unerman, 2018). Drafting processes to ensure sustainability for future

generations is imperative and represents the main care of influential organisms at an international level. Through the implications in the accounting domain, the sustainable development, according to the specialty literature, significantly contributes to the already existent initiatives and everything the 2030 Agenda estimates and proposes.

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**SUSTAINABLE
MEDIUM- AND LONG-
TERM EFFECTS OF
THE COMMON
AGRICULTURAL
POLICY ON THE
ROMANIAN
AGRICULTURAL
SECTOR**

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Abstract

In the period 2007-2013, the European Union's Common Agricultural Policy focused on important economic, social, environmental and territorial objectives, using four thematic axes representing the major dimensions of rural development policy. The CAP budget for this period was distributed differently between Member States, adapting to the specific conditions and objectives agreed at European Commission level. Romania accounted for 3.60% of the total CAP budget for 2007-2013, with a distribution of 40.70% for Pillar 1 and 59.30% for Pillar 2. Within the distribution of the CAP budget, France received the highest allocation, i.e. 17.30%, followed by Italy with 15.61%, Germany with 12.91% and Spain with 10.71%. Romania ranked eighth in the distribution of the CAP budget among EU Member States, indicating that it received a significant financial allocation. The aim of the paper is to highlight the sustainable medium and long term effects of the Common Agricultural Policy on the Romanian agricultural sector knowing that Romania has a strong agricultural tradition, plays a distinct and significant role in the European agricultural landscape, with fertile soils and favourable climatic conditions for agriculture, livestock and horticulture, the country occupies a remarkable position. With a total surface area of 238,000 square kilometres, Romania is

among the most clearly agrarian countries in the European Union. With around 15 million hectares of agricultural land, of which more than 9 million hectares are dedicated to arable crops, Romania has almost one third of the EU's total agricultural land (representing 33.5% of all farms in the EU, according to the EU Commission's April 2017 update). Under these circumstances, Romania is emerging as the second largest producer of agricultural products in the Central and Eastern European region, following Poland, which has 17 million hectares of agricultural land.

Keywords: *policies, programmes, harmonisation, funds, projects.*

Introduction

In the 2007-2013 programming period, European agricultural programmes adopted a strong orientation towards sustainable rural development, with a focus on strengthening a robust rural economy (Alexandri, C., Luca, L., 2009). This objective involved upgrading infrastructure, improving equipment and adopting rural-specific techniques. At the same time, the efficient use of available resources was sought to support environmental sustainability (Luca, L., 2013).

The evolution of agriculture within the rural economy has been directed towards fulfilling the essential economic and social functions of the agri-food system (Hubbard et al., 2014). These functions include ensuring a balanced supply to the population, facilitating a profitable export of agricultural products and protecting the environment.

In the 2014-2020 programming period, Romania received an allocation of only 5.30% of the total budget of the Common Agricultural Policy, however, this allocation is significant, as it is earmarked for both rural development and direct payments to farmers (Rusali, A.M., 2013). Within the 28 member states of the European Union, Romania is in a position that indicates it benefits from a significant financial allocation under the CAP. Comparatively, France received the highest allocation of the total CAP budget for this period with 15.80%, followed by Germany with 11.20%, Spain with 10.80%, Italy with 9.60% and Poland with 8.40% (Anghel et al., 2017).

The main objectives of the CAP in this period are geared towards increasing competitiveness, with the aim of transforming farms into

efficient and sustainable entities (EC, 2012a). Thus, farmers in Romania are facing economic, technological, social and environmental challenges, and must act in line with the principles of sustainable development. Sustainable development involves meeting the needs of the present without compromising the ability of future generations to meet their own needs (Burja, C., Burja, V., 2015).

In this context, farms have a crucial role to play in fulfilling several functions, becoming key actors in promoting sustainable development (Ciolos et al., 2009). Direct payments, included in Pillar 1 of the Common Agricultural Policy, are a vital component of support to farmers in the European Union, these payments represent a financial incentive, having a significant impact on the quantity and quality of agricultural production. The fundamental principle of granting direct payments, established by the European Commission through EU Regulation 1307/2013, is aimed at direct financial support for farmers who are active in the agricultural sector (Dachin A., 2011).

This approach reflects the idea of ensuring that financial support is targeted to those who are genuinely involved and actively contribute to farming activities. This is considered fair and beneficial to farmers as it encourages efficiency in farming and farmers who demonstrate efficient and sustainable farming are rewarded through these direct payments, helping to encourage responsible farming practices (EC, 2013).

A significant development in this direction took place in the period 2007-2013, when direct financial support was also granted to inactive farmers (EC, 2013). This practice was subsequently considered unproductive, as the amounts allocated to inactive farmers did not have a direct impact on the development of the agricultural sector, thus experts argued that these financial resources could have been more efficiently used by targeting them to active farmers, thus giving them the opportunity to expand and improve their agricultural activities (EC, 2014). This adjustment in the approach to granting direct payments reflects efforts to optimise the efficiency and relevance of financial support in agriculture, with the aim of encouraging sustainable practices and contributing to the increased competitiveness of the agricultural sector in the European Union (EC, 2012b).

Materials and Methods

The methodology of this study on the medium and long term effects on the Romanian agricultural sector involves a detailed and comprehensive approach on the identification and analysis of official EU documents related to the Common Agricultural Policy, a review of previous studies and relevant research on the implications of the harmonization of the Romanian agricultural policy with the CAP, the impact of CAP programmes on the Romanian agricultural sector, the assessment of specific CAP programmes in terms of rural development, financing, direct payments to farmers and market measures and the analysis of how these programmes are applied and implemented in the Romanian agricultural context as well as the medium and long term sustainable effects on the Romanian agricultural sector on the assessment and analysis of the impact on farmers' incomes, sustainable farming practices and the resilience of the agricultural sector as a whole.

The study was based on quantitative and qualitative analysis using both quantitative methods, such as analysis of relevant statistical data, and qualitative methods, such as interviews and case studies and comparing results and developments with the previous period to highlight changes and progress.

Results and Conclusions

In a predominantly rural geographical, administrative and socio-economic context, agriculture is a sector of primary importance in Romania, covering 66% of the country's surface and with 46% of the population living in predominantly rural regions. At the same time, the sector's contribution to the economy and its share of employment play a significant role in Romania's overall economic context. In terms of production, the largest share is accounted for by agricultural crops (about 70%), followed by animal production (about 30%), while agricultural services contribute about 1% (Figure 7.1).

In the financial year 2007-2013, Romania benefited from a significant allocation of structural and cohesion funds, which amounted to 19.668 billion euros (OECD, 2010). These funds were distributed in line with specific objectives as follows: €12.661 billion was allocated under the Convergence Objectives, aiming to reduce economic and social disparities between different regions and EU

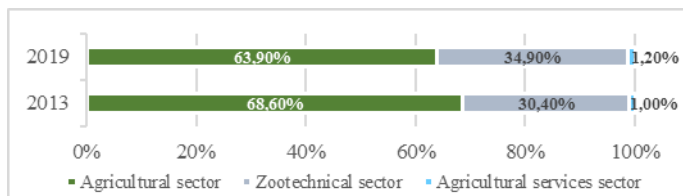


Figure 7.1 Evolution of the share of sectors in the Romanian agricultural sector

Source: National Institute of Statistics

Member States; €6.552 billion was allocated from the Cohesion Fund, focusing on promoting economic and social convergence through investment in infrastructure and sustainable development; €0.455 billion has gone to European Territorial Cooperation, including transfers to the Instrument for Pre-Accession Assistance (IPA) and the European Neighbourhood and Partnership Instrument (ENPI), to support collaboration between regions and states to tackle common problems, and the absorption rate of these funds is around 35% (Figure 7.2).

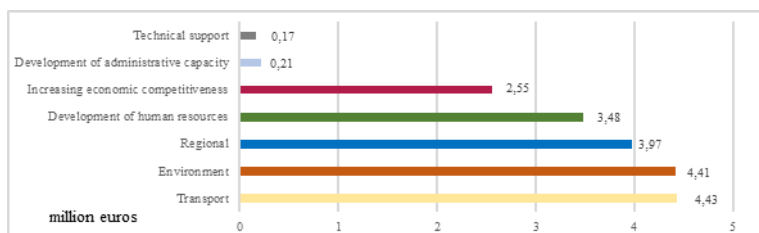


Figure 7.2 Financial allocation 2007-2013

Source: Ministry of Agriculture and Rural Development

Between 2014 and 2020, Romania plans to receive around €40 billion in EU funds, distributed as follows: €21.5 billion in Structural and Cohesion Funds, aimed at reducing regional disparities and promoting economic and social convergence; €19.5 billion under the Common Agricultural Policy, to support and develop the Romanian agricultural sector (Figure 7.3).

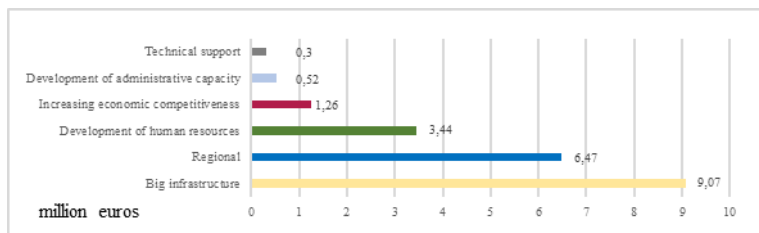


Figure 7.3 Financial allocation in the period 2014-2020

Source: Ministry of Agriculture and Rural Development

In 2017, Romanian agriculture had an exceptional year, with record yields. Romania was at the top of wheat production with over 10 million tonnes, averaging 4,836 kg/ha, the same trend was reflected in rapeseed, pea, barley and sunflower, maintaining its leading position in the EU in sunflower with a production of over 3,150 million tonnes.

Organic farming in Romania, although still small, represents 0.4% of the agricultural area and is gradually increasing. Agriculture's contribution to Romania's GDP varies between 4% and 6%, given its significant dependence on weather conditions. The sector also employs more than 25% of the active population, exceeding the EU average (OECD, 2012).

However, the performance of the Romanian agricultural sector has not yet reached its natural potential, with substantial underexploited development potential. The farm structure is dominated by family farms, but they are small in size, with an average of 3.66 ha, placing Romania third in the EU in terms of average farm size. The predominance of small farms, with over 98% of them managing less than 10 ha, makes Romania a predominantly peasant country.

The fragmentation of agricultural land, ranking first in the EU in terms of number of farms (3630 thousand) but last in the EU in terms of average production per farm (3303 euros), limits the possibility of intensive farming. This reality places Romanian agriculture in the subsistence and semi-subsistence category, practised on small farms that do not favour horizontal and vertical integration in the production chain. Romanian farms are characterised by a traditional agricultural system, an ageing population, limited material and

financial resources, obsolete agricultural equipment, low productivity and self-consumption. Thus, the modest performance of the Romanian agricultural sector places it far from the agricultural competitiveness of other EU Member States.

Cohesion policy for the period 2014-2020 represents a significant commitment from the European Union, allocating up to €366.8 billion for investment in Europe's regions, cities and real economy. Coherence between development policies and development objectives remains a key priority for the European Commission, and progress on Cohesion Policy for Development continues to improve, including in the agricultural sector (EC, 2015b).

Another important element in the European Union's orientation is the achievement of the United Nations Sustainable Development Goals as embodied in the UN 2030 Agenda for Sustainable Development (EC, 2015c). In this context, while focusing on agricultural development within the EU, the instruments of the Common Agricultural Policy (CAP) also aim to minimise negative impacts on developing countries. The CAP Impact Assessment 2014-2020, published in 2011, included for the first time an assessment of the effects on third countries (EC, 2011).

The Common Agricultural Policy 2014-2020, adopted in its final form, strengthened the monitoring and evaluation framework, extending it to all measures in line with Regulation (EU) No 1306/2013. A significant aspect of this approach was the definition of a set of indicators to assess the performance of CAP measures against specific objectives, such as the promotion of sustainable food production, sustainable management of natural resources and climate action, all integrated in a context of balanced territorial development. As the implementation of Pillar 1 measures started in 2015 and Pillar 2 measures were only implemented in 2016, there is so far little concrete evidence of the achievement of the proposed objectives. However, this initial period of implementation has allowed the identification of some preliminary conclusions on the internal impact of the CAP 2014-2020 (Figure 7.4).

The allocation of funds in Romania for the 2014-2020 financial year is directed towards various areas of strategic importance: Transport infrastructure (motorways, railways, water and air) – €5.7 billion, environmental projects – €3 billion, urban development –

€2.8 billion, roads and county belts – €1.1 billion, employment and combating youth unemployment – €1 billion, professional development in education – €1 billion, social assistance for vulnerable people (mainly Roma integration programmes) – €1 billion, support for imm and technology parks – €800 million, research funding – €700 million, investment in it – €550 million, health infrastructure (including construction of three regional hospitals in iași, cluj and craiova) – €500 million, local administrative capacity building – €500 million, restoration of historical, cultural and tourist sites – €450 million, investment in education infrastructure – €350 million, land surveys – €300 million, programmes managed by the national employment agency – €250 million.

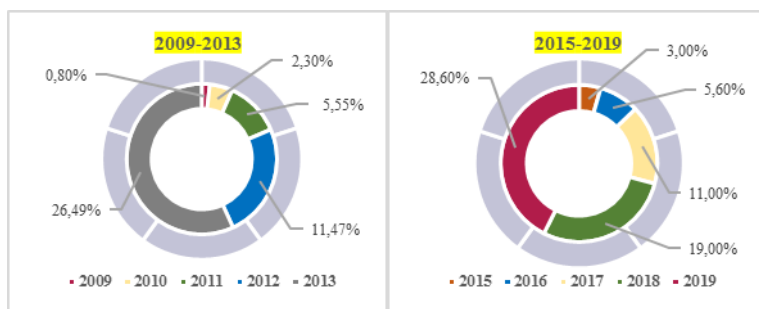


Figure 7.4 Romania’s absorption rate of EU funds

Source: National Institute of Statistics

This strategic distribution of funds reflects the focus on the development of infrastructure, environment, employment, education and other key sectors for the growth and modernisation of the country. It is a comprehensive approach designed to meet the essential needs of society and to stimulate sustainable development in various key areas. Regarding greening measures, a preliminary evaluation carried out one year after implementation (EC, 2016c) indicated that „the introduction of environmentally and climate friendly agricultural practices appears to have had limited effects on production levels and market developments in the short term”. This suggests that the implications of greening measures on agricultural

production and the market were moderate during the initial evaluation period, and that the results may evolve as the measures are implemented in the longer term and farmers adapt to the new practices.

Figure 7.5 shows the rate of absorption of funds by the seven operational programmes in 2007-2013 and 2014-2020.

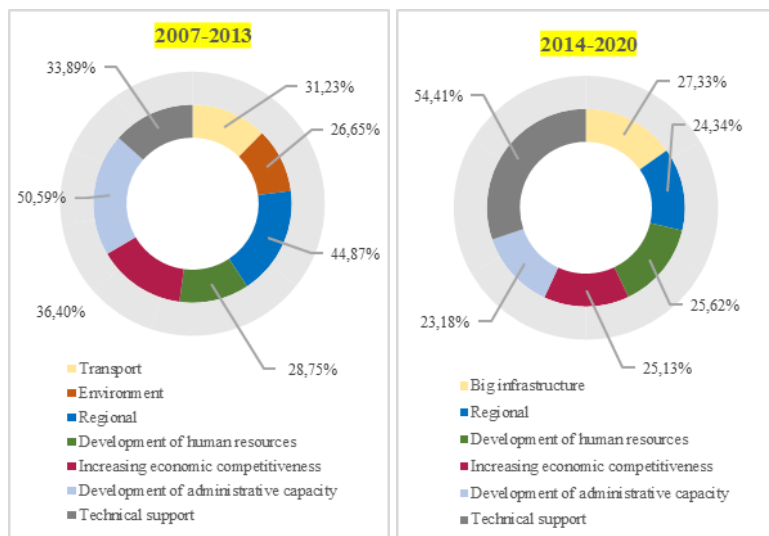


Figure 7.5 Absorption rate of funds by the seven operational programmes in 2007-2013 and 2014-2020

Source: National Institute of Statistics

However, it is important to note that despite the recognition of the importance of assessing the external effects of the CAP, the 2013 reform process failed to clearly anticipate the consequences of the proposed scenarios for developing countries. The assessment of the effects on these countries has been presented as a review in previous studies, concluding that the form and extent to which the CAP would affect developing countries cannot be clearly established (EC, 2011). Thus, it is clear that improving coherence and impact assessments on third countries is an area where European policies and instruments can evolve to better take into account their global impact and consequences on developing countries.

Conclusions

Over the last decade, Romania has experienced significant changes in agricultural policy, both at national and European Union level, with EU accession bringing significant changes in the volume and structure of financial support to farmers, reflecting adjustments to the agricultural policy measures applied. In this context, preliminary results indicate that Romania has intensified its efforts to support the agricultural sector as it moves closer to EU membership.

Accession to the EU has brought an increase in financial support, mainly in the form of direct payments, while the contribution from national funds has steadily decreased. However, the level of total financial support to Romanian agriculture from both EU and national funds has remained significant, exceeding €2 billion per year since 2010.

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**PECULIARITIES OF
FORMATION OF
METHODOLOGICAL
PROVISIONS FOR
INFORMATION
SUPPORT OF
INNOVATION
ACTIVITIES**

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Abstract

The formation of the global information space began at the turn of the twentieth and twenty-first centuries. The integration of the economy and the global information space became one of the main factors of its competitiveness and efficiency. The merger of computing, communications, and information support industries is creating a new industry. Technology convergence (unification that allows technologies to interact by exchanging information resources) is taking place, resulting in a new interactive polymorphic information environment that stimulates global changes in society. In addition, the concentration of financial and intellectual resources on the implementation of priority investment areas is seen in the introduction of indicative planning of financial support for investment objects based on foresight and taking into account regulation related to the economy as a whole and its components in particular. In the context of scientific and technological positions, it is necessary to harmonize the system of formation, storage, processing, transmission, distribution, and use of statistical information, to summarize the experience of information technology parks, to work out a long-term program for the development of their activities, to

create an effective information infrastructure, to develop mechanisms to stimulate to stimulate the activities of domestic and foreign investors.

Keywords: *information support, innovation, globalization, knowledge automation, decentralization, centralization, service, IT.*

Introduction

In modern economic research, much attention is paid to approaches and methods of information support for innovative activities of business entities. The change in the phase of socio-economic development from industrial to post-industrial (information) has identified intangible intellectual assets as the main driver of economic growth. Since the mid-twentieth century, the GDP structure of developed countries has been dominated by information-based economic activities. Industrial production of consumer goods was moved to regions with cheaper industrial production resources. At the same time, the creation of intellectual assets by business entities in developed countries has been expanded many times over.

In addition, the formation of effective management of innovation activity and innovative labor is relevant in connection with the need to improve the management system of the innovation component of the enterprise. Creation of a holistic and flexible innovation management system is impossible without in-depth research and changes in the field of information support for innovation activities of industrial enterprises.

Materials and Methods

The study of the methodology of information support in the system of innovation management of an industrial enterprise is devoted to the works of such foreign and Ukrainian scientists as, in particular, A.V. Cherep, O.M. Panchenko, L.A. Ptytsina, V.M. Nyzhnyk, N.I. Chukhrai, A.M. Tkachenko, T.O. Drobetska, V.V. Stadnyk, O.V. Holovchuk, P. Drucker, A.A. Turilo, L.G. Melnyk. This once again confirms the relevance of the issues of forming information support in the management system of the innovation component. The purpose of the article is to substantiate the theoretical foundations of information support in the system of management of the innovation component.

Results and Discussion

The trend of informatization of society is increasing its impact on economic growth, which has led to the identification of a new source of economic growth – information. The relevance of the tasks of information support of innovation activities is growing, as they consist in the effective transfer of content (information) for use in the process of creating innovations. Information support includes technologies and methods of using available information resources from external and internal sources.

Since the economic literature lacks clarity in defining the content of information provision, classification of its types and peculiarities of its formation in the system of management of the enterprise's innovation component, the article substantiates the theoretical foundations of information provision in the system of management of the enterprise's innovation component and formulates the following conceptual provisions of the proposed approach. Firstly, since the concept of “innovation component” includes a combination of innovations and innovative labor, we will rely on this point of view when substantiating the theoretical foundations of information support in the system of management of the innovation component of an enterprise. Secondly, one of the most important components of the organizational and economic support for managing the innovation component of an enterprise is information support (Zianko, 2008).

The resources of innovation activity are located in the external environment, access to which is organized by the business entity through information support independently. Thus, through technologies, methods and means of information support, the entity uses the most important information resources of the innovation environment to create effective innovations (Figure 7.6).

Trends in economic globalization, growth of digital data, and intellectualization of its processing are expanding the innovation environment, which requires appropriate information support to interact with it. Methodological approaches to information support of innovation activities have been emerging since the early 1980s. Until that time, the tasks of accessing and using information and data were not distinguished from other tasks of the enterprise, but were solved together with them (Zaverbnyi, Nodzhak & Mishchanchuk, 2021).

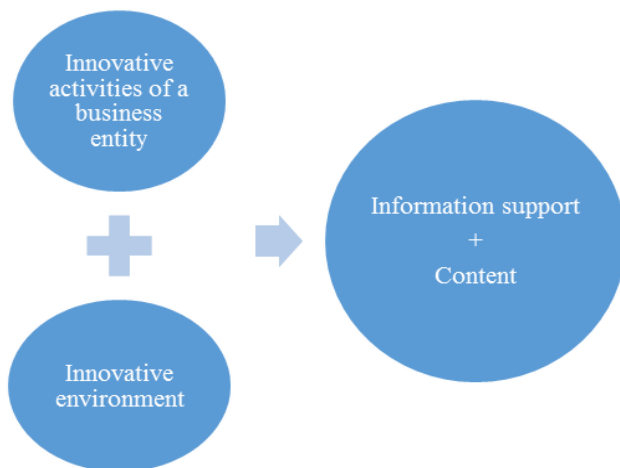


Figure 7.6 Information support as a link between a business entity and the innovation environment

Source: developed by the authors

The methodological approach to information support combines technologies and methods to meet its information needs. Information resources began to be created long before the advent of computers and global telecommunication networks in their current form. By the middle of the nineteenth century, information possession was becoming critically important for business entities and regions in general. In the economy of that period, the need for access to information sources was formed due to the rapid development of science, technology, social and economic relations. As a result, a new scientific discipline was born – informatics, which until the 1960s was called documentation.

The beginning of the development of the information management theory dates back to the 1970s, when the importance of information resources management for society and the economy was first declared at the governmental level. In 1977, a report to the U.S. Congress stated that “information cannot be considered a public good along with air and water. The government must recognize that information and its use have a cost, and therefore information resources must be managed as professionally as financial or human resources” (Yevdokymova & Kotenok, 2019).

The first legislative act in the field of information management was the Paperwork Reduction Act of 1980, which was later extended by the Paperwork Reduction Act of 1995 and the E-Government Act of 2002, which set out the state policy in the field of information resource management and defined some terms. “Information resource management is the process of managing information and data aimed at achieving the organization's mission, improving its performance, including reducing the burden of information collection”.

For more than three decades, scientific theory and practice have developed generally accepted terms have been developed in scientific theory and practice, and the most important functions of information support have been identified. In accordance with the main tasks solved by information support, methodological approaches have been developed (Table 7.2).

Table 7.2

Main methodological approaches to information support

Period of appearance	Methodological approach	Priority information need	Ways to achieve
1960	Information systems design management	Creation of automated data processing. Formation of internal data arrays	Computer and information technologies, software
1980	Management of information resources (information management)	Effective management of information resources for operational activities and achievement of the entity's strategic goals	Technologies for the efficient use of information resources
1990	Knowledge management	Conducting innovation activities and creating innovations	Ensuring conditions for the creation, exchange and sharing of information, cooperation
2000	Big data	Automation of knowledge extraction from a large amount of digital data for creating innovations	Digital platforms, tools for collaboration

Source: compiled by the author

Let us consider the selected methodological approaches to information support of business entities whose main economic activity is related to information technology, higher and additional vocational education.

1. Management of information systems design. The main tasks to be solved using this approach are to create an automated technology for processing structured data in a particular subject area. These tasks are solved taking into account the design of automated information systems, databases, and the development of telecommunications infrastructure. Today, the most important issue of information management is access to the necessary information from external sources and its effective use.

2. Management of information resources (information management). The main task is to organize information support for the decision-making process in the company in such a way as to provide all the necessary information and ensure the efficient accumulation and use of information resources (Stadnyk and Holovchuk, 2017).

The concept of information resources management proposed in the 1980s is based on the following principles:

- information is an expensive valuable asset that should be used in the most efficient way;
- information resources available to a business entity are an important intellectual asset that should be managed as professionally as other resources;
- management of information resources should be based on the achievements of modern computer and telecommunication technologies 375.

3. Knowledge management. In the early 1990s, an approach was proposed in which information took center stage, and the main driving force and resource of economic development of an economic entity were people whose work is to create knowledge on its basis and use it further.

The goal of knowledge management is to provide conditions for knowledge generation, accumulation, transfer and use. The absence of fundamental differences between the concepts of “information” and “knowledge” leads to the fact that many knowledge management projects are based on an information system (Koval & Zahorodnia,

2023).

According to the observations of foreign authors, knowledge management is based on information resource management for the following reasons:

a) implementation of knowledge management projects implies possession of meta-information about where this knowledge arises and in what sources it is reflected, i.e. knowledge of information resources themselves;

b) knowledge management implies transferring personal knowledge of a person into forms of information presentation accessible to other people, i.e. in the form of a document;

c) the task of disseminating knowledge is one of the most important in knowledge management. Knowledge management also has specific functions, such as providing conditions and opportunities for creating new knowledge, forming information about it, i.e. translating it into a form of information accessible to other experts.

4. Big data. The big data approach is used to process real-time digital data to accelerate the process of creating innovations. Currently, it is one of the leading trends in digitalization, which is discussed in the first section.

Each of the above approaches builds on methods and technologies created earlier. The study of approaches to information support shows the transformation of information needs of innovation activities. While initially it was necessary to systematize and organize the work with information and data accumulated by the business entity itself in the course of its economic activity, later approaches are aimed at working with external information resources.

The activities of a modern business entity, regardless of its size and types of economic activity, are accompanied by numerous information flows, which include information from internal and external sources. Internal information mainly contains information about the state of the entity itself, its resources and processes. External information includes information about scientific achievements, the state of the economy, consumers, competitors, legislation, news, namely information about changes in the external environment (Savras & Tomanevych, 2022).

Internal information flow management tools based on modern computer and telecommunication technologies are actively developed by IT companies. Internal information resources management systems are aimed at automating the company's document flow and include a set of software that allows collecting information, processing and analyzing it, distributing and applying it in the company's activities. The purpose of document management automation is usually to increase the efficiency of administrative business processes.

An important element of managing a modern business entity is to streamline its internal information processes. The creation of an effective information exchange system significantly speeds up the decision-making process and the search for solutions to operational problems. In practice, business entities receive external information from providers, operators or information agencies that collect and store information. Entities gain access to the necessary information in the information market.

The current state of the IT infrastructure is sufficient for information support of the innovation process, capable of providing access to the most important resources of innovation activities. Information support for the innovation activities of a business entity can be implemented according to a decentralized, centralized or mixed scheme. The decentralized scheme implies that each unit or individual employee independently organizes access to the data and information they need (Mykhailenko, Danchuk & Cherniak, 2020).

A decentralized information support organization scheme can be implemented in accordance with the organizational form of management (linear, functional, project/product, mixed, etc.). This scheme is characterized by disparate storage of information resources, informalized information processes and relationships between employees and its units. As a result, the main disadvantages of the decentralized scheme of information support organization are clearly revealed: irrational use of funds for acquiring access to information resources; lack of a systematized view of the information needs of the business entity's departments and available information assets; duplication of functions related to information support. The decentralized scheme, despite a number of disadvantages, can be effectively applied to small business entities

where departments or individual specialists organize their information support independently, the range of information needs is limited to a list of known parameters, and the costs of acquiring access to information resources are relatively low. In addition, the decentralized scheme allows specialists to quickly access sources of information and information sources and fulfill operational tasks in a timely manner.

The centralized information support scheme provides for the existence of an information center that systematically processes information needs, selects the necessary information sources, selects and organizes the most rational way to access them, and provides units and employees with access to information resources (Figure 7.7).

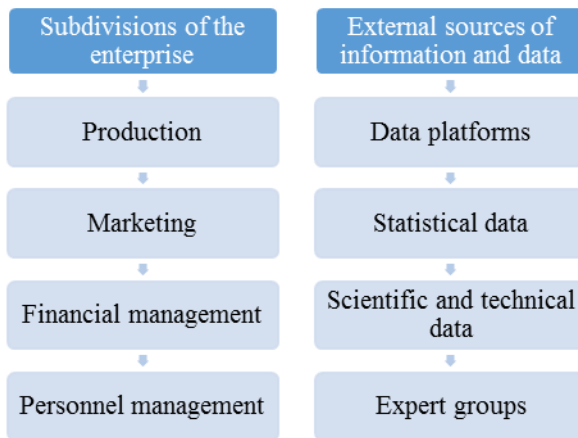


Figure 7.7 Centralized information support scheme

Source: developed by the authors

A centralized information support scheme makes it possible to organize the efficient use of information resources and reduce the cost of purchasing access to them. In Russian practice, departments that provide information services to internal users and organize access to external information sources exist in large companies, educational and research organizations.

A centralized information support scheme allows organizing the efficient use of information resources and reducing the cost of

acquiring access to them. In Russian practice, departments that provide information services to internal users and organize access to external information sources exist in large companies, educational and research organizations. The organization of work with sources of external information and data is of great importance in information support. The amount of information from external sources in the economic activities of business entities first grew gradually and then exponentially (Tiurina, Nazarchuk & Shkabara, 2022).

The need for external information expanded under the influence of the following factors

- development of integration processes in the global economy;
- the growing need for independent sources of reliable information caused by an increase in the number of subjects of scientific and research activities and sources of scientific data;
- increase in the amount of information and data accumulated.

A business entity gains access to external information in the information market. The foundations of the information market were laid with the emergence of the information industry in the mid-nineteenth century. Leading news agencies, which are widely known today, have been providing information for more than a century and a half. Among the old-timers of the information industry are business information agencies (stock exchange, financial and commercial information): Reuters (founded in 1851), Dow Jones & Company (1882), Associated Press (1846), Dun & Bradstreet (1841), Standard & Poor's (1860), etc. From the very beginning, the scope of the Information Service's activities was international; they provided information that entrepreneurs could not obtain on their own, mainly about the state of foreign business entities, markets and the economy of a foreign country as a whole.

The Reuters news agency was created to provide information exchange between the London and Paris stock exchanges. Other agencies provided information support for investment flows from Europe to North America. Entrepreneurs of the time were in dire need of independent and reliable sources of information, thus creating a demand for business and commercial information. News agencies were the only independent source of reliable information for investors (Mykytyn, 2022).

At this time, the leading specialized and scientific and technical

information agencies, such as LexisNexis (1873) and McGraw-Hill (1888), were also born. The history of these information agencies begins with the publication and distribution of scientific and industry publications. Today, these agencies are providers of a range of information resources. As the number of players in the information market increased and the range of information sources expanded, the need for a systematic description of information resources and comprehensive information services grew.

Advances in IT have created the conditions for the creation of a single information space. The modern information space offers a variety of information resources and options for accessing them (Table 7.3). A significant amount of information is freely available, but its use also requires an appropriate approach to information support.

Table 7.3

External sources of information support

The information market sector market	Commercial sources	Open source	Sources of digital data
Business information			
Socio-economic	Unofficial statistics	Official statistics	United Nations Statistics Division
Stock exchange and financial	Financial information systems	Exchanges and other financial institutions	Financial digital platforms
Commercial information	Registers of organizations, ratings, business climate	Reference commercial information, rating agencies	Commercial digital platforms
Business news	Bloomberg Thomson Reuter	Electronic media	Aggregators of news
Scientific and technical information			
Patent publications	Questel Orbit	WIPO, Rospatent and patent offices of other countries	WIPO
Reference databases	Scopus, Web of Science e-Library	Google scholar, Research Gate	Google Scholar

Full text databases	LexisNexis, Elsaveir	Open Access	
Educational materials	Educational literature publishers	Universities, research and international organizations (open educational resources)	Educational digital platforms
Mass consumer	Social media		

Source: compiled by the authors

The thematic division that has developed in the information support of the economy is due to the fact that each type of information activity required the possession of appropriate competence, methodology and tools. At the same time, the stage of preparation of the information resource related to the collection and formation of databases was the most expensive and time-consuming. The tasks of adapting the information resource to the customer's requirements, creating services and tools for working with huge data sets, and promoting them on the market were performed by specialized services.

Conclusions

Thus, the development of informatization has led to the fact that the environment of economic activity has not only become electronic. Thus, the costs of obtaining information from the business environment have decreased, and the possibilities for collecting and processing digital data have become wider. New players have emerged in the information market that provide access to digital data, such as digital platforms such as Coursera or Facebook, and telecommunications network operators.

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CONCLUSION

Socio-economic transformations of business processes require appropriate management mechanisms to ensure sustainable development. Depending on the state of the economy, flexibility and ability to reflect, transformation processes can develop according to different scenarios – both evolutionary (gradually adapting to changes in the external environment) and revolutionary – when the previous state of the economic system threatens its existence. Management of socio-economic transformation may be accompanied by structural shifts not only at the sectoral level, but also at the regional, institutional, demographic, social and international levels. Signals from the external environment require an appropriate response, as untimely action leads to a negative impact on the course of transformation processes and undesirable consequences of management decisions. Therefore, understanding the essence of socio-economic transformation, its nature, driving forces and dynamics is important for the effective management of economic processes. It is important to take into account security challenges that affect the course of transformation processes. This is especially true for the current transformational changes caused by the effects of the pandemic, military operations in Ukraine, demographic problems, rising inflation, intensification of European integration processes.

The results of the authors' research in the scientific monograph are devoted to solving problems of the impact of globalization challenges on the management of socio-economic transformations of business processes, the use of mechanisms for managing finances and investments of socio-economic systems, the introduction of tools to support entrepreneurship and sectors of the national economy, the developing of mechanisms for the development of economic entities in the context of the transformation of the international security system, the formation of effective mechanisms of public management and administration, introduction of information technologies and digitalization of business process management, modelling and forecasting of sustainable development of socio-economic systems.

The results of the research presented in the scientific monograph reflect the theoretical, methodological and practical aspects of

management socio-economic transformations of business processes through the formation of mechanisms the optimal use of resource potential, the introduction of innovations and digital technologies, the transformation of industrial policy and employment, the use of risk management systems, and models of economic security of economic entities.

In this scientific monograph, the authors highlight the main approaches to understanding industrial policy and point out the importance of the country's institutional design in ensuring the quality of industrial policy. The authors' proposals are based on the possibility of applying such a policy in Ukraine during the war and post-war recovery. The use of costing methods is important in the implementation of business processes; the authors conducted a study on the example of companies in the machine-building sector in the Slovak Republic and the Czech Republic. Based on the results obtained, the suitability of using different types of costing methods in the machine-building industry is assessed.

The use of marketing tools in the study of the macro- and micro-environment of international markets for economic entities is applied by the authors in the study of companies' entry into international markets. The analytical component of the research is to diagnose the market environment of South Korea as a promising business partner for the expansion of EU companies into its market. Another sector of the economy that received attention and proposals was the agricultural sector. The results of the author's research are combined to assess the sustainable medium- and long-term impact of the Common Agricultural Policy on the Romanian agricultural sector.

It is proved that the financial system is one of the factors of ensuring the economic security of the state. The author's research shows the dependence between the economic security of the state and its financial system, the need to use monetary policy and a flexible model of credit risk management. The importance of the sustainability of the country's banking system and maintaining their stable functioning during transformational changes was studied by the authors using methods of assessing the level of capitalization of banks. The authors analyses the impact of foreign capital on the capitalization of the banking sector. Based on the study of certain elements of the legal mechanism of tax control, the authors have

established that tax control is an effective mechanism of state management of budget revenues in the financial system of Ukraine in the context of modern challenges. The authors propose mechanisms for improving the procedure for conducting documentary audits by amending the Tax Code of Ukraine and local regulations of the State Tax Service of Ukraine with a view to regulating tax relations and ensuring equality of taxpayers and state authorities in the audit process in the current conditions of complex challenges for the Ukrainian economy and society.

The scientific monograph pays considerable attention to the approximation of labour legislation and the regulatory framework for the functioning of the employment sector in Ukraine with the EU *acquis communautaire*. The authors identify numerous problems with the dissemination of EU norms and practices in a number of sections of labour legislation, in particular, in the area of social protection of employees and self-employed persons at the individual and collective levels, policies and practices of health and safety of employees, their anti-discrimination and gender equality. The authors substantiate the problems of implementing employment policy at the regional and local levels, and propose measures to improve employment policy at the community level, taking into account the challenges of the war and the post-war period in Ukraine. Studies of demographic problems have shown that due to the rapid ageing of the population and the growing number of elderly people, the state should pay attention to the quality of life, health promotion and socialization of the elderly, so properly provided social services for the elderly will help to solve social problems, maintain social ties with society, ensure an adequate quality of life at the client's home and in the social service organization.

The authors substantiate the benefits of the EU Digital Single Market Strategy for business. It is concluded that the strengthening of integration processes in the digital economy, the gradual approximation of Ukraine's regulatory environment and digital infrastructure to the EU level will contribute to the growth of e-commerce and the overseas expansion of Ukrainian enterprises. Another aspect of the study looks at the application of artificial intelligence in supply chain management and highlights its impact on efficiency, cost reduction and overall productivity. The authors note

that there is a need for further research exploring the relationship between digitalization and logistics and supply chain competitiveness, given the theoretical importance of this link. The importance of using information technology in accounting is also reflected in the authors' research on the implementation of blockchain technology. The advantages of using blockchain technology as a priority direction for the development of the accounting system are determined.

The authors' research on the military actions in Ukraine, in particular, the issue of critical infrastructure security, is of particular relevance. The results show that the development of critical infrastructure facilities should be considered from the standpoint of ensuring the national security of the state and post-war economic reconstruction. It is advisable to pay attention to the development of a national security strategy for the development of critical infrastructure as a conceptual document. Other authors have studied the problems of international activities of domestic enterprises related to military actions in the country and globalization transformations. The results show that the current directions and measures at various levels are aimed at improving the situation in the field of export-import activities of enterprises, in particular, strengthening financial support, reforming the regulatory, tax system and customs legislation, strengthening infrastructure and information support, and intensifying efforts to involve all available working-age population in production activities.

In general, the authors of the scientific monograph are convinced that in terms of socio-economic transformations of business processes, ensuring the effective functioning and development of economic systems is achieved through the optimal use of the available resource potential, the use of state support instruments, the development and implementation of appropriate strategies for the modernization of fixed assets through the attraction of investors, the introduction of innovations and information technologies, and the implementation of effective employment and social security policies.

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