

**MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
V.N. KARAZIN KHARKIV NATIONAL UNIVERSITY**

Name of the faculty **EDUCATION AND RESEARCH INSTITUTE
"KARAZIN BANKING INSTITUTE"**

Name of the department **Management, Business and Professional
Communications**

Specialty: **073 Management**

Educational program: **Management of Organizations and Administration**

Group: **AM-25M (full-time mode of study)**

QUALIFYING MASTER'S THESIS

on the topic:

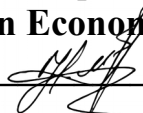
**MANAGEMENT OF THE INTRODUCTION OF
INNOVATIONS IN THE COMPANY'S ACTIVITIES**

student of higher education **Liu Jie**

The work is accepted for defence in the EC

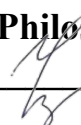
Head of Department

PhD in Economics, Associate Professor

 **Nadiia Morozova**

Scientific Adviser


PhD in Philosophy, Associate Professor

 **Anna Chkheailo**

Kharkiv 2024

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
V.N. KARAZIN KHARKIV NATIONAL UNIVERSITY

Faculty EDUCATION AND RESEARCH INSTITUTE
"KARAZIN BANKING INSTITUTE"
Department Management, Business and Professional
Communications
Level of higher education Master
Specialty 073 Management
Educational program Management of Organizations and Administration

APPROVED
Head of the Department
of Management, Business and Professional Communications
PhD in Economics, Associate Professor  Nadiia Morozova
(initials, last name)

25 September 2024

TASK
FOR A QUALIFYING MASTER'S THESIS
Liu Jie

1. Topic of work: "MANAGEMENT OF THE INTRODUCTION OF INNOVATIONS
IN THE COMPANY'S ACTIVITIES".

Scientific adviser Anna Chkheailo PhD in Philosophy, Associate Professor
(full name, academic degree, academic title)

Approved by order of the university dated September 17, 2024 № 4601-5/1025.

2. The deadline for student submission of work November 18, 2024.

3. List of topics to be developed:

- In Chapter 1: to clarify the economic essence, content and classification of innovations; to justify the peculiarities of management of innovative activities of banking institutions; to investigate regulatory and institutional support for the development of innovative activity in Ukraine.
- In Chapter 2: to research and systematize the main trends in the development of banking innovations in Ukraine; to state the technical and economic characteristics of JSC CB "PrivatBank"; to analyze the innovative activity of JSC CB "PrivatBank".
- In Chapter 3: to study the experience of clusters as a tool for activating innovative activities of enterprises; to conduct a benchmarking analysis of innovation clusters; to

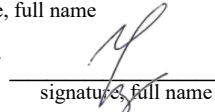
justify the concept of Islamic banking as an innovative direction of development of the modern banking sphere in Ukraine.

4. Plan of qualifying master's thesis

No	Names of work sections
1	THEORETICAL AND METHODOLOGICAL PRINCIPLES OF MANAGEMENT OF THE INNOVATIVE ACTIVITIES OF THE ORGANIZATION
2	TRENDS IN THE DEVELOPMENT OF INNOVATIVE ACTIVITIES OF UKRAINIAN ENTERPRISES
3	PRIORITY DIRECTIONS OF THE DEVELOPMENT OF INNOVATIVE ACTIVITIES OF ENTERPRISES

5. Date of issue of the task September 25, 2024.

Student Liu Jie Liu Jie
signature, full name

Scientific Adviser  Anna Chkheailo
signature, full name

ABSTRACT

The qualifying master's thesis contains 93 pages, 25 figures, 21 tables, and a list of 64 references.

The object of research is the innovative activity of organizations.

The subject of research includes the theoretical and applied aspects of managing the innovative activities of enterprises in modern conditions.

The purpose of the master's thesis is to provide scientific substantiation of theoretical and methodological approaches to managing the innovative activities of organizations and to develop practical recommendations for stimulating the innovative potential of enterprises.

Tasks of a qualifying master's thesis include:

- to clarify the economic essence, content, and classification of innovations;
- to justify the specific characteristics of managing the innovative activities of banking institutions;
- to investigate the regulatory and institutional framework supporting the development of innovative activity in Ukraine;
- to research and systematize the main trends in the development of banking innovations in Ukraine;
- to provide the technical and economic characteristics of JSC CB "PrivatBank";
- to analyze the innovative activities of JSC CB "PrivatBank";
- to study the experience of clusters as a tool for stimulating innovative activities in enterprises;
- to conduct a benchmarking analysis of innovation clusters;
- to substantiate the concept of Islamic banking as an innovative direction for developing the modern banking sector in Ukraine.

The results obtained are of practical significance, as the main conclusions and provisions of the study are presented in the form of actionable recommendations aimed at intensifying the development of innovative activities in enterprises. These

recommendations are intended to contribute to the recovery and growth of Ukraine's economy.

This study underscores the critical role of innovation in driving economic recovery and competitiveness in Ukraine. By addressing both theoretical and practical aspects, it offers a comprehensive roadmap for enterprises to enhance their innovative potential and adapt to modern challenges.

Year of completion of the qualifying master's thesis: 2024.

Year of defense of the qualifying master's thesis: 2024.

CONTENT

INTRODUCTION.....	7
CHAPTER 1. THEORETICAL AND METHODOLOGICAL PRINCIPLES OF MANAGEMENT OF THE INNOVATIVE ACTIVITIES OF THE ORGANIZATION..	10
1.1. Economic essence, content and classification of innovations.....	10
1.2. Peculiarities of management of innovative activities of banking institutions.....	16
1.3. Regulatory, legal and institutional support for the development of innovative activity in Ukraine.....	26
CHAPTER 2. TRENDS IN THE DEVELOPMENT OF INNOVATIVE ACTIVITIES OF UKRAINIAN ENTERPRISES.....	37
2.1. Modern realities of innovative activity in Ukraine.....	37
2.2. Technical and economic characteristics of JSC CB "PrivatBank".....	51
2.3. Analysis of innovative activity of JSC CB "PrivatBank".....	58
CHAPTER 3. PRIORITY DIRECTIONS OF THE DEVELOPMENT OF INNOVATIVE ACTIVITIES OF ENTERPRISES.....	65
3.1. Clusters as a tool for activating innovative activities of enterprises.....	65
3.2. Benchmarking analysis of clusters: foreign experience.....	68
3.3. The concept of Islamic banking as an innovative direction of development of the modern banking sphere in Ukraine....	73
CONCLUSIONS	83
REFERENCES.....	87

INTRODUCTION

In the modern conditions of a full-scale war initiated by Russia against Ukraine, not only the issue of survival, but also the future recovery, which involves the formation and development of a strategic vision of organizations, becomes relevant. In this context, innovation acts as a key factor in the development of the country's economy and its subsequent recovery after the war.

Today, businesses are faced with the demands of being competitive and profitable, meeting the expectations of top managers and investors, and at the same time adapting to constant economic, technological, ecological and socio-political changes. Innovations become the basis of entrepreneurship, and their effective management is an important component of future success.

Also, in the conditions of growing competition and rapid changes in the financial sector, the emergence of innovations in the banking sector becomes critically important for ensuring its success and competitiveness. Banks implement advanced technologies and develop new products and services to improve efficiency and quality of customer service.

The purpose of the qualifying master's work is to scientifically substantiate theoretical and methodical approaches to the management of innovative activities of the organization, as well as to develop practical recommendations for stimulating the innovative potential of enterprises.

Achieving the set goal requires solving the following tasks:

- clarify the economic essence, content and classification of innovations;
- justify the peculiarities of management of innovative activities of banking institutions;
- to investigate regulatory and institutional support for the development of innovative activity in Ukraine;
- to research and systematize the main trends in the development of banking innovations in Ukraine;
- to state the technical and economic characteristics of JSC CB "PrivatBank";

- to analyze the innovative activity of JSC CB "PrivatBank";
- to study the experience of clusters as a tool for activating innovative activities of enterprises;
- conduct a benchmarking analysis of innovation clusters;
- to justify the concept of Islamic banking as an innovative direction of development of the modern banking sphere in Ukraine.

The object of research is innovative activity of organizations.

The subject of the research is theoretical and applied aspects of management of innovative activities of enterprises in modern conditions.

Various general scientific and special methods of cognition were used to achieve the goals and solve research tasks. In particular, a systematic approach and content analysis of literary sources were used to develop the theoretical and conceptual foundations of innovative activity; methods of comparison, index, rating, and economic-statistical analysis were used to study the trends of innovative processes in Ukraine; strategic analysis was used to study the external environment and determine the factors that promote or inhibit the innovative activity of enterprises. Tabular and graphical methods were used to systematize and visualize the obtained results.

The research is based on various sources of information, such as the current legislation of Ukraine, scientific publications of domestic and foreign researchers, monographs, conference materials, as well as financial reports of JSC CB "PrivatBank" and official web resources on the Internet.

A wide range of issues related to the management of innovative activities of enterprises was considered in the works of various authors, among whom we can single out Andrusiv S. V., Belyanska Yu. V., Horyashchenko Yu. G., Denysenko M. P., Ilyashenko S. M., Zelinska G. O., Kopytko M. I., Kirichenka O. A., Kozmenka S. M., Krasnokutska N. V., Levytskyi V. I., Lapinsky S. S., Mazura I. M., Maslaka O. I., Mishchenko V. I., Primostku L. O., Radinsky S. S., Silkinu Yu. O., Khristenko O. V., Chikova I. I., Shushkova Yu. V., Stundera I. M., Shaposhnikova K. S.

Even in the presence of a large number of publications on the topic, in the scientific space there are no comprehensive studies on the management of innovative

activities of enterprises, in particular banking institutions, and the solution of a number of problems related to the justification and effective implementation of innovative activity strategies banks

The practical value of the obtained results lies in the specification of the main conclusions and recommendations regarding the development of innovative activities of enterprises, which will contribute to the recovery of the economy of Ukraine.

The qualifying master's thesis consists of an introduction, three chapters, conclusions, and a list of used sources.

Key words: innovations, innovative strategies, management of innovative activities of the enterprise, bank, life cycle of innovation, competitiveness, cluster, Islamic financial instruments.

CHAPTER 1

THEORETICAL AND METHODOLOGICAL PRINCIPLES OF MANAGEMENT OF THE INNOVATIVE ACTIVITIES OF THE ORGANIZATION

1.1. Economic essence, content and classification of innovations

In modern society, the importance of the country's economic progress is determined mainly not by natural resources and production potential, but by the level of innovative activity of companies. The importance of innovation is obvious both for the country's economy as a whole and for individual business entities, as it helps to increase their competitiveness.

Innovation is a key factor in successful entrepreneurship, and managing it effectively is considered an important aspect of ensuring any company's future prosperity.

The issue of innovation attracts the attention of many researchers, scientists and practitioners. Thus, today there is a wide range of various interpretations of the concept of "innovation" (Table 1.1).

Table 1.1

Approaches to the interpretation of the concept of "innovation" [1, 2, 3, 4]

Author	The essence of the concept of "innovation"
Law of Ukraine "On Innovative Activity"	newly created (applied) and (or) improved competitive technologies, products or services, as well as organizational and technical solutions of a production, administrative, commercial or other nature, which significantly improve the structure and quality of production and (or) the social sphere
Ilyashenko, S. Prokopenko O.	the final result of the creation and use of innovations embodied in the form of improved or new goods (products or services), their production technologies, management methods at all stages of production and sale of goods, which contribute to the development and increase of the efficiency of the functioning of enterprises

Continuation of the table. 1.1

Pavlenko I. I	the result of the creative process in the form of created (or introduced) new consumer values"
Fedorenko V.G	it is a process aimed at the creation, production, development and qualitative improvement of new types of products, technologies, and organizational forms
Santo B.	this is a socio-technical-economic process that, through the practical use of ideas and inventions, leads to the creation of products and technologies that are better in terms of their qualities and gives profit
Drucker P.	a special tool of entrepreneurs, a means by which they use change as a chance to implement a new type of business or service
Schumpeter Y. I.	- these are changes in technology and management, new combinations of equipment and technology; - innovation is defined as a certain new combination of the use of available resources, which gives a different quality of means of production, arises under the influence of cyclical processes of economic development, as a result of the introduction of new better products, more economical methods of production
Datsiy O.I.	carrying out changes in technique, technology, organization, ecology, economy, as well as in the social sphere with the aim of obtaining an economic effect based on the satisfaction of certain social needs
Bazhal Yu.	a change in production technology, which has historical significance and is a leap from an old production function to a new one
Zaltman H., Duncan R., Holberg J.	any idea, process, or tangible product that is considered novel in terms of components that play a significant role in the system in which the innovation is implemented
Prokopenko O. V., School V.Yu.	innovation is an evolutionary development that encompasses a number of historical forms: idea – novelty – innovation – innovation – innovation – traditional product.

Therefore, based on the analysis of scientific sources, the main approaches to defining the concept of "innovation" can be distinguished: 1) innovation as a new technology, product or service; 2) innovation as a result or achievement; 3) innovation as an idea; 4) innovation as a process; 5) innovation as an element of development (change). These approaches reflect the main aspects of interpreting the essence of innovation (Fig. 1.1).

According to the first approach, innovation is considered as the introduction of something new in the form of a technology, product or service. This approach is most appropriate for normative sources.

Thus, innovation is manifested in the improvement of goods, services, improving the efficiency of products, processes, technologies or business models aimed at meeting the needs of the market and citizenship.

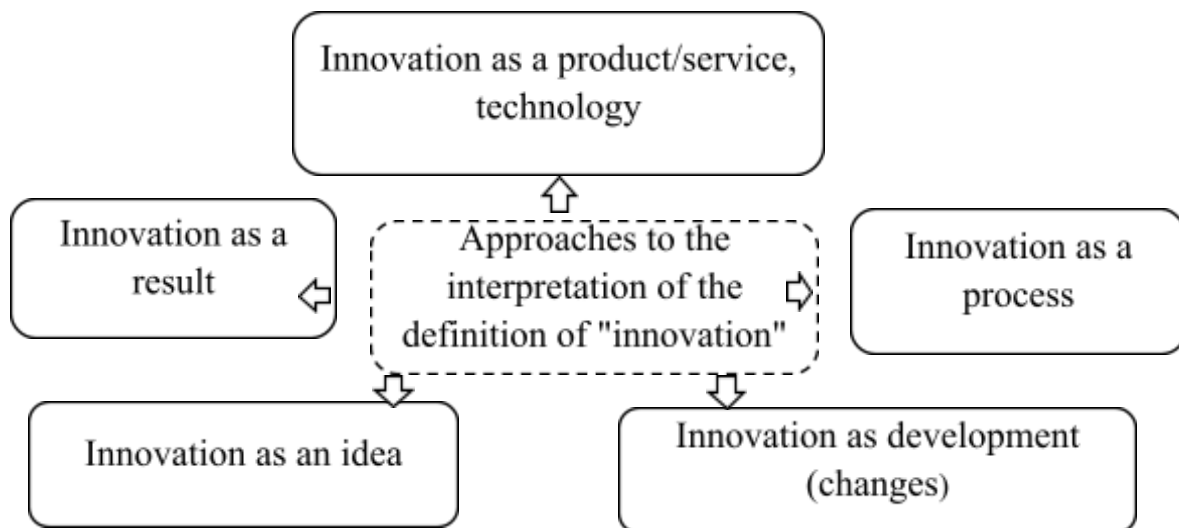


Fig. 1.1. Approaches to the interpretation of the essence of the concept of "innovation".

In our opinion, the approach of O. Prokopenko is interesting, and School V. to understanding the essence of innovations through their life cycle. According to this approach, innovation is considered as an evolutionary process that includes successive phases: from an idea to an innovation and transformation into a traditional product (Fig. 1.2).

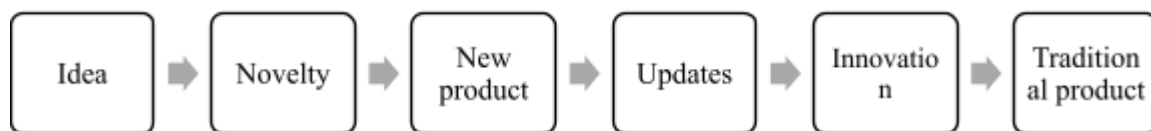


Fig. 1.2. The relationship between the concepts of "idea", "novelty", "new product", "updates", "innovation", "traditional product" [4].

So, creativity can be manifested in any original ideas, innovations or new products that become the basis for creating innovations.

Next, we will consider the concepts of "innovation", "innovation" and "innovation" taking into account the concept of the life cycle of innovations, which will help to distinguish these terms and clarify their relationship (Fig. 1.3) [5].

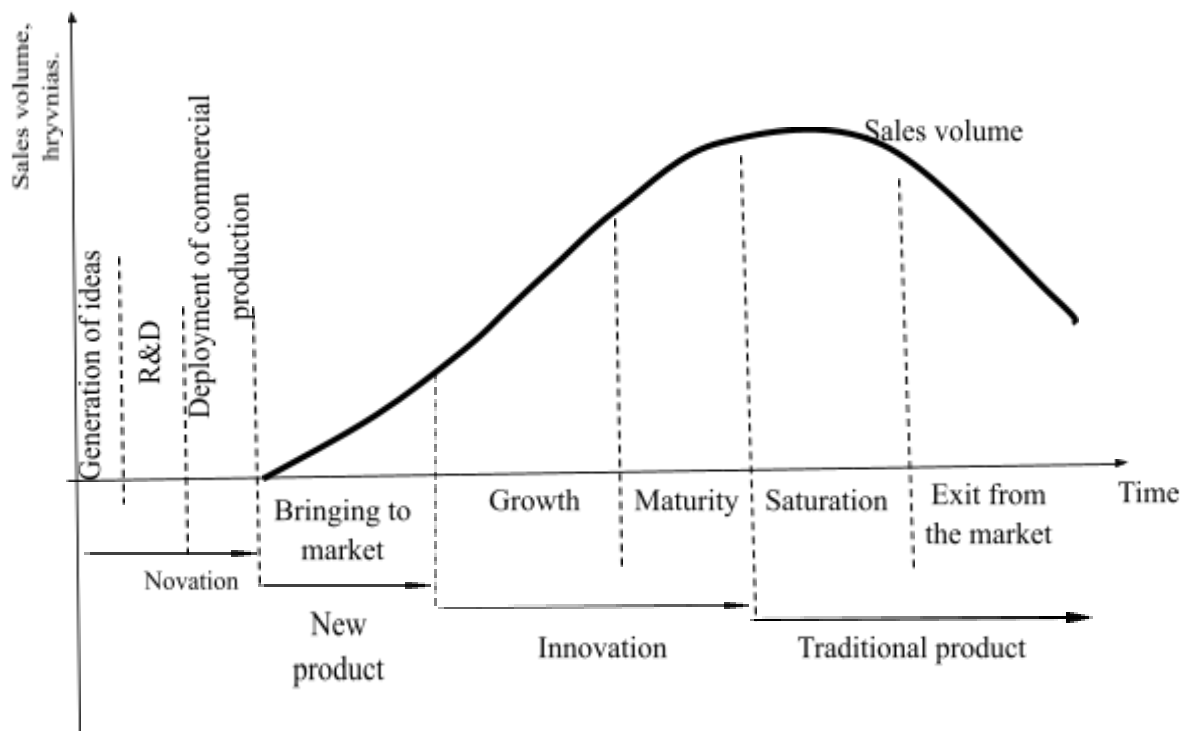


Fig. 1.3. Innovation life cycle concept.

So, innovation is the result of fundamental or applied research, experimental work or development in any field of activity aimed at increasing efficiency (such as a discovery, invention, patent, documentation for a new or improved product, technology, know-how). Innovation is the introduction of innovation into the economic production cycle, when an invention or idea acquires economic value. Innovation is the final result of innovation implementation, which is expressed in the form of a new or improved product or technological process, which is used in practice.

Innovation includes not only unique inventions, but also creative use of ideas, which can sometimes determine the direction of development of the entire line of products, service concepts, processes and technologies.

Two key aspects of innovation must also be understood: the level of novelty (ie, whether the innovation represents something new for a particular enterprise, market or world) and the type of innovation (classification according to various criteria).

In table 1.2. systematized the typology of innovations according to classification features [2, 5-8].

Table 1.2

Generalized classification of innovations according to the most common features

Classification features	Types of innovation	Author
by covering the main areas of activity	production-technological, organizational-management, social-political, financial-economic	V.I. Zakharchenko, S.V. Filippova, O.V. Balakhonov
by types of work	scientific, technical (design, technological), research and experimental, production	
on the basis of content or internal structure	technical, economic, production, organizational, management	S.D. Ilyenkova, L.M. Gohberg, S.Yu. Yagudin
by location at the enterprise	at the entrance of the enterprise, at the exit of the enterprise, system structure of the enterprise	
according to the degree of novelty	radical, revolutionary and step-by-step	S.A. Davymuka, L.I. Fedulova, N.M. Friend
by field of manifestation (technological parameters)	product, assortment-product, process, organizational-management, marketing, innovations-markets, social	
by force of influence	dotted, systemic	
by the nature of the manifestation of the effect for the enterprise	anticipatory timely, late;	
by implementation priority	innovation leaders, innovation-followers	
on the scale of possible distribution	transcontinental, transnational, sectoral, corporate, firm	I.A. Pavlenko

The end of the table. 1.2

by type	product, technological, raw material, organizational, sales and infrastructure	Yu.Bazhana
according to the innovative function	basic, improving and pseudo innovations	
according to the novelty of the place of implementation	new industry (new production), existing industry (existing production)	
by type of innovation	material and technical, social, economic, organizational and managerial, legal and pedagogical	A.I. Prigozhin
by innovative potential	radical, combined and modified	
according to the features of the innovation process	intra-organizational and inter-organizational	
According to the implementation mechanism	single, diffuse, completed and incomplete, successful and unsuccessful;	
By efficiency	focused on increasing the efficiency of production or management of the business entity, on improving working conditions	
By succession	those that replace, cancel, return, open, retro-introduction	

Therefore, the variety of approaches to defining the essence of innovation can be systematized as follows: innovation as a new technology, product or service; innovation as a result or achievement; innovation as an idea; innovation as a process; innovation as an element of development (change). The classification of innovations is of great importance for the effective management of innovative activities of the organization. This allows you to choose appropriate management methods according to the type of introduced innovations, assess the risks associated with them, and make informed economic decisions about investing in innovative activities.

1.2. Peculiarities of management of innovative activities of banking institutions

Innovative activity, which has become a necessary component of the company's economic activity, is currently considered one of the main factors determining its competitiveness. This activity is aimed at updating and improving organizational and economic relations of organizations.

Before investigating the peculiarities of management of innovative activity of banks, it is important to reveal the essence of the term "innovative activity".

Let's consider the theoretical approaches of scientists and the legislative framework regarding the essence of the concept of "innovative activity" (Table 1.3).

Table 1.3

Basic approaches to the essence of the concept of "innovative activity"

Author [source]	Definition of "innovative activity"
Law of Ukraine "On Innovative Activity" Art. 1, [1]	activity aimed at the use and commercialization of the results of scientific research and development and leads to the release of new competitive goods and services to the market
Law of Ukraine "On Investment Activity" Art. 3, [9]	a set of measures aimed at the creation, implementation, dissemination and implementation of innovations in accordance with the Law of Ukraine "On Innovative Activity" for the purpose of obtaining a commercial and/or social effect, which are carried out through the implementation of investments invested in objects of innovative activity
Economic Code of Ukraine Article 325, [10]	the activity of participants in economic relations, which is carried out on the basis of the implementation of investments for the purpose of implementing long-term scientific and technical programs with long periods of payback of costs and the introduction of new scientific and technical achievements in production and other spheres of social life.
Voitov I. V. [11]	activities aimed at the creation and practical implementation of new or improved types of products, technologies, services or organizational solutions in the spheres of administration, production, commerce or other spheres, resulting in economic, social, environmental or other types of benefit

The end of the table. 1.3.

Mayorova T. V [11]	the activity is aimed at the use and commercialization of relevant scientific research and development, which leads to the release of new competitive goods and services on the market
Skrypko T. O. [11]	a process that aims to transform the results of completed scientific research and development, or other scientific and technical achievements, into new or improved products that are released to the market, or into new or improved technological processes that are used in practical activities
A. Ya. Kuznetsova, N.Ya. Zinko and O.O. Drugov [12]	activities to ensure the implementation of the entire innovation process
S.M. Ilyashenko and others.[13]	the process of creation, implementation and dissemination of innovation

So, after considering different points of view, in our opinion, innovative activity represents a variety of scientific, technological, organizational, financial and commercial steps aimed at the implementation of innovative solutions. Innovative activity includes an innovative process that covers a sequence of stages, starting from the formation of an idea and ending with its concrete implementation, taking into account fundamental and applied research, development and design, development, commercial production, marketing and sales.

The stages of innovative activity are presented in fig. 1.4 [14].

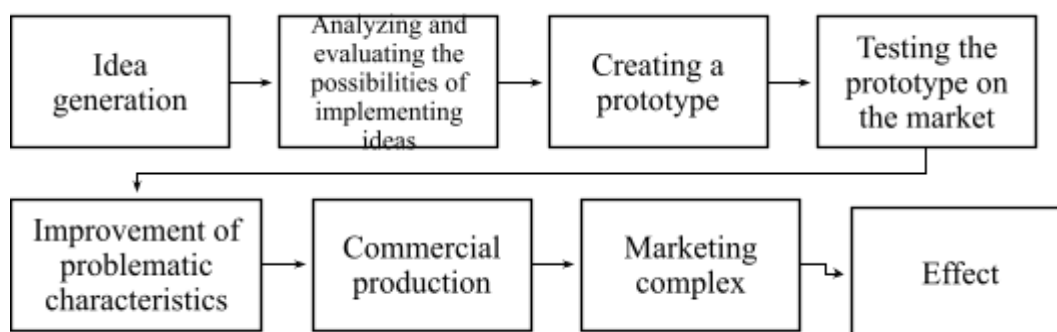


Fig. 1.4. Stages innovative activity.

When developing ideas, it is important to consider that new concepts must be in line with the goals and schedule of the enterprise, and their impact on all aspects of the business must be considered in advance.

At the stage of checking the possibilities of implementing the innovation, preparatory changes are made in the organizational structure, personnel policy and other aspects. Analysis of the possibilities of implementing ideas assumes the availability of the necessary resources in the enterprise, namely: material, financial, personnel, etc.

After identifying the possibilities of implementing ideas, we proceed to the creation of a prototype (test sample). When creating a prototype, you need to optimize costs to achieve maximum profit (effect).

When testing a prototype in the market, it is important to identify advantages and disadvantages for further product improvement.

After the successful completion of the previous stages, we move on to production, where special attention is paid to innovation quality control. The key role at this stage is played by the personnel of the innovation department, the quality department, the chief technologist and the technical control, each of whom influences the innovation management through their responsibilities.

During the introduction of innovative products, the staff of the marketing department must choose the appropriate marketing strategy and tools for its implementation (sales concept, promotion) for the innovative product.

If all the previous stages were carried out in accordance with the established rules, the final result of the innovative activity of the enterprise will be the achievement of the set goal, such as making a profit, increasing the market share and forming an attractive image.

It is important to note that when carrying out innovative activity, it is influenced by a wide range of various factors that can contribute to or hinder its development (Table 1.4).

Various factors affect the innovative activity of the enterprise, divided into internal and external, which have their differences in each branch of the economy.

Table 1.4

Factors affecting innovative activity

Factors inhibiting innovative activity	Factors that contribute to innovative activity
Technical and economic	
Lack of funding, economic problems in providing a material, technical and scientific base, great economic risk, low demand for products, outdated technologies and equipment, limited scientific and technical potential of the government and regions.	Availability of sufficient scientific potential, technical infrastructure, financial resources, promotion of competition and reduction of the life cycle of science-oriented products, state support for innovative activities.
Organizational and managerial	
Traditional organizational structures, excessive centralization, lack of innovation strategy, lack of managers' interest in innovations, closedness of plants, focus on stable markets, insufficient level of international scientific and technical cooperation.	Flexibility of organizational structures, management according to democratic principles, formation of creative teams, decentralization, professional marketing, international scientific and technical cooperation, development of innovative infrastructure.
Legal	
Deficiencies in the legislative framework regarding innovative activity and intellectual property protection.	Legal initiatives (special benefits, legislation) aimed at stimulating innovative activity.
Information and communication	
Insufficient information and data exchange on innovation, limited interaction between industries and insufficient protection of ownership of information resources.	Quick access to information, smart selection of information channels, obtaining licenses and patents, constant updating of information resources and expansion of data flows.
Social and psychological	
Resistance to changes, reformatting of stereotypes, fear of uncertainty, lack of motivation and favorable conditions for creative work, outflow of scientific personnel.	Readiness for changes and innovations, attractive remuneration, opportunity for personal development, favorable psychological environment in the team, creation of conditions for creative work.

The management of innovation activities in the banking sector, taking into account the specifics of their activity, differs from the management of innovations in other organizations, namely:

- banks are affected by the system of regulation and supervision, which can be an obstacle to the implementation of innovations;
- many innovations in the banking industry are the result of borrowing solutions from other industries or in response to changes in customer requests;
- the main tool of intellectual property protection for innovative objects in the bank is the use of know-how and copyright, not patent protection;

- innovations in the banking industry are based on applied rather than fundamental scientific research, which sharply reduces the level of costs for innovative activities of banks [15].

The main difference of banking innovations is their need to be directed both at the internal environment of the bank itself and at its customers and partners. Innovations should simplify the work of bank employees and improve the quality of customer service. In the context of growing competition in the market of banking services, banking innovations are mainly aimed at attracting new customers and preserving the existing customer base, as well as at the development and improvement of technologies that allow providing a diverse range of services to customers.

Therefore, after analyzing the approaches of scientists regarding the essence of banking innovations [16-21], it is possible to generalize that banking innovation is the result of the bank's activity aimed at creating new products (technologies) and implementing innovative methods of managing a banking institution in order to gain profit and obtain competitive advantages.

We support the view of Silkina Yu.O. and I.M. Mazur [18] according to which banking innovation covers innovative approaches in all areas of banking activity, leading to positive economic, social and strategic results.

Banks strive to introduce innovative products and services to increase their competitiveness. The systematization of banking innovations according to classification features is very important for the strategic management of innovative activities of the bank (Fig. 1.5) [21-23].

One of the key and frequently used criteria for the classification of innovations in the banking sector is the typology of innovations by subject and scope: product; financial; procedural; marketing; organizational

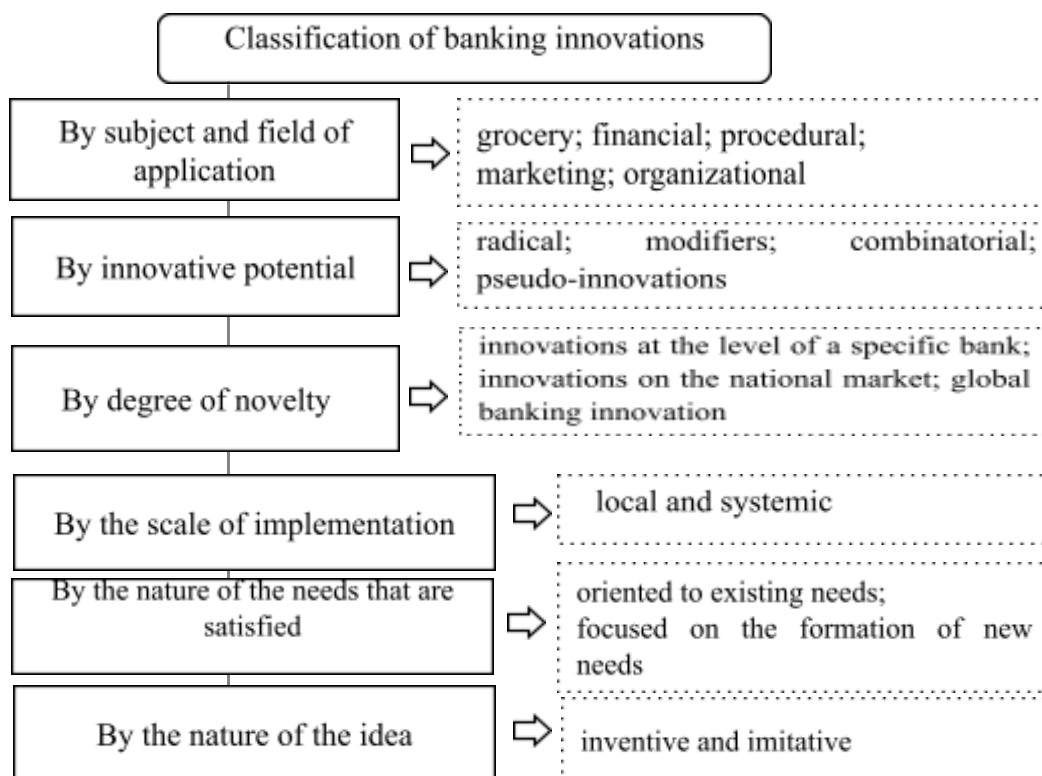


Fig. 1.5. Generalized classification of banking innovations.

Most innovation in the banking sector is aimed at developing new products, as agility and variety of offerings directly affect a bank's success in the market.

Process innovation, which includes technological changes in the methods of providing banking services and the improvement of banking technology, is now becoming extremely important for banks and their customers in the conditions of remote work and war. They cover not only technical or technological improvements, the introduction of new goods and services, new financial instruments, but also new business models and methods. They are distinguished by a higher level of manufacturability and higher consumer characteristics compared to previous products.

Gone are the days when customers had to wait in lines to access their accounts or have questions answered, as innovative financial technologies have dramatically changed the situation for the better, offering mobility as the primary way customers interact with banks.

Modern banking innovations reflect global trends, including the synthesis of the latest technologies with traditional ones, automation of processes, implementation of

virtual solutions and structural changes in the institutional environment. Types of modern banking innovations are presented in fig. 1.6 [20, 24].

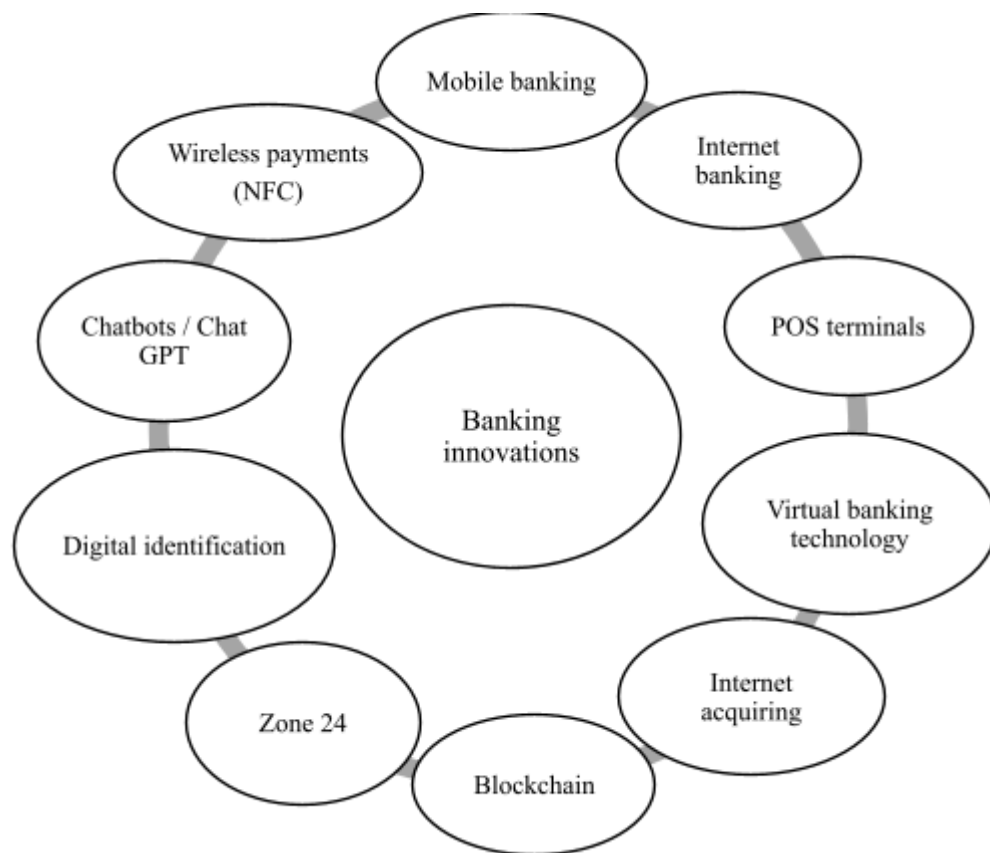


Fig. 1.6. Types of modern banking innovations.

Therefore, in the light of fierce competition and rapid technological development, banks are increasingly using artificial intelligence tools to implement innovative technologies. This leads to lower costs and improved quality of services. Innovations become a key element of the growth strategy and long-term success of banking institutions, contribute to the development of the entire industry and increase the competitiveness of banks.

Another key characteristic of the classification of banking innovations is their level of radicality, or internal innovation potential. Innovation can be radical, introducing changes in products, technology, and management, or grassroots, involving fundamental technological shifts and scientific discoveries. However, radical innovations by banks may require significant investment and be long-term in

development, and their implementation is the most risky. However, they have the greatest value, as they can provide advantages over competitors and significantly strengthen the bank's market position. In the future, they become the source of all further improvements, adaptations to customer needs and other modernizations.

Modifying innovations are aimed at improving the characteristics of radical innovations without changing their basic principles. From the point of view of management of innovative activities, it is important to note that the planning and implementation of modifying innovations is a significantly simplified process that should be systematized in the bank.

The systematization of innovations according to the nature of needs is key to the strategic management of banking innovation activities, as it determines the directions of development and the conditions for the success of the implementation of innovative strategies in the banking sector.

Financial needs that are not yet satisfied can be identified through the bank's marketing research or as a result of customer appeals to the banking institution. This can lead to the development of new products and service technologies. Thus, new forms of lending were introduced, such as overdraft, microcredit for small and medium-sized businesses, as well as consumer and mortgage lending. The implementation of innovations aimed at creating new needs requires a great creative and innovative potential from the bank, as well as significant financial resources. These innovations carry significant risks in case of incorrect strategic choices.

Another important criterion for the classification of banking innovations is the nature of the idea. Inventive innovations are based on a new, revolutionary idea that changes the perception of ways of satisfying needs. Imitative innovation uses already existing ideas to solve new problems and create value.

The main goal of managing the innovative activity of the enterprise is the implementation of measures and processes aimed at the development and implementation of new or improved products. The model of the bank's innovation activity management process is shown in Fig. 1.7.

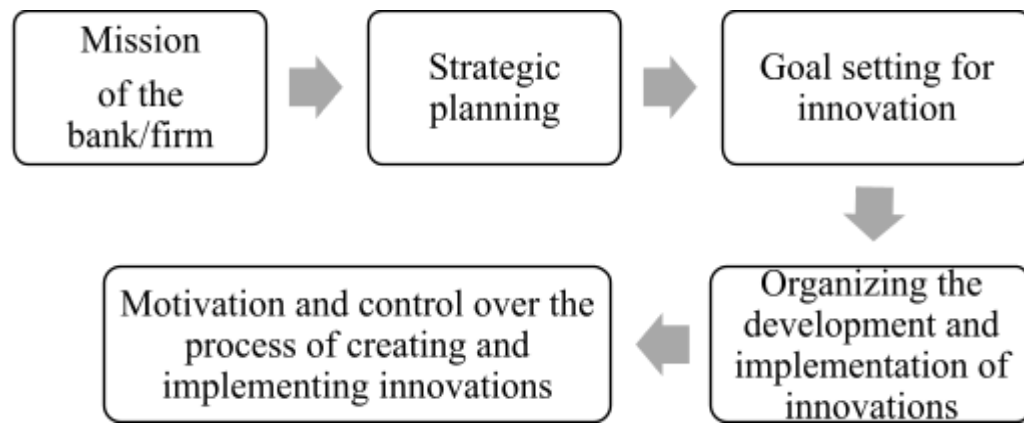


Fig. 1.7. Model of the bank's innovation activity management process

The long-term perspective of its development depends on the company's mission (reasoned strategic vision).

The stage of strategic planning in the management of innovative activities consists in developing the company's development strategy, in particular, determining the ways of innovative growth and approaches to the introduction of innovations. At this stage, they conduct an analysis of the market, competitors, internal resources and the company's potential for innovation, as well as formulate strategic goals and objectives. The result of strategic planning is the determination of areas of innovative activity, the selection of priority projects and the development of an action plan for their implementation.

At the innovation goal-setting stage, specific goals are determined that the bank or company wants to achieve through innovative activities. This includes the definition of strategic directions of development, identification of priority areas for innovation, as well as specification of the expected results of the introduction of innovations. At this stage, criteria for evaluating the effectiveness of innovative projects are also formed, requirements for their implementation are established, and the resources necessary to achieve the goals are determined. Goal setting is a key stage of innovation management, as correctly formulated goals determine the company's strategic course and direct its efforts to achieve success in the innovation field.

At the stage of organizing the development and implementation of innovations, the specification of strategic decisions and their transformation into concrete projects

takes place. This includes creating a team that will be responsible for the development and implementation of innovations, determining the resources needed to implement projects, assigning tasks and determining deadlines. In addition, at this stage, issues related to the technical aspects of development and implementation are resolved, a project control system is established, and the necessary communications are carried out with all interested parties. Effective organization of this stage allows to ensure high-quality and timely implementation of innovative solutions.

At the stage of motivation and control over the process of creation and implementation of innovations, personnel are stimulated and control over the performance of tasks related to innovation activities is carried out. This stage includes the development of a motivation system that encourages employees to actively participate in the innovation process, for example, with the help of rewards and incentives. Also at this stage, control over the implementation of plans and determination of the results of innovative projects is carried out. Monitoring and analysis of results allow timely detection of problems and correction of the development strategy, which ensures effective management of the process of creation and implementation of innovations.

Management of innovative activities is inextricably linked with the adoption and implementation of strategic decisions. This process in enterprises is carried out with the help of key tools such as innovation marketing, benchmarking and innovation engineering.

For successful management of innovative activities of enterprises, it is important to use innovation marketing, which provides a reliable source of information. This process includes production planning based on market research, pricing and product promotion. Marketing of innovations contributes to the effective implementation of innovations, their systematic management and adaptation to market conditions.

Benchmarking, as a component of innovation marketing, plays an important role in the innovation activity management system. It consists in studying the activities of competitors in order to use their positive experience in their own processes. The

effectiveness of benchmarking depends on the organization of the system for collecting information from various sources.

The next tool is innovation engineering. This is a complex system of works and services aimed at the creation, implementation, promotion and improvement of an innovative project. As part of innovation engineering, the following tasks are performed: market analysis and selection of a promising segment for innovations; technical and economic justification of the innovative project; development of recommendations for the creation of a new product or technological operation; determination of the amount of necessary resource expenditure and project implementation terms; design of the project in documentary form; consultation of employees regarding the implementation of this project.

Thus, banking innovation is crucial for the further development of this industry. The implementation of innovative solutions becomes an indispensable condition for ensuring the stability and leadership of banks in the financial sector. It is important for the bank to take into account the possible negative impact of external factors, such as market competition and changes in regulation, on the level of innovative security. It is also important to take into account internal factors, such as personnel qualifications, insufficient financial capabilities, and the effectiveness of risk management systems, which affect the stability and success of the bank's innovative projects.

1.3. Regulatory, legal and institutional support for the development of innovative activity in Ukraine

Innovations reflect deep changes taking place in the economic and social development of the country and penetrate into all spheres of life. Therefore, the research of legal aspects of innovations remains relevant.

Thus, according to the Economic Code of Ukraine, state regulation of innovations is carried out through:

recognition of innovative activity as an important component of investment and structural-industry policy;

implementation of various programs and projects aimed at innovation;

creation of economic, legal and organizational conditions to ensure state regulation of innovations;

development and support of infrastructure for innovative activity [10].

Table 1.5 systematizes regulatory and institutional support for the development of innovative activity in Ukraine [25, 26].

In accordance with the Law of Ukraine "On Priority Areas of Innovative Activity in Ukraine", strategic priority areas of innovative activity include [27]:

Table 1.5

Regulatory, legal and institutional support for the development of innovative activity in Ukraine.

Regulatory and legal support in the field of innovative activity	Institutions that provide support for innovative activities
Law of Ukraine "On Innovative Activity"	<i>Innovation Development Fund</i> is a national fund created at the initiative of the Government of Ukraine (Cabinet) to support and develop technological startups at an early stage of their development in Ukraine. The main goal of the fund is to promote their growth and increase their competitiveness on the international market
Law of Ukraine "On Priority Areas of Innovative Activity in Ukraine"	
The Law of Ukraine "On the Special Regime of Innovative Activities of Technological Parks"	
Law of Ukraine "On scientific and scientific and technical activity"	
Law of Ukraine "On Investment Activity"	<i>State Innovative Financial and Credit Institution (SIFCU)</i> - the institution was created to provide financial support to innovative activities of enterprises of various forms of ownership, as well as to attract both internal and external investments for the development of the real sector of the economy. Its purpose is to increase the export potential of domestic products, to protect and support domestic manufacturers
Law of Ukraine "On State Regulation of Activities in the Field of Technology Transfer"	
Law of Ukraine "On Electronic Commerce"	
The Law of Ukraine "On Development and State Support of Small and Medium Enterprises in Ukraine"	
The Law of Ukraine "On the Yavoriv Special Economic Zone"	

Law of Ukraine "On stimulating the development of the digital economy in Ukraine"	<i>National Research Fund of Ukraine</i> (NFSU) - the foundation provides grant support for fundamental and applied scientific research in various fields of science
Law of Ukraine "On the Ratification of the Agreement between Ukraine, on the one hand, and the European Union and the European Atomic Energy Community, on the other hand, on the participation of Ukraine in the Horizon Europe Research and Innovation Framework Program"	<i>Technology and Innovation Support Centers (TISCs)</i> - a project of the World Intellectual Property Organization, which has been operating in Ukraine since 2018 under an agreement between the Ministry of Economic Development and Trade of Ukraine and the World Intellectual Property Organization (WIPO). border, as well as raising awareness of the acquisition, use and protection of intellectual property among representatives of small and medium-sized businesses, startups, inventors and creative industries

- actualization of technologies in the spheres of national security and defense;
- introduction of new technologies for energy transportation, use of energy-efficient and resource-saving technologies, as well as development of alternative energy sources;
- the use of the latest technologies in the high-tech development of the transport system, the rocket and space industry, aviation and shipbuilding, as well as in the fields of armaments and military equipment;
- introduction of the latest technologies in the production, processing and joining of materials, creation of the industry of nanomaterials and nanotechnologies;
- technological renewal and development of the agro-industrial complex;
- application of the latest technologies and equipment to improve medical care, treatment and pharmaceuticals;
- the use of technologies to increase the ecological purity of production and environmental protection;
- development of modern information, communication technologies and robotics.

To implement medium-term priorities, the government takes the following measures: development of innovation infrastructure, such as innovation centers, technology parks, science parks, technopolises, incubators for innovative businesses, technology transfer centers, innovation clusters and venture funds; priority consideration of applications for inventions corresponding to medium-term priorities at the national level; direct budget financing and co-financing; reimbursement of interest on loans granted to business entities in banks; partial compensation of production costs; providing credits from the state budget, credits (loans) and grants from international financial organizations, attracted by the state or under state guarantees; subventions from the state budget to local budgets; tax, customs and currency preferences.

In addition, there are various strategies for innovative development in Ukraine, which cover all levels of management, namely:

1) The National Economic Strategy 2030 defines Ukraine as a country that has a strategic goal of becoming the most attractive for innovation, investment and entrepreneurial activity [28].

2) Strategy of the National Institute of Strategic Studies: "Ukraine - 2030. Strategy for changing the future" [29];

3) Priorities of the development of national entrepreneurship in the conditions of digital transformations [30];

4) Sustainable development goals of Ukraine until 2030. [31];

5) Strategy for the development of the sphere of innovative activity for the period until 2030 [32];

6) Strategy for the development of the defense-industrial complex of Ukraine [33];

7) Strategy for the development of the financial sector of Ukraine [34];

8) Strategy for the development of exports of agricultural products, food and processing industry of Ukraine for the period until 2026 [35];

9) Strategy for the development of industrial parks for 2023-2030 [36];

In July 2022 the draft Plan for the Recovery of Ukraine from the National Council for the Recovery of Ukraine from the Consequences of the War was developed, which includes ensuring full access to the EU and G7 markets; obtaining candidate

status and then full membership in the EU; building an economy based on deregulation and liberalization; development of logistics routes in the western direction; the transition from the export of raw materials to processing in those industries that bring the most export revenues; strengthening of the domestic military-industrial complex; ensuring energy independence by increasing own gas production and developing nuclear energy; climate modernization, etc. [37].

According to the strategy of the National Institute of Strategic Studies of Ukraine "Priorities for the development of national entrepreneurship in the conditions of digital transformations", the main tasks of the state policy for the development of entrepreneurship are the digitization of business processes, the stimulation of the development of e-commerce and the expansion of areas where administrative e-services are implemented [30].

In May 2023, as a result of Russia's military aggression against Ukraine, the Financial Stability Board developed a new strategy for the development of the financial sector of Ukraine, aimed at achieving five main strategic goals: ensuring macroeconomic stability, increasing financial stability, supporting the functioning of the financial system for the recovery of the country, promoting the development of innovative financial services, and increasing the institutional efficiency of regulators and the Individual Deposit Guarantee Fund [38].

The financial system should be a key catalyst in the recovery of the country's economy after the war and provides for the implementation of the following strategic initiatives and measures in accordance with the new strategy (Table 1.6) [38].

Therefore, the strategy defines the need for continued development of technologies in the financial sector, which is an important factor for further expansion of financial inclusion and ensuring cyber security. It is also emphasized the need to take measures to restore the financial infrastructure in the de-occupied territories and ensure inclusiveness.

Table 1.6

A fragment of the goals of the Financial Sector Development Strategy of Ukraine

Initiatives	Activities
Encouraging the functioning of the financial system in the direction of restoring the country:	
Support and development economy	introduction of military-political risk insurance, implementation of credit programs to support enterprises and promote the renewal of production and logistics infrastructure, recovery and development of the real estate market, as well as ensuring the protection of the rights of investors and creditors
Sustainable development financing	improvement of the sustainable financing strategy
Infrastructure development capital markets	increasing the level of development of capital markets infrastructure to meet European standards, as well as expanding the possibilities of using alternative methods of attracting funds from the public for venture investment and financing
Introduction of new species and improvement of existing ones financial instruments	creation of a securitization system in Ukraine, improvement of legal regulation of transactions with derivative contracts, introduction of financial instruments in accordance with Islamic principles, and expansion of the range of cross-border products on capital markets
Responsible and inclusive financial market	ensuring access and inclusiveness in the financial sector by providing responsible digital services, disclosing information in accordance with electronic reporting standards and increasing the level of financial literacy among the population and entrepreneurs
Financial recovery sector	development of mechanisms that will contribute to the compensation of losses caused to the financial sector by the Russian Federation
Development of innovative financial services:	
Development of digital financial services infrastructure	development in the digital economy, expansion of the financial infrastructure, support for the use of mobile applications for financial transactions and the introduction of electronic management of the management bodies of economic associations
Automation and paperless technologies for providing financial services	the spread of non-cash operations, the development of an open architecture of the financial market and the use of electronic technologies

Regulation of virtual assets	introduction of regulatory regulation and supervision of virtual assets
Digital defense financial sector	development of joint cyber security measures in the financial sector in order to improve the security of financial services
Financial recovery infrastructure	provision of financial services in the de-occupied territories

In our opinion, the mentioned strategies are currently important for effective provision of innovative activities in the country. Even compared to the numerous legislative and regulatory acts of the government and departmental documents regulating innovation activities in Ukraine, these strategies are distinguished by terms and specific steps.

There are various state structures and bodies in the country that promote cooperation between business and government in the field of innovation, namely: Directorate of Science and Innovation of the Ministry of Education and Science of Ukraine; Ministry of Strategic Industries of Ukraine; Ministry of Digital Transformation of Ukraine; Ministry of Economy of Ukraine; National Council of Ukraine for Science and Technology Development; Committee on Education, Science and Innovation; National Intellectual Property Authority (NIIP); The Ukrainian Business Council is the largest association of 112 leading business associations in Ukraine, aimed at consolidating business and implementing important social reforms. Our mission is to offer practical solutions to create a level playing field for business in Ukraine, avoid corruption and promote sustainable economic development; Technical standardization committees, etc. The development of innovative activity in the modern world and in Ukraine is impossible without an appropriate innovative infrastructure, which plays a key role in promoting and supporting innovative ideas and projects. Innovative infrastructure acts not only as a catalyst for the development and implementation of new technologies, but also as a platform for cooperation between scientific institutions, industrial enterprises and government bodies.

The components of Ukraine's innovative infrastructure are presented in Figure 1.8 [39].

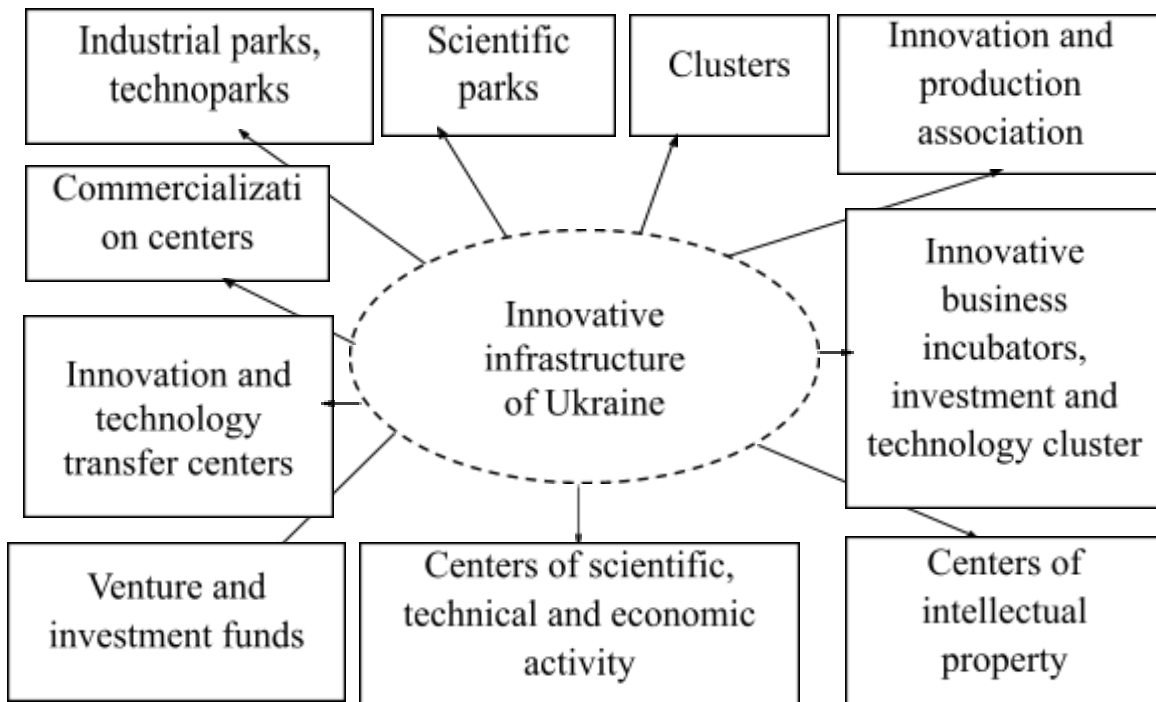


Fig. 1.8. Components of innovative infrastructure of Ukraine.

The most common industrial parks in Ukraine are territories equipped with all the necessary production infrastructure in the field of processing industry, conducting scientific research and deploying activities in the field of information and telecommunication services.

As of January 1, 2023, according to the Ministry of Economy, 60 industrial parks were registered in Ukraine. During 2022, 14 new industrial parks were created. By the end of 2023, the total number of industrial parks was 73 units [40].

In 2017, the first innovation park in Ukraine - UNIT - was opened. City in Kyiv. It is a private platform that brings together the infrastructure and innovation ecosystem for IT and technology companies from Central and Eastern Europe. The park has an area of 25 hectares and includes business campuses, a residential complex, innovative educational institutions, research centers, virtual and augmented reality laboratories, production facilities for 3D printing and additive manufacturing. According to plans, the area of the park is planned to increase by 2025, creating space for 30,000 tenants, students and residents.

Industrial parks that were created in 2023: "YADRO INDUSTRI", located in Lviv region, "Carbon-neutral ECO AGRO HUB Podillia "Horodok" in Khmelnytskyi region, "KRASYLIV TECHNOPORT" in Khmelnytskyi region, "VinIndustry" in Vinnytsia region, "HEMPY UA" in the Rivne region, "Sygnivka" in Lviv Oblast, "ISKRA" in Ivano-Frankivsk Oblast, "EkoStil" in Dnipropetrovsk Oblast, "FRIENDLY WINDTECHNOLOGY" in Zakarpattia Oblast, "Western Industrial" in Zakarpattia Oblast, "ECOPORT" in Odesa Oblast, "Dolyna Stryi" in Lviv Oblast, "Mensky" in Chernihiv region.

Private investors in Kharkiv have opened a large high-tech business park called "Ekopolis KhTZ". The construction of an industrial park, an IT cluster, a medical center, research and educational institutions, a logistics complex and a trade cluster is planned on an area of 500,000 square meters. It is predicted that by 2033 the volume of investments will exceed one billion dollars.

Figure 1.9 shows the structure of the innovation park "Ekopolis KhTZ" in the city of Kharkiv, which provides for the creation of more than 10,000 jobs, which will contribute to further economic growth and development of the region [41].

At the same time, many of the industrial parks listed in the Register remain undeveloped and do not receive sufficient attention from the respective territorial communities and regions.

One of the main challenges facing most industrial parks, especially those located on communally owned land, is finding financial resources to build their engineering and transport infrastructure and connect it to external networks.

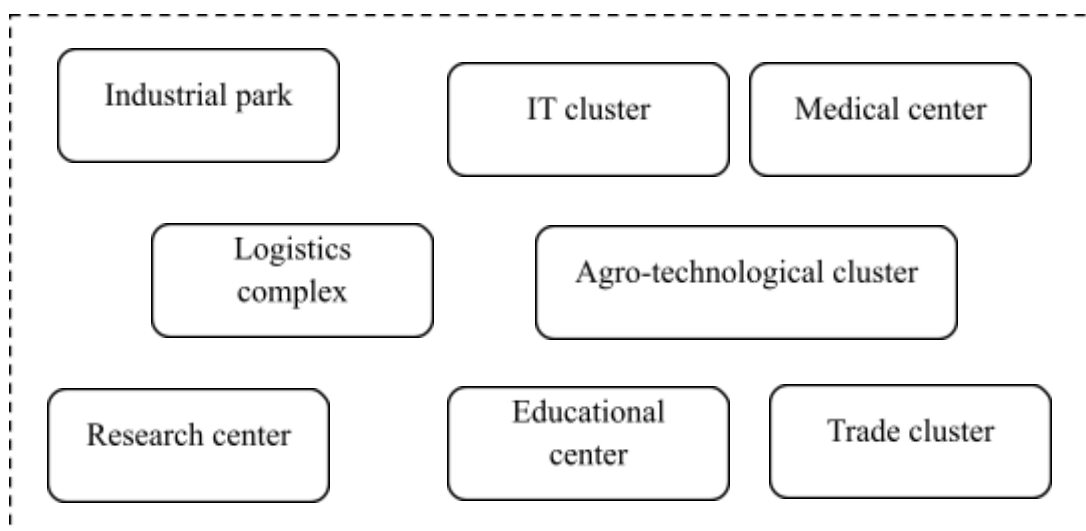


Fig. 1.9. Structure of the innovation park "Ecopolis KhTZ" (Kharkiv).

Therefore, for the development of industrial parks, it is necessary to: provide adequate infrastructure and make them attractive for investors, in particular, with the help of available technical means and favorable conditions for business; create incentives for resident companies to promote their development and attract new investors; integrate park development into regional development strategies to ensure their synergy with other economic initiatives; ensure electrification and provide access to energy resources for the efficient operation of industrial parks; to provide state support to improve environmental standards and the overall efficiency of park operations; ensure adequate skilled labor and create conditions for their employment, including access to education and training in relevant fields; ensure the creation of new industrial parks based on the eco-industrial park model.

There are only 16 technological parks in Ukraine, which have the status of a legal entity and are aimed at the implementation of projects for the industrial implementation of scientific developments, high technologies and the production of competitive products.

Science parks have a similar purpose, but their creation is possible only at the initiative of higher education institutions or scientific institutions. There are 36 science parks in Ukraine as of January 1, 2022. [39].

Thus, innovative activity can become a key element of economic recovery after the war, however, in order to achieve success in this field, it is necessary to overcome challenges and obstacles on the way to innovative development and create favorable conditions for innovative development, attract investments, develop cooperation between the state, business and scientific institutions.

CHAPTER 2

TRENDS IN THE DEVELOPMENT OF INNOVATIVE ACTIVITIES OF UKRAINIAN ENTERPRISES

2.1. Modern realities of innovative activity in Ukraine

In modern conditions of economic development, the innovative activity of enterprises plays an important role. The introduction of new technologies and improvement of product quality contribute to the country's competitiveness on the world market, create new jobs and strengthen economic potential.

Ukrainian enterprises, under the influence of the war with Russia, face great challenges, but continue to work and look for innovative ways of development. Innovations are becoming the key to restoring the economy and competitiveness of Ukraine.

The main participants in innovative activity are enterprises that form the innovative activity of the state. If enterprises are actively engaged in innovation, then the state should also promote this type of activity at its level. At the same time, general economic factors affect the level of innovative activity of individual enterprises. Therefore, we will first analyze the state of innovative activity in Ukraine as a whole.

In table 2.1. the dynamics of the Global Innovation Index of Ukraine are given [42, 43]. In 2022, Ukraine fell in the "Global Innovation Index" rating and took 57th place (in 2021, it was in 49th place) among 132 countries. It also ranked 34th among 39 European economies. However, there was an improvement in 2023: Ukraine took the 55th place in the global ranking and again took the 34th position among 39 European countries.

North Macedonia is located in front of Ukraine, and the Philippines is behind it. Switzerland, Sweden and the USA lead the list of the most innovative economies in the world.

Table 2.1

Dynamics of the Global Innovation Index of Ukraine for 2019-2023

Indicators	Period				
	2019	2020	2021	2022	2023
Global index innovations:	47th place among 129 countries	45th place among 131 countries	49th place among 132 countries	57th place among 132 countries	55th place among 132 countries
creative achievements	42	44	48	63	37
knowledge and results of scientific research	28	25	33	36	45
business experience	47	54	53	48	48
market experience	90	99	88	102	104
infrastructure	97	94	94	82	77
human capital and research	51	39	44	49	47
institutions	96	93	91	98	100

Therefore, Ukraine achieved the highest indicators in such categories as "Creative achievements" (intangible assets) - 37th place among 132 countries of the world, "Knowledge and results of scientific research" - 45th place, "Human capital and research" (education, scientific resources) - 47th place, "Business experience" (patents, intellectual property, working conditions) - 48th place.

The lowest indicators were in the categories "Market experience" (lending, investments, competitiveness) - 104th place, and "Institutions" (politics, legal aspects, business environment) - 100th place and "Infrastructure" (access to public services, cost of resources, energy efficiency) - 77th place. It is clear that the infrastructure in Ukraine suffered a lot during the war, which significantly complicates the life and functioning of society. This situation also affected the innovative activity of the country, as the damage

to the infrastructure makes it difficult to introduce new technologies and innovative projects.

Further consideration of the weakest category "Market experience" (104th place) shows that "lending" ranks 124th, "investments" - 107th, and "trade, diversification and market scale" - 40th. This suggests that financing through loans and investments is critical for the development of innovation. Loans help businesses implement new projects and expand their operations, while investments help stimulate research, development and implementation of new technologies and products.

Table 2.2 systematizes the components of each category of indicators of the Global Innovation Index.

Table 2.2

Components of each indicator category of the Global Innovation Index-2023, (place among 132 countries)

Components	Place	Components	Place
<i>Institutions:</i>	100	<i>Business experience:</i>	48
Political environment	126	Qualified workers	42
Regulatory environment	77	Innovative connections	77
Business environment	88	Teaching	66
<i>Human capital:</i>	47	<i>Knowledge and technologies:</i>	45
Education	31	Creating knowledge	28
Higher education	37	The influence of knowledge	71
Research and development	68	Spreading knowledge	48
<i>Infrastructure:</i>	77	<i>Creative achievements:</i>	37
ICT	59	Intangible assets	19
General infrastructure	105	Creative goods and services	82
Environmental sustainability	74	Internet creativity	44
<i>Market experience:</i>	104		
Credits	124		
Investments	107		
Trade, competition and market scale	40		

Therefore, Ukraine is noted for its high potential in the field of education and qualification of workers, occupying 31st and 42nd places, respectively, among 132 countries in the world in terms of higher education and research. It also shows

impressive results in the areas of creative achievement and knowledge, ranking 19th and 28th, respectively. However, the country faces a low level of infrastructure, ranking 59th for ICT and 105th for overall infrastructure. In addition, limited access to loans and investments (104th and 124th places, respectively) complicates the development of innovative activities of enterprises in the country.

In figure 2.1. the components of the Global Innovation Index for some European countries are listed [42].

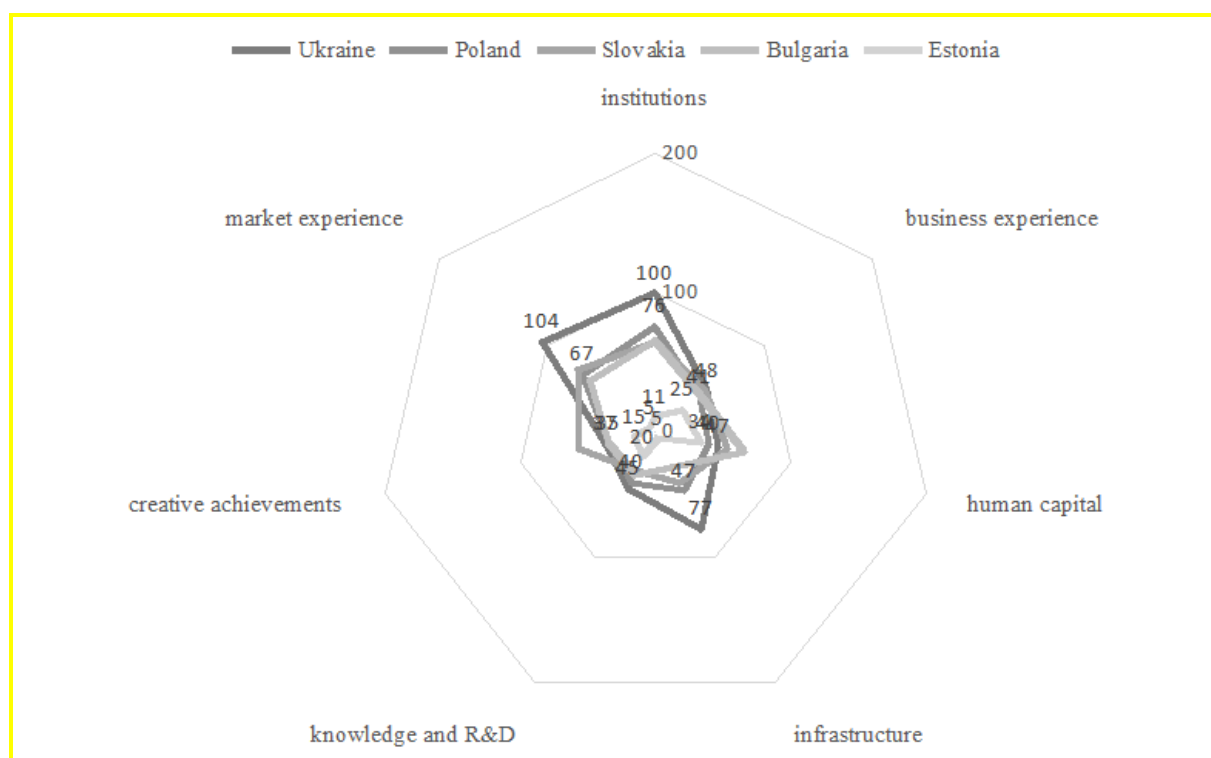


Fig. 2.1. Components of the Global Innovation Index of Ukraine, Poland, Slovakia, Bulgaria and Estonia for 2023.

Therefore, it is possible to draw a conclusion about the weak positions of Ukraine compared to some European countries and highlight the strengths of Estonia, in particular: "Market experience" and "Infrastructure", which are ranked 5th in the world, and "Institutions", which are ranked 11th place.

Next, it is quite appropriate to analyze the trends of innovative activity of companies in Ukraine. Figure 2.2 shows the level of innovative activity of industrial enterprises of Ukraine for 2016-2020. [44].

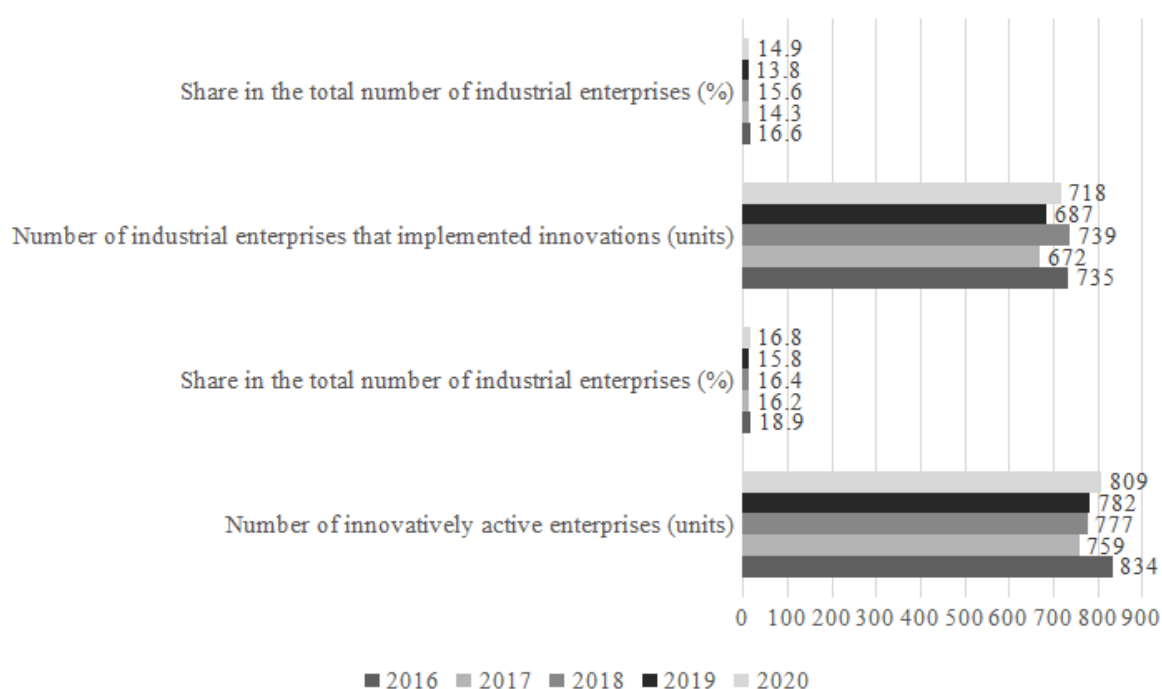


Fig. 2.2. Number of innovatively active enterprises.

In recent years, we have observed a negative dynamic, which consists in a decrease in the number of innovatively active enterprises in Ukraine. For example, in 2020, their number was 809 units, which is 25 units (or 3%) less than in 2016. It is also worth noting that the number of industrial enterprises that implemented innovations also shows negative changes, as their number decreased by almost 2.4% (17 units) from 2016 to 2020.

In 2021, the number of enterprises actively applying innovations decreased to 329 overall, compared to 809 in 2020 (1,327 in 2011). The share of industrial enterprises that introduced innovations in the total number sharply decreased from 14.9% in 2020 to 5.8% in 2021 [45]. The reason for such dynamics may be insufficient support for the innovative development of enterprises, both from the state and from the business environment.

It is also necessary to carefully study the sources of financing costs for innovations of domestic enterprises (Table 2.3) [43].

Table 2.3

Dynamics and structure of expenditure on innovation of industrial enterprises by sources of financing (million hryvnias, %)

Indicators	2016	2017	2018	2019	2020
Own funds	22036	7704	10742	12474.9	12297.9
in %	94.9	84.5	88.2	87.7	85.4
State budget	179	227	639	556	279
in %	0.8	2.5	5.2	3.9	1.9
Local budgets	99	95.6	12.4	109	51.1
in %	0.4	1.0	0.1	0.8	0.3
Resident investors	134	273	109	72	45
in %	0.6	3.0	0.9	0.5	0.3
Non-resident investors	23	107	107	42	125
in %	0.1	1.2	0.9	0.3	0.9
Credits	626	594	473	853	1377
in %	2.7	6.5	3.9	6.0	9.6
Other sources	131	115	95	111	230
in %	0.5	1.3	0.8	0.8	1.6
That's all	23229	9117	12180	14220	14406

The main source of financing innovative projects for Ukrainian industrial enterprises is their own funds, which make up 85.4% of the total costs for innovation in 2020. It is also worth noting the growth in the use of loans in financing innovative projects, but their share remains quite small - 9.6% in 2020.

Regarding the financing of innovations of industrial enterprises at the expense of the state budget, it is worth noting that in 2020, compared to 2016, there was an increase of 56%. In addition, in the period from 2021 to 2023, the state began implementing measures and investment projects to finance the activities of enterprises. For example, the initiative "Affordable loans 5-7-9%" is one of the key support programs, where the main direction of financing is innovation activity.

In 2021, 231 enterprises sold innovative products for a total amount of UAH 47,526.2 million, which is only 1% of the volume of industrial products sold, for comparison, in 2020 this indicator was 1.9%, in 2005 - 5.3% , and in 2000 - 6.6% [45].

It should also be emphasized that in 2022, the number of organizations engaged in scientific research and development in Ukraine decreased from 769 in 2020 to 557 (for comparison, in 2010, there were 1,303 organizations). Accordingly, the number of scientists continues to decrease (from 133,700 in 2010 to 35,700 in 2022 – almost 4 times) [45].

Over the past 10 years, Ukraine has seen not only a decrease in the number of organizations that carry out scientific research and development, but also a decline in spending on scientific and technical activities as a percentage of GDP. At the end of 2020, the share of these costs was 0.41% of GDP, but in two years this figure decreased to 0.33%. Such a long decline can affect the scientific potential of the country and its opportunities in innovation and technology development (Fig. 2.3) [45].

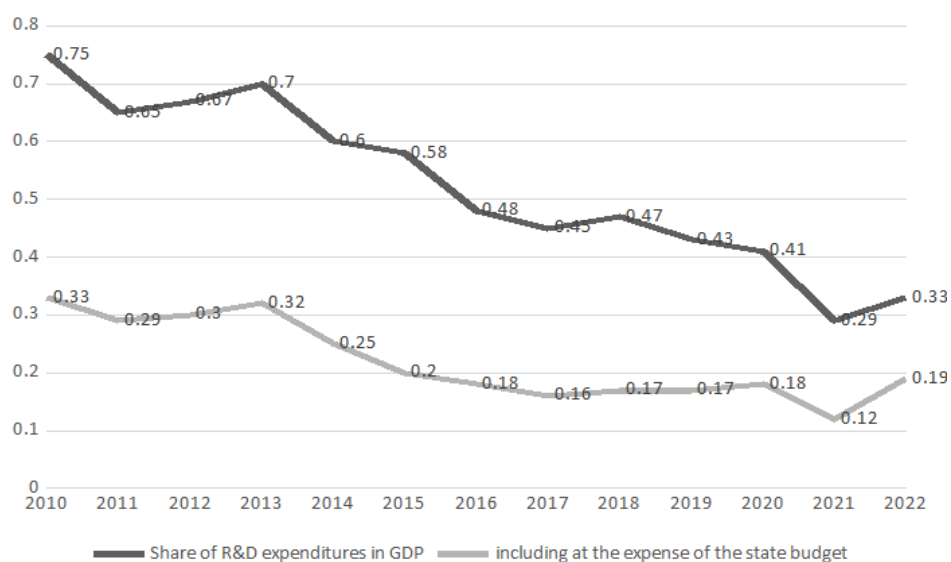


Fig. 2.3. Dynamics of scientific intensity in the GDP of Ukraine, (%).

According to Eurostat, in 2021, on average, the science intensity of GDP in the EU-27 countries was 2.26%. However, in 2022, the highest rates of this indicator were observed in Israel (4.8%), South Korea (4.5%) and Switzerland (3.37%). Other countries also showed high figures: Germany and Sweden - 3.31% each, Japan (3.3%), Austria - 3.2%, and the USA - 3.07%. In comparison with these countries, the scientific intensity of Ukrainian GDP is seven times lower today. This indicates that Ukraine is

lagging behind in innovation and high-tech production compared to countries that are leaders in these areas.

Further, in order to analyze the trends of the introduction of innovations in Ukraine in the conditions of war, we will consider the results of a survey conducted by the Institute of Economic Research and Political Consultations in 2023. This survey covered 560 manufacturing enterprises from 21 regions of Ukraine and will allow to assess the state of innovation in these companies. Thus, for most companies, the relevance of innovation implementation varies: 23% say that innovation implementation is very important; for 46% - it is relevant only in certain (competitive) circumstances; however, for 31% of respondents, innovation is not an urgent task (Fig. 2.4) [45].

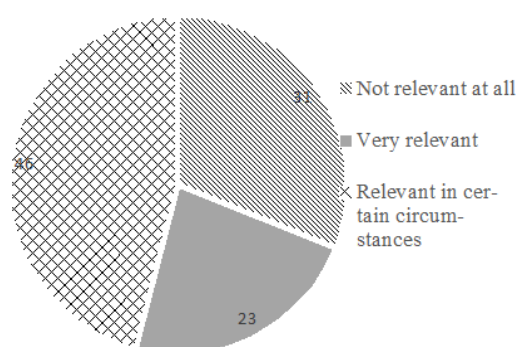


Fig. 2.4. The importance of the implementation of innovations by enterprises, 2023. (%).

The relevance of the introduction of innovations according to the size of enterprises is shown in Figure 2.5 [45].

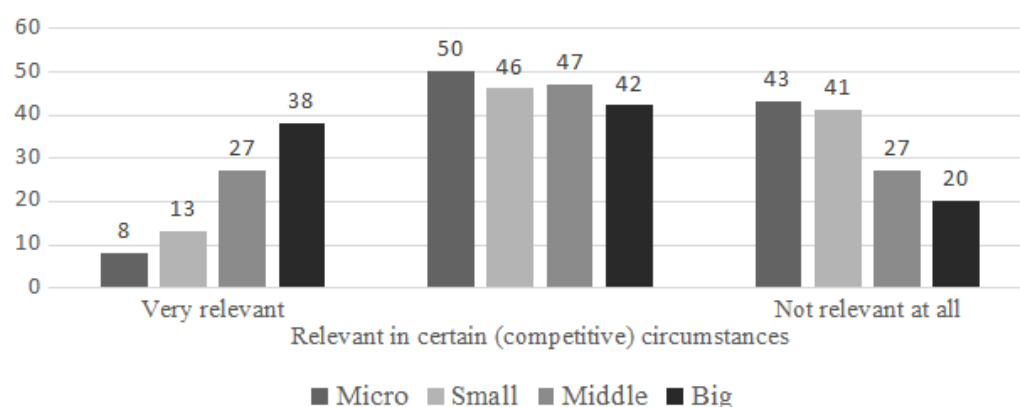


Fig. 2.5. The relevance of the implementation of innovations by the size of enterprises, 2023. (%)

The importance of innovation increases with enterprise size: introducing new products and processes is a priority for 8% of micro-enterprises and 38% of large enterprises. However, for 43% of micro-enterprises, 41% of small enterprises and only 20% of large enterprises, the implementation of innovations is not relevant.

The relevance of the introduction of innovations by industry is systematized in Figure 2.6 [45].

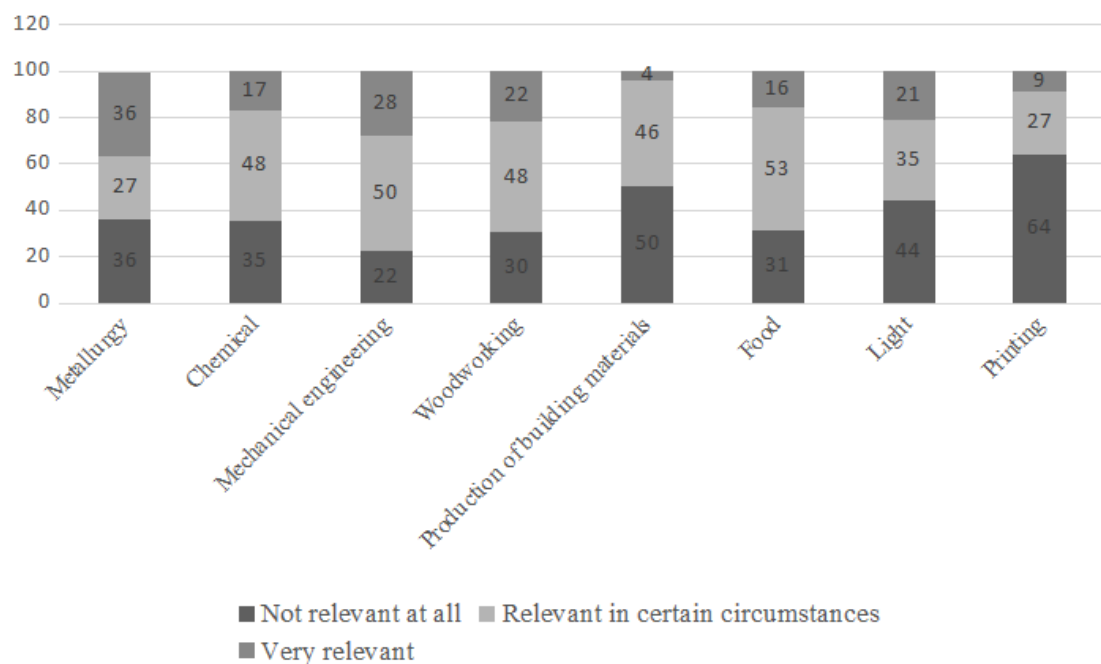


Fig. 2.6. Importance of innovation by manufacturing industry, 2023 (%).

The least relevant innovations are for the printing industry (64%) and production of building materials (50%), while the most relevant are for mechanical engineering (28%) and metallurgical companies (36%).

The war forced a significant number of businesses to reduce innovation spending (including the introduction of new technologies or improvements to existing products and production processes): 42% reported cost reductions, while 39% maintained innovation spending at pre-war levels, but 19% of businesses increased costs for innovative activity [45].

Figure 2.7 shows the index of changes in innovation costs depending on the size of enterprises [45].

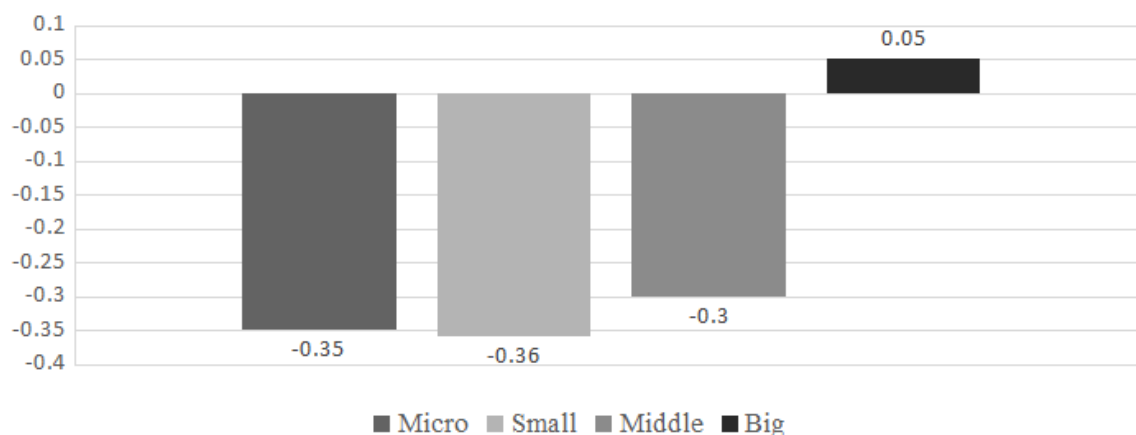


Fig. 2.7. Index of changes in innovation costs by enterprise size, 2023. (%)

Only large enterprises usually showed a tendency to more frequent increases in innovation costs. This can be explained by their greater amount of resources and access to financial opportunities, which allow them to invest more actively in innovative solutions and technologies.

Figure 2.8 shows the index of changes in the costs of enterprises for innovation by industry.

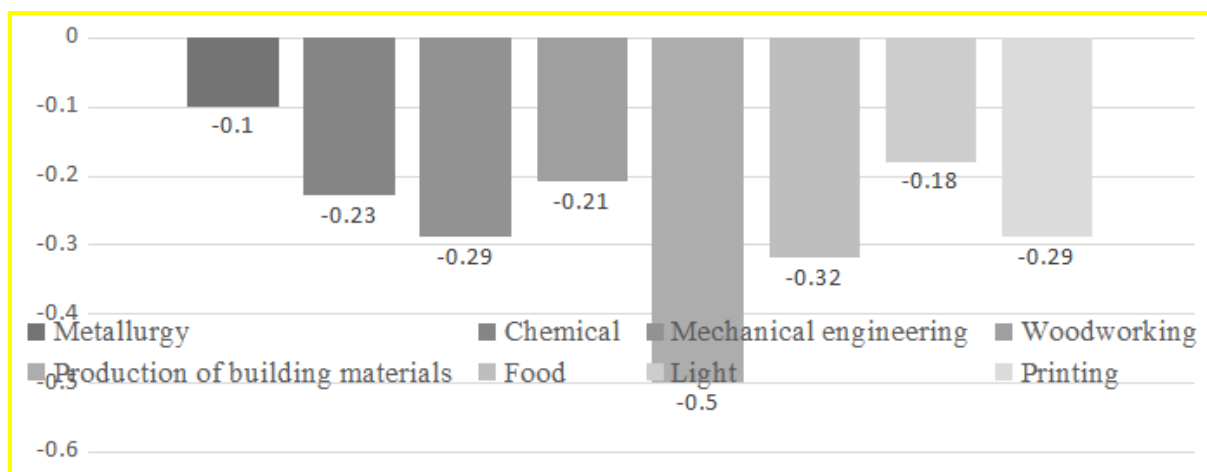


Fig. 2.8. Index of changes in innovation costs by industry, (%).

In all areas of industry, companies reduced costs for innovation. The most difficult situation arose in the field of construction materials production (-0.50%), while more favorable conditions were observed in metallurgy (-0.10%).

Figure 2.9 shows the main obstacles complicating production growth [45].

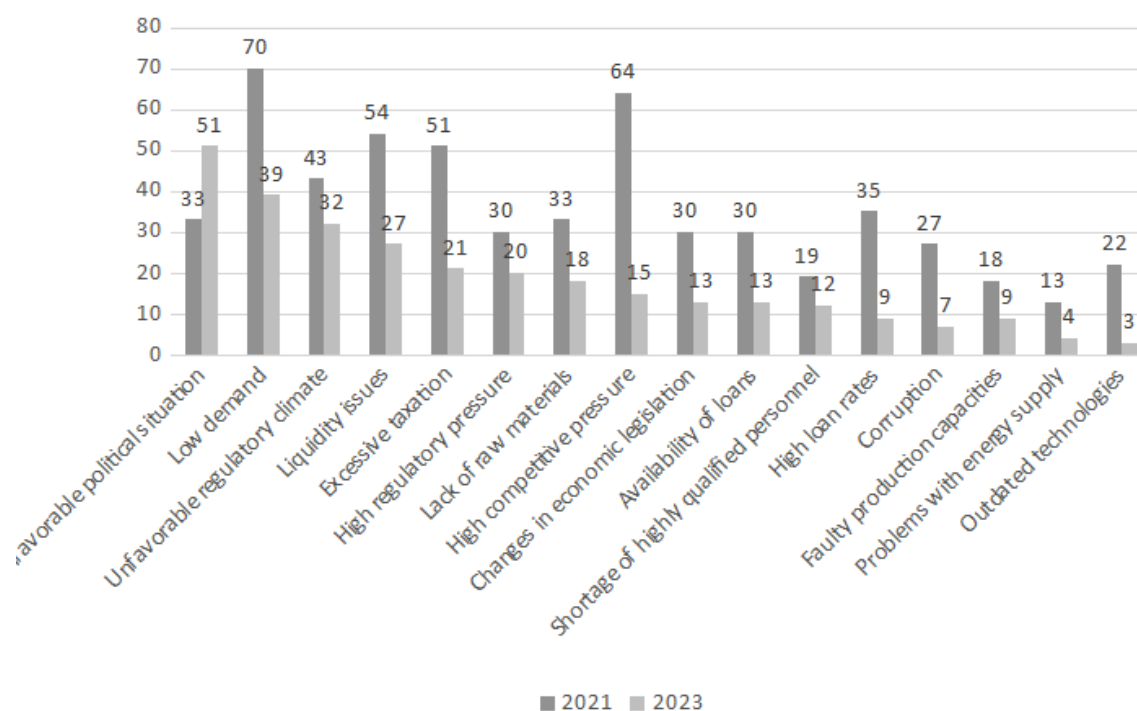


Fig. 2.9. Obstacles to production growth, (%).

During the war, among the main obstacles to the growth of production volumes, one can note such problems as an unfavorable political situation (51%), low demand for goods (39%), an unfavorable regulatory climate (difficulty in meeting regulatory requirements and restrictions can increase bureaucratic costs and complicate the work of enterprises) (32%), liquidity problems (limited access to financial resources) (27%) and heavy tax burdens (21%). Only 3% of enterprises noted outdated technologies as one of the least pressing problems for increasing production volumes, which is significantly less compared to 22% in 2021.

Further research will focus on assessing the relevance of innovation and changes in innovation costs for companies that continue to export their products during the war (Fig. 2.10).

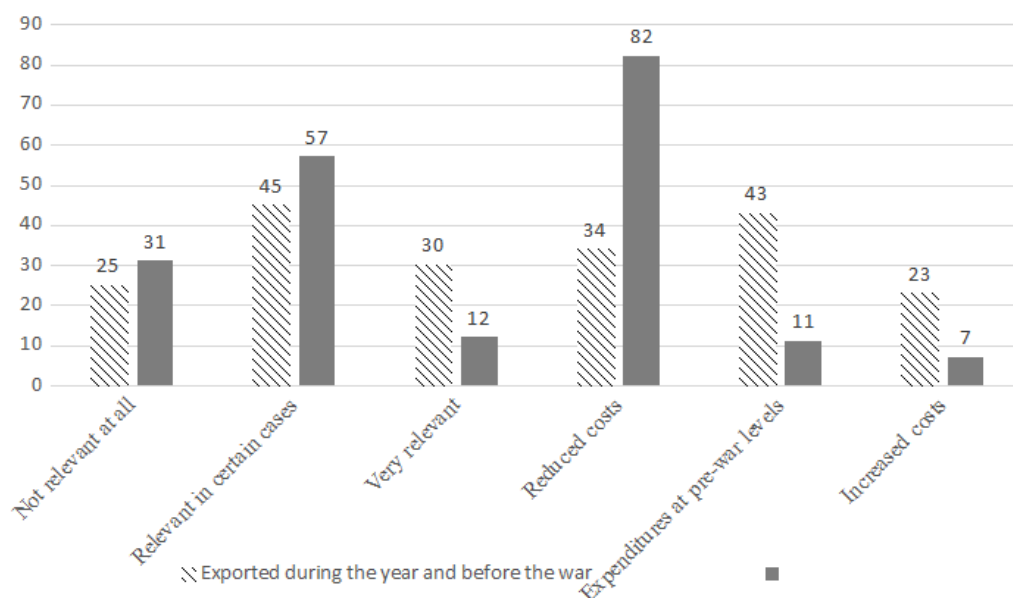


Fig. 2.10. Importance of innovation and changes in innovation costs for firms that continue to export their products during wartime, 2023. (%).

For companies that are actively exporting, wartime innovation is considered a priority in their activities and is relevant in certain circumstances (30% and 45%, respectively). In addition, such enterprises increased spending on innovative activities (23%). Because rapid changes in international business require continuous improvement of products and services to remain competitive. At the same time, most companies that stopped exporting during the war reduced their spending on innovation (82%).

Figure 2.11 shows a systematization of initiatives that can contribute to the development of innovative activities of enterprises in modern conditions [45].

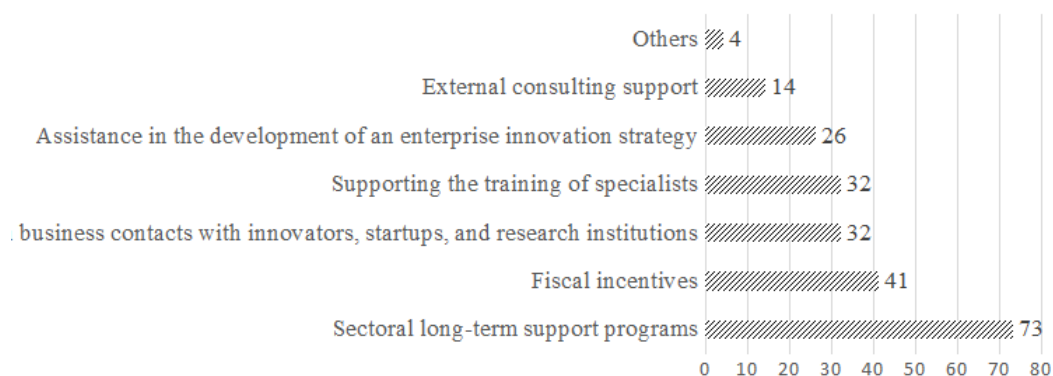


Fig. 2.11. Initiatives that can contribute to the development of innovative activities of enterprises in modern conditions, (%).

Thus, 73% of enterprises express the need for specialized industry support programs on a long-term basis, 41% of companies consider the possibility of obtaining fiscal incentives, 32% seek to establish contacts with innovative structures, startups and scientific institutions, and 32% identify the need for training support and training of qualified personnel.

Figure 2.12 presents initiatives that can contribute to the development of innovative activities of enterprises depending on their size in modern conditions.

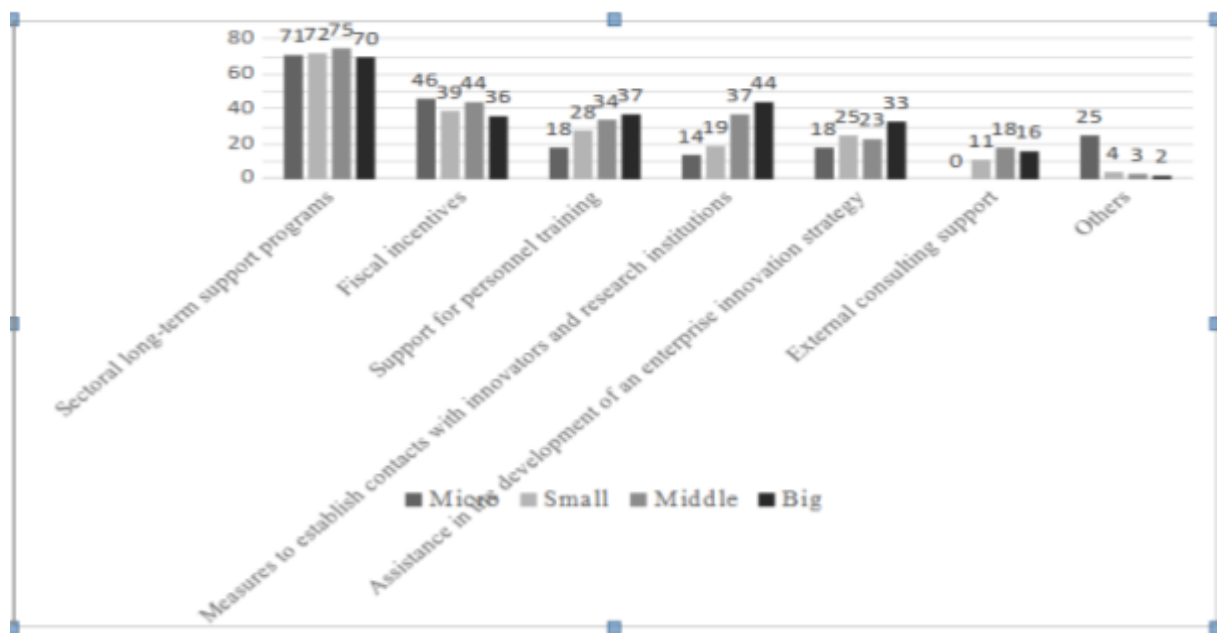


Fig. 2.12. Enterprise innovation initiatives depend on their size, 2023. (%) [45].

Industry support programs on a long-term basis are important for all types of businesses. Micro-businesses most often show the need for fiscal incentives (46%), while large and medium-sized enterprises usually need to develop contacts with innovators, scientific institutions and training of qualified personnel.

After a thorough analysis of the state of innovative activity of enterprises, it is worth making a SWOT analysis, which will help identify current weaknesses and strengths, assess potential threats and opportunities for the development of innovations of enterprises (Table 2.4).

Table 2.4

SWOT-analysis of innovative activities of enterprises of the Ukrainian market.

<i>Strengths</i>	<i>Weaknesses</i>
<p>Great potential of human resources (education, scientific research and development) and intellectual capital (patenting of industrial inventions); The ability of enterprises to innovate initiatives; Entrepreneurship and creativity of entrepreneurs; Rapid development of the field of IT technologies; High level of business readiness for new challenges; Willingness to cooperate between educational, scientific and industrial sectors.</p>	<p>Low interest of business in introducing innovations; Limited financial resources and high costs for the implementation of innovations; Limited access to information about new technologies; High risks; Long-term payback period for innovations; Lack of data on sales markets; Low demand for products; Shortage of qualified personnel;</p>
<i>Opportunities</i>	<i>Threats</i>
<p>Rapid progress in the scientific and technical sphere; Expansion of long-term state programs to support innovative business development; Introduction of tax benefits; Provision of preferential lending for innovative companies; Ensuring the high quality of educational and scientific potential at the state level; Involvement of foreign experience of successful innovative projects; Creation of business incubators at universities; Increasing the number of international scientific and technical programs; Creation of consultation and information centers to support the development of innovations; Attracting international grants and soft loans</p>	<p>Unfavorable political situation; Unfavorable innovative climate; Deficiencies in the legislative framework; Low level of investment climate; Lack of state guarantees for investors; Low financial support for innovative development from the state; Insufficient level of intellectual property protection; Unavailability of cheap loans; Mass migration of scientific experts abroad and shortage of qualified personnel; Weak motivation of scientists and inventors; Innovative infrastructure suffered from the war; Problems with energy supply and water supply (high cost); Damage to property or goods due to hostilities; A small number of industrial enterprises actively involved in innovation; Reduction in the number of scientific institutions and scientists</p>

Thus, today's global transformations provide a huge potential for overcoming the technological lag and introducing innovations in order to increase the country's competitiveness. The analysis of the state of innovative activity showed that even during the war, Ukraine ranked 55th in the Global Innovation Index (against 57th place in 2022), but faces the problems of insufficient funding for innovation, political instability, and imperfect organizational, legal, and economic mechanisms for the development of innovation . Nevertheless, the development of scientific and technological progress, the implementation of innovative development strategies, the expansion of support programs and fiscal incentives for innovative enterprises, as well as the attraction of foreign experience and investment can help in solving these problems. To ensure the sustainable development of Ukraine, it is necessary to create attractive conditions for companies that actively implement innovations and attract investors, which will contribute to economic development during and after the war.

2.2. Technical and economic characteristics of JSC CB "PrivatBank"

JSC CB "PrivatBank" is one of the largest commercial banks in Ukraine and in the post-Soviet space. Founded in 1992, it pioneered the private banking sector in the country, making a significant contribution to the development of the financial system. During its existence, the bank went through various stages of development, constantly expanding the field of activity and strengthening its leadership in the market. Strategic solutions and innovative approaches allowed us to adapt to changing conditions, ensuring stability and reliability for customers.

Today JSC CB "PrivatBank" plays a key role in the financial system of Ukraine, providing a wide range of services for various clients and striving for constant implementation of innovations to ensure the maximum satisfaction of the needs of its clients.

Starting from March 2021, the bank was fully nationalized by the government of Ukraine by decision of the Cabinet of Ministers [47].

The management of the bank is organized through the following structural divisions:

1) the highest management body of the bank (the state through the Cabinet of Ministers), ensures the protection of the rights and interests of shareholders and influences the strategic development of the bank;

2) the bank's supervisory board is responsible for strategic management, control, protection of shareholders' rights and reports to the higher authority;

3) the bank's board manages day-to-day activities, reports to the supervisory board and the higher body. To ensure efficiency, there are standing committees responsible for various aspects of banking.

During the past year, the Supervisory Board approved the updated organizational structure of the bank's management, which led to the formation of the bank's executive body with eight positions: the chairman of the board; deputy chairman of the board for financial issues; deputy chairman of the board for operational issues; deputy chairman of the board for risk management; member of the board for reorganization and troubled assets; member of the board for retail business; member of the board for small and medium-sized businesses; compliance board member.

The structure of the corporate management of JSC CB "PrivatBank" as of January 10, 2024. presented in fig. 2.13 [48].

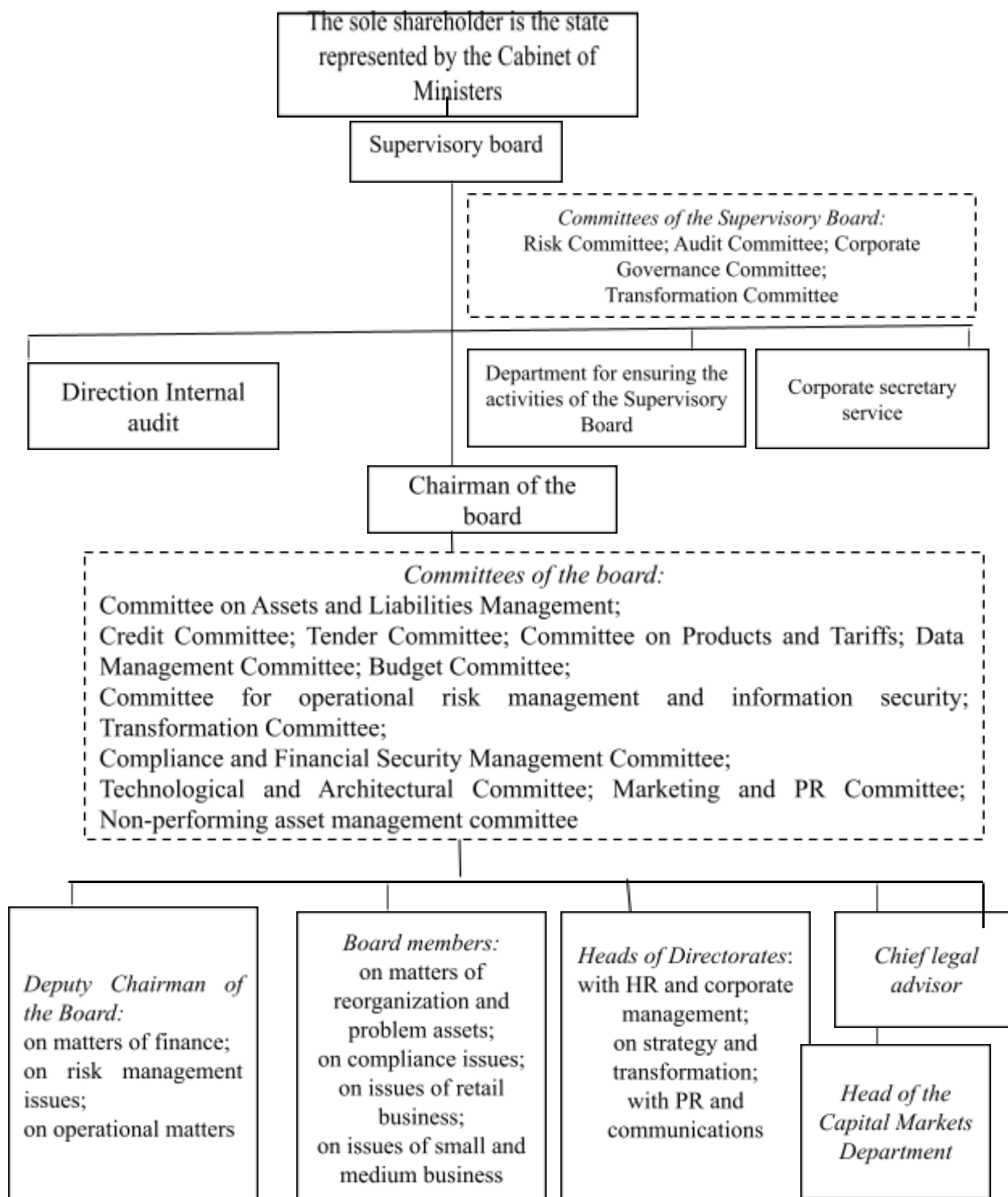


Fig. 2.13. The structure of corporate management of JSC CB PrivatBank

One of the key strategic tasks of JSC CB "PrivatBank" is the expansion of a high-quality loan portfolio in the field of retail loans for small and medium-sized businesses. The bank has a powerful digital platform "Privat24" and an extensive

network of branches and ATMs covering the entire country, with the exception of the temporarily occupied territories.

JSC CB "PrivatBank" is noted for its high level of corporate social responsibility. The bank employs more than 20,000 employees, 4% of whom are disabled. The bank provides its employees with a full social package and provides advice on legal and psychological issues, which becomes especially important in wartime conditions.

By the end of 2022, JSC CB "PrivatBank" had 8 branches and 1,200 operating branches in Ukraine, including a branch in Cyprus. These indicators are lower compared to the end of 2021, when the bank had 20 branches and 1,475 operating branches in Ukraine and a branch in Cyprus. As of the beginning of July 2023, the number of bank branches in Ukraine was 1,131.

The bank occupies a leading position in the Ukrainian retail market and actively develops the range of services for small and medium-sized enterprises, offering solutions that meet the needs of various clients. An important source of financing for the bank is the funds of individuals who prefer to keep their funds in current accounts in the national currency.

JSC CB "PrivatBank" is noted for its great social responsibility. It employs more than 22,000 workers, of whom 4% are disabled. In addition, the bank provides its employees with a full package of social benefits, including preferential housing and car loans, legal advice and discounts on corporate communication, financial literacy of employees and citizens, reduction of the volume of paper documentation; environmentally safe collection process; charity fund, etc.

As of 01.01.2024 the authorized capital of the bank is 206 billion 59 million 743 thousand 960 hryvnias and is divided into 735 million 927 thousand 657 ordinary registered shares, each of which has a nominal value of 280 hryvnias.

The dynamics of key indicators of JSC CB "PrivatBank" are given in table 2.5 [47, 49].

Table 2.5

Dynamics of the balance sheet indicators of JSC CB "PrivatBank", mln. UAH

Indicators	01.01.23	01.07.23	01.10.23	Changes compared to	
				01.01.23	01.07.23
Total net assets	549674	573033	609882	60208	36849
Total assets	737414	761943	798779	61365	36836
Money	40567	85209	81880	41314	-3329
Loans and debts of customers	71355	79860	93189	21834	13329
including loans and debts of legal entities	28133	30695	37632	9499	6937
including loans and debts of physical persons	43222	49165	55557	12335	6392
OVDP	235871	229369	228689	-7182	-680
Total commitment	491885	503514	526771	34886	23257
Bank funds	0	86	0	0	-86
Client funds	464872	481702	501870	36999	20168
including SGD	130327	132417	138566	8238	6148
including personal funds	333937	348596	362460	28523	13864
Authorized capital	206060	206060	206060	0	0
Own capital	57789	69519	83111	25322	13592
Regulatory capital	54523	66600	66565	12042	-35
Profit after tax	30198	29749	43373	13175	13624

According to the table, the bank's total assets increased by 36,836 million. UAH and amount to 798,779 million. UAH as of October 1, 2023. The bank's liabilities also increased by 23,257 million. UAH to 526,771 million hryvnias, and this increase is due to an increase in the funds of individuals by UAH 13,864 million. UAH and funds of legal entities for 6148 mln. UAH The bank's equity increased by 13,592 million. UAH and is 83111 million UAH The bank's profit also increased by 13,624 million. UAH and amounts to 43373 mln. UAH The increase in equity and profit indicates the positive dynamics of the bank's development, which indicates its success and stability in the

market.

The bank's profitability indicators are shown in Figure 2.14 [49].

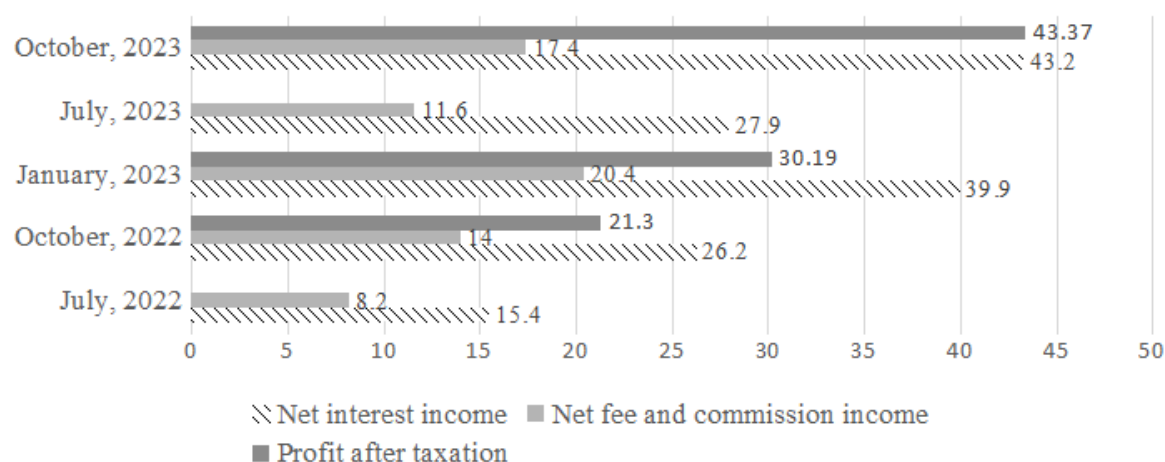


Fig. 2.14. Profitability indicators of JSC CB "PrivatBank", (billion hryvnias)

Therefore, in October 2023, the bank's net commission income increased by 3.4 billion. UAH and amount to 17.4 billion. hryvnias, compared to UAH 14 bln. UAH in October 2022. Net interest income of the bank amounted to 43.2 billion. hryvnias, having increased by 17 billion UAH compared to October 2022, when they amounted to 26.2 billion. UAH During the year, net interest and commission income increased significantly, which indicates positive trends in the bank's financial activities, effective asset management, and an increase in the volume of services.

In today's conditions, banks' fulfillment of established economic standards is a key aspect of their functioning. Checking and ensuring compliance with these regulations is critical to ensuring stability and compliance of banking institutions with the requirements of the National Bank of Ukraine. Therefore, let's consider how JSC CB "PrivatBank" adheres to the established standards and how this affects its financial stability and overall efficiency (Fig. 2.15) [50].

At the beginning of 2024, the indicators of the financial stability of JSC CB "PrivatBank" remain high in accordance with regulatory capital standards and liquidity coverage ratios. The regulatory capital adequacy ratio (H2) was 21.75%, which,

although lower than at the beginning of 2023 (23.78%), still exceeds the minimum value of 10%, indicating the bank's ability to cover risky assets.

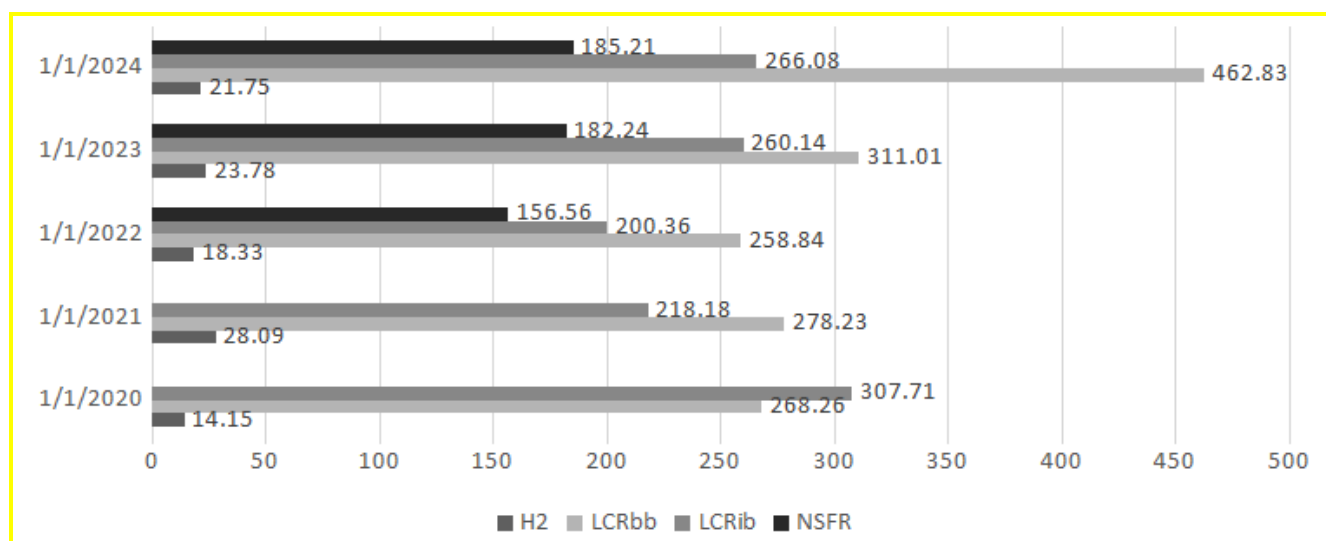


Fig. 2.15. Dynamics of economic regulations of JSC CB "PrivatBank" as of 01.01.2020-01.01.2024, (%).

In addition, at the beginning of 2024, the ratio of liquidity coverage in all currencies (LCRBB) was 462.83%, which exceeds the minimum value set by the NBU of 100%, and the ratio of liquidity coverage in foreign currencies (LCRIB) was 266.08%, also exceeding the minimum level of 100%. These indicators testify to the stable financial position of the bank and effective management of its capital and liquidity, providing sufficient reserves to cover obligations in various currencies and conditions of growing instability in financial markets.

Therefore, the analysis of the technical and economic indicators of JSC CB "PrivatBank" confirms its successful development strategy aimed at innovation, improvement of customer service and strengthening of competitive positions. Regulatory capital adequacy standards (H2) remain at a high level, which indicates the bank's ability to effectively cover risky assets. Liquidity standards (LCRBB and LCRIB) significantly exceed the established minimum levels, which confirms the availability of sufficient liquidity reserves to meet financial obligations in various currencies. The bank ranks high in sustainability ratings and has received numerous awards from prestigious awards, which confirms its leadership in innovation, quality of

service and effective management. PrivatBank actively implements modern digital technologies, which helps to improve interaction with clients and provides competitive advantages. All these indicators testify to the bank's successful management and strategic focus on achieving high standards of financial stability, innovation and satisfaction of customer needs. PrivatBank maintains its leadership in the financial services market thanks to the effective use of technologies and a strategic approach to business development.

2.3. Analysis of innovative activity of JSC CB "PrivatBank"

JSC CB "PrivatBank" is known for its advanced innovations in the banking industry, which distinguishes it from other market participants.

During the FinovateSpring forum of JSC "PrivatBank" in 2014, introduced the world's first contactless Android ATM, which allowed customers to withdraw money using a smartphone or Google Glass instead of a keyboard, and won [47].

The Bank focuses on scientific research, promoting innovation in its activities. During the war, the bank focused its efforts on creating new products and services for customers that met the requirements of wartime. In addition, the bank actively participated in the formation of a legal environment aimed at protecting the rights of borrowers affected by a full-scale war.

Thus, in 2022, the bank introduced various digital initiatives to provide support to the population and business in the conditions of a military conflict (Table 2.6).

Table 2.6

Digital initiatives to support bank customers in times of war

Digital initiatives	Price measures
automatically extended the validity of the cards for 1 year, and customers in the occupied territories did not need to visit a bank branch to obtain new cards.	additionally, tariffs for transferring own funds from credit cards were reduced;
provided the possibility of issuing new cards and reissuing existing ones through Privat24;	commissions for volunteers for account replenishment and cash withdrawal were canceled, and special conditions were created for serving charitable organizations;
a digital "eSupport" card that received an update during a full-scale invasion	a new "Capital" deposit and the opportunity to buy foreign currency at a favorable rate of up to 100,000 hryvnias per month with subsequent placement of this currency in time deposits;
a new process of video meetings was introduced for business, which simplified the registration of banking services without visiting branches ("PrivatCamera");	
to support cashless payments, the "Terminal" application for accepting card payments was actively implemented (over 22 thousand connections);	
the "Budget" service, which allows customers to receive up-to-date information about their tax debt and overpayment, as well as to make payments to the budget with automatically filled details.	
the "Electronic reporting" service enables individual entrepreneurs to prepare and send electronic reports to state bodies 24 hours a day.	
the "Invoicing" service is intended for issuing and paying electronic invoices by legal entities and individual entrepreneurs as part of business settlements.	
"Cashier" application for fiscalization at the bank's POS terminals.	

Initiatives and programs aimed at supporting the population and business from JSC CB "PrivatBank" in 2022. are given in table 2.7. [47].

Table 2.7

Programs and initiatives from JSC "PrivatBank" with the aim of providing support to the population and business.

Programs	Initiatives	Achievement
New credit programs for private individuals and enterprises.	Credit holidays and exit from them, long-term and short-term ("2.5% payment") restructuring, "Forgiveness of part of the debt obligation"	The bank received first place in the category "Best financial support to the population during the war" at the "PaySpace Magazine Awards 2022".

The end of the table 2.7

Update and implementation of new financial programs.	Financing was provided for 19.8 thousand clients in the amount of 23.86 billion hryvnias. The portfolio of agricultural loans has increased 4.4 times since the beginning of spring 2022.	PrivatBank rose by 5 positions and now ranks 7th in terms of market share in business lending. At the end of 2022, the bank ranks third in the rating of the National Bank of Ukraine by the volume of the loan portfolio in the field of agricultural lending.
The "Glory to Heroes" program is a special initiative to save money aimed at military personnel.	Allows you to earn more than standard deposit programs - at the level of 14% annually.	"Glory to Heroes" deposits worth 1.2 billion hryvnias were opened.

Therefore, JSC CB "PrivatBank" launched a special savings program "Glory to Heroes" aimed at military personnel, which became very popular (at 14% per annum, you can replenish and withdraw funds from the deposit without losing interest, as well as manage the deposit through the Privat24 mobile application).

Further, Table 2.8 shows the rewards of JSC CB "PrivatBank" from the FinAwards Award for the years 2021-2023 [52].

Table 2.8

Awards of JSC CB "PrivatBank" from the FinAwards award for 2021-2023.

Period	Nominations		
	1st place	2nd place	3rd place
2021	"The best private banking", "The best bank for SME clients", "Advanced technologies and innovations", "The best marketing manager"	"Best Credit Card" "Best Mobile App" "The best advertising company", "The best head of retail business. People's Choice"	"Best Deposit", "Best Debit Card", "The best remote service"

The end of the table. 2.8

2022	"Best advertising campaign"	The best bank for SME customers, The best marketing manager The best manager of a retail business	Better remote service, Leading technologies and innovations
2023	"Leading technologies and innovations" "The best advertising campaign" "The best bank for SME clients", "The best head of retail business"	"The best payment card", "The best mobile bank"	"The best marketing manager"

Therefore, for the third year in a row, JSC CB PrivatBank has received honors and recognition from FinAwards in various nominations, such as advanced technologies and innovations, the best advertising campaign, and support of small and medium-sized enterprises. In the "Leading technologies and innovations" nomination, Privatbank took first place in 2023. This award shows that the bank implements innovative solutions and takes a leading position in the use of modern technologies to improve its services and meet the needs of customers. These awards confirm the bank's high level of professionalism and success in various aspects of the financial sector and testify to its leadership position in the industry.

Next, we will evaluate the innovative potential of JSC CB "PrivatBank" based on brief descriptions of its components. This assessment will help to specifically plan activities, set goals and ways to achieve them, which are key conditions for the implementation of a systemic approach to innovation and the development of creative initiative of the staff.

Since some indicators can have only a qualitative characteristic, it is recommended to use a point assessment of its components to analyze the innovative potential of the enterprise. This assessment is carried out using a developed scale of points for each indicator and its elements, which determines the importance of each element in the formation of the innovative potential of the bank.

According to this methodology, each of the components of the bank's innovation potential is assigned a score: 0 points means that the innovation potential is not used; 1 point means a low level of use of innovative potential; 2 points indicate the average level of use of innovative potential; 3 points indicate a high level of use of innovative potential.

The assessment of JSC CB PrivatBank's innovative development potential is presented in Table 2.9.

It is important to note that the more components of innovation potential are used at the enterprise, the more opportunities it has for successful innovation activity.

Table 2.9

Assessment of JSC CB "PrivatBank" opportunities for innovative development

Components of IP	Parameters	Weight	Points
Personnel	socio-psychological climate		2
	the level of motivation for creative and innovative activity		1
	staff turnover (physical, psychological (hidden))		2
	personnel structure (by age, by qualification)		2
Final assessment		0.15	7
Financial	capital		3
	return on invested capital		3
	financial result		3
	problem loans		0
	liquidity		3
Final assessment		0.25	12
Material and technical	the level of progressiveness of technologies		3
	the level of progressivity of products and services		2
	the level of restoration of equipment		2
Final assessment		0.25	7
Informational	information transparency and openness		2
	availability of information resources and their level of development		3
	the level of informational training of personnel		2
	organization of information security		2
Final assessment		0.1	9
Organizational	effectiveness of the organizational structure		3

	level of organizational culture		3
	effectiveness of communication links		3
	strategic planning system		2
Final assessment		0.1	11
Marketing	competitiveness of products		3
	market share		3
	assortment policy		2
	effectiveness of promotion channels		2
	brand level		3
Final assessment		0.15	13

As can be seen, JSC CB "PrivatBank" has high financial capabilities and marketing potential for carrying out innovative activities, as well as organizational potential at a sufficiently high level. However, personnel and material and technical capabilities are at an average level. Nevertheless, these opportunities allow the bank to intensify its innovative activities, introduce advanced technologies, develop new competitive banking products and carry out systematic innovative development of the entire bank.

In order to improve the low indicators of some components of the bank's innovation potential, the following measures should be taken to transform its innovation policy and strategy:

- review the personnel policy aimed at the selection, training and retention of highly qualified specialists capable of creating and implementing innovations;
- to support the development of innovative culture among the staff;
- to assess the creative potential of employees and their ability to use skills and knowledge in innovative activities;
- to invest in the development of the bank's human capital, introducing a system of continuous education;
- create a favorable climate for the productive work of personnel;
- upgrade production facilities.

The following scale is used to assess the bank's innovative capacity: up to 4.0 points - a low level of innovative potential is considered; from 4.1 to 8.0 – average level of innovation potential; from 8.1 to 11.55 – a high level of innovative potential.

The calculation of the integral indicator of the innovation potential of JSC CB "PrivatBank" is given in table 2.10.

Table 2.10

Calculation of the integral indicator of the innovative potential of the bank

Indicator	Calculation	Mark
Integral indicator of the innovative potential of the bank (I)	$I = 0.15 \times 7 + 0.25 \times 12 + 0.25 \times 7 + 0.1 \times 9 + 0.1 \times 11 + 0.15 \times 13$	9.75

The integral indicator of the innovative potential of the bank is 9.75 points, which indicates a high level of use of the innovative potential.

Therefore, the evaluation showed that JSC CB "PrivatBank" has a high level of innovation capacity. It was found that the bank has sufficient financial support, is financially stable and profitable. From this we can conclude that the bank can use internal sources to finance its innovative activities. Material and technical, personnel and information capabilities show slightly less satisfactory results, but this does not have a significant impact on the overall level of innovation capacity of JSC CB "PrivatBank".

CHAPTER 3

PRIORITY DIRECTIONS OF THE DEVELOPMENT OF INNOVATIVE ACTIVITIES OF ENTERPRISES

3.1. Clusters as a tool for activating innovative activities of enterprises

Innovations play an important role in ensuring the competitiveness of companies and determine their strategic success in the market. For the formation of innovative processes, it is necessary to develop effective management systems that allow optimal use of organizational resources and the creation of new production processes.

During the 30 years of independence, Ukraine had significant potential in human resources, scientific achievements and innovations. However, the lack of reforms in the field of science, technology and innovation hindered its development. This led to the reduction of this potential, especially relevant in connection with the fourth industrial revolution and the aggravation of energy and environmental challenges. These challenges require innovative solutions, advanced technologies and improved business models.

Clustering is an effective means of introducing innovative activities. Today, clusters can be considered as an alternative to the traditional sectoral organization of the economy at the level of the country or region. They become the main link in modern institutional formations that effectively organize and regulate a complex system of interdependent economic and social relations.

In Europe, there are about 2,950 clusters, which are regional centers of participants in the respective industries. Economic activities related to European clusters account for up to 39% of all jobs and up to 55% of wage funds in the EU. Unlike traditional production cooperatives, clusters are characterized by higher innovation: 87% of all EU patents belong to companies that are members of clusters. In addition, clusters have a great influence on foreign economic activity, since half of export-oriented industries belong to them [53].

Clusters are characterized by higher competitiveness, which on average exceeds export industries by 15%. In the most developed clusters, participants have labor productivity that is twice as high as that of traditional exporting firms that are not part of any cluster.

The creation and development of clusters is an effective tool for attracting foreign direct investment and intensifying integration into global value chains, which allows enterprises to increase their technological level, expand innovative activities to obtain competitive advantages, expand the volume of product processing and create added value. This is facilitated by such factors as the introduction of advanced techniques and technologies, access to the latest management methods, as well as the acquisition of specialized knowledge and opportunities to enter global markets.

Therefore, clusters intensify the innovative activities of enterprises, in contrast to branch business associations, which are usually aimed at lobbying the interests of members at the branch level. Clusters focus on increasing competitiveness through international cooperation, export development, innovation and digital technologies.

The impact of the development of clusters on the economy of the region and the country can be summarized as follows [53]:

1. Clusters coordinate economic activity, forming such "industrial blocks" within the country, which consist of "connected" chains of cooperation, including value creation. This model of the concentration of economic processes helps to identify gaps in chains and fill them.

2. Clusters expand markets, which is a key outcome of interfirm cooperation. Cooperation between companies, which leads to increased efficiency at scale, facilitates the penetration of firms into new segments and markets.

3. The development of relations between cluster participants contributes to the strengthening of competitive advantages through joint research and development that bring collective benefit.

4. Clusters create new chains of added value by establishing cross-connections between companies, which increases the number of industrial nodes and ensures the sustainability of the entire network system.

5. Clusters generate systemic synergistic effects, contributing to an industrial "chain reaction", when the successful operation of one cluster reinforces the results of others.

Research in the USA also shows that new enterprises appear faster and develop more successfully precisely in areas with a high level of developed cluster structures. Another important argument in favor of clusters is that regions with more developed clusters have demonstrated better profitability.

Table 3.1 shows the best scientific and technological clusters in the world according to the results of the Global Innovation Index 2023 (GII-2023) [54].

Table 3.1.

The best science and technology clusters by economy among the top 100 in 2023

Rank	Cluster name	Country	Founder	Naukova organization
1	Tokyo-Yokohama	Japan	Mitsubishi Electric	University of Tokyo
2	Shenzhen-Hong Kong-Guangzhou	Hong Kong, China	Huawei	Sun Yat-sen University
3	Seoul	Republic of Korea	Samsung Electronics	Seoul National University
4	Beijing	China	BOE Technology	Tsinghua University
5	San Jose-San Francisco	United States	Google	Stanford University
12	Paris	France	Automobiles	Sorbonne University
20	London	United Kingdom	Nicoventures Trading	University College London
22	Munich	Germany	BMW	Technical University of Munich
26	Amsterdam-Rotterdam	Netherlands	TNO	Utrecht University
27	Taipei-Hinchu	Taiwan	Hewlett-Packard	National Taiwan University
30	Tel Aviv-Jerusalem	Israel	Yeda Research and Development	Hebrew University of Jerusalem

So, the five largest scientific and technical clusters in the world are concentrated in East Asia. The largest among them is Tokyo-Yokohama (Japan), followed by Shenzhen-Hong Kong-Guangzhou (China and Hong Kong, China), Seoul (Republic of Korea), and the Chinese clusters in Beijing and Shanghai-Suzhou. This year, the GII established the presence of 24 science and technology clusters in China, which is three more than in the previous year. China leads in the number of clusters, among which Shenzhen-Hong Kong-Guangzhou, Beijing, Shanghai-Suzhou and Nanjing are the most defined. There are 21 scientific and technical clusters in the USA, 9 in Germany, and 4 clusters in each country in Japan, Canada, India and the Republic of Korea.

Science and technology clusters in other middle-income countries besides China have also shown significant growth in science and technology productivity. For example, India, which has four leading science and technology clusters, has seen a particular increase in the density of inventors and scientific authors, particularly in Chennai and Bengaluru.

3.2. Benchmarking analysis of clusters: foreign experience

Clusters are a powerful tool and opportunity for structural changes in the economy, which is becoming a priority for smart specialization strategies. Recent studies confirm that new sectors and industries emerge faster in regions with developed clusters. The experience of countries such as Austria, Germany, Canada, China, the USA, France, Singapore, India and others shows the prospects for solving the tasks of automation and digitization of industry through the creation of digital regional and interregional clusters. Such clusters are formed by uniting enterprises of the sector of information and communication technologies with industrial production companies, research and educational institutions, financial and state organizations with the aim of strengthening cooperation, tracking the life cycle of the product and promoting it on domestic and foreign markets with the help of the latest digital solutions

In the strategies of the European Union, clusters play a key role as the main mechanism for the implementation of smart specialization of regions, as well as for the formation of regional strategies in the fields of innovation and digital transformation.

Next, we will examine the experience of Europe in view of the peculiarities of cluster models, as well as relevant strategies and programs.

Although the specific development and implementation of cluster policies varies depending on the context and rationale for national or regional policy in different regions, the analysis shows some common features, including:

1. Clusters can be supported by implementing special cluster programs or by including them in other economic support programs. For example, increasing interaction between various interested parties, increasing the competitiveness of small and medium-sized enterprises, activity in the field of international trade or modernization of industry at the regional level.

2. Cluster policy is aimed at the development of innovation, research and technological growth. It is woven into regional innovation strategies, where clusters facilitate cooperation between companies and institutions to develop important industries and technologies.

3. Cluster support is often aimed at the development of small and medium-sized enterprises (SMEs), which constitute the majority of companies in industrial ecosystems. Clusters bring together policy, innovation and support for SMEs, promoting joint participation and involving different stakeholders.

The main difference between national and regional strategies is that the national strategy focuses on the development of new and high-tech industries, while the regional strategy supports the traditional and core sectors of the region.

Attention should be focused on specific areas and instruments of state support, which are implemented in cluster policies (Table 3.2).

Table 3.2

Directions and instruments of state support and sources of funding for clusters

[55]

<i>Directions and instruments of state support</i>	<i>Sources of funding</i>
Support for the participation of small and medium-sized enterprises in clusters	State funding
Support of international cooperation between clusters in the same sector	Contributions from participating enterprises
Support of interdisciplinary cooperation	Funding provided by local authorities
Financing of meetings and networking events	Private investment funds (for example, crowdfunding, venture capital and others)
Support for entering international markets (testing)	Intermediary organizations and associations
Creation of new infrastructure for clusters	Grants
Business development and scaling support	Trust funds, NGOs
Promotion of environmental efficiency	Payment for the provision of services by members of the cluster

The European strategy of cluster development to stimulate economic growth is based on three key principles: the development of new industries that are rapidly expanding; strengthening interregional cooperation and international interaction between clusters; use of best practices in cluster activities through systematic benchmarking analyzes and exchange of best practices.

Table 3.3 shows the benchmarking analysis of clusters in Poland, Hungary, the Czech Republic and Latvia [55].

Table 3.3.

Benchmarking analysis of clusters of Eastern European countries

Country	Number of clusters/ Financing	Support goals
Poland	40 clusters in 30 spheres; 5 million euro.	Increasing the international influence of clusters; support of best practices of cluster participants; dissemination of scientific and research developments and implementation of the latest technologies; strengthening innovative ecosystems in specific regions; promotion of entrepreneurship, startups and business development.
Hungary	25 accredited cross-sector clusters;	Increasing the competitiveness of SMEs, strengthening partnership relations, supporting research projects, internationalizing management and cluster members, increasing scale, increasing

	68 million euro.	recognition, supporting best practices, unifying clusters, improving management skills.
Czech Republic	35 clusters, of which 25 make up the national association of clusters; 10 million euro.	Strengthening the competitiveness of SMEs by increasing their innovative potential and promoting the introduction of the latest technologies. Development of cooperation between companies and scientific institutions to create innovative ecosystems in the regions. Support for internationalization of business and raising awareness of clusters. Transfer of best practices between cluster members.
Latvia	15 clusters; 5.4 million euro.	Increasing the competitiveness of SMEs, strengthening interaction between companies or between sectors and scientific institutions; support of business internationalization; increasing the visibility of clusters on the market; providing support to the best practices of cluster participants.

Hungary was one of the pioneer countries in Central and Eastern Europe where, starting from the 2000s, the national government actively supported the development of clusters. On the initiative of the government program in 2001, the first cluster in Central and Eastern Europe was created - PANAC: Pannon Automotive Cluster. Latvia has prioritized smart specialization and export potential, promoting this through the development of clusters. In addition, in all countries there are cluster associations that not only perform a representative role, but also directly cooperate with the government in the development of strategic documents and programs.

Polish clusters mainly receive funding from regional authorities and several state agencies. The state participates not only in financing cluster coordinators, but also in financing projects implemented by clusters. For example, in 2020, 104 projects were implemented with the help of regional programs for a total amount of PLN 118.8 million. Clusters working in the field of innovative developments and environmental systems for aviation received the largest share of funding.

Therefore, the support of clusters is mainly focused on the development of small and medium-sized enterprises, promotion of inter-industry cooperation and increasing the level of professionalism in the management of cluster organizations.

In 2022, only 30 cluster organizations were officially registered in Ukraine, which is less than in 2020, when there were 48 [56].

On March 24, 2022, the Ukrainian Cluster Alliance (UCA) was founded on the basis of the Clusters 4 Ukraine initiative, which emerged from the cluster committee of

the Industrial and Hi-Tech Sectors Platform Industry 4 Ukraine. The Ukrainian Cluster Alliance (UCA) is a widely represented national union that unites enterprises, business organizations, clusters and cluster organizations with the aim of increasing competitiveness. UKA proposes the implementation of the principles of cluster cooperation, industrial, digital and green innovations, as well as effective partnership with state bodies.

At the end of 2023, the Ukrainian Cluster Association carried out restructuring, as a result of which 26 clusters remained in the alliance and there were 52 projects with a total cost of more than 120 million euros. About a third of these projects are ecosystem development, which confirms the mission of UKA in strengthening the main aspects of innovation and development. Another significant aspect is that more than 50% of projects are aimed at European integration processes, confirming the interest of UKA clusters in cooperation with European partners. UKA also presented approximately 40 initiative projects to the Ministry of Economy as part of the preparation of a package for the European Commission. Among the most impressive and significant projects submitted for funding in 2023, the Burshtyn+ project can be noted, in which four clusters (Dniester 1362, Kyiv hi-tech cluster, Carpathian eco-energy cluster, Astar agency) and six communities of Ivano-Frankivsk region participate (results will be announced in the first quarter of 2024). Therefore, the existing set of projects is the basis for applying for grants and forms the basis of joint investment proposals from clusters of UKA.

In 2023, the Ukrainian Academy of Sciences significantly expands the range of sources of funding, while the main changes concern: the expansion of sources of grant funding and the inclusion of systematic international technical assistance.

Within the framework of the UKA, 6 position documents were issued, which strengthen the role of the UKA as a leader of the double transition and innovative development of SMEs, namely:

Transition Manifesto and Industry 5.0 Conference Resolution;

The development of DIHs in Ukraine is a treat for everyone who wants to understand the topic of Digital Innovation Hubs;

UKA's proposals for the development of innovative ecosystems are an important document of UKA in the context of the "waterfall" of grant and other EU programs opened for Ukraine;

Regulatory policy for the development of clusters - intended for all state level stakeholders who seek to understand what clusters are and how they need to be supported by the state;

"Analysis of innovative ecosystems of Industry 4.0. Prospects for cooperation with Poland".

Therefore, in 2023, a positive trend is observed in Ukraine in the creation of new cluster initiatives in various fields, such as dual-purpose technologies, photonics, cyber security, advanced materials, medical equipment and medical innovations. During this period, there has been a fourfold increase in the participation of clusters and advanced SMEs in large pan-European innovation projects. For example, the Association of Industrial Automation Enterprises of Ukraine (APPAU) received funding under the Horizon Europe project. Increasing demand for grants in the field of innovative fundraising among SMEs. An important achievement is the improvement of relations with government ministries (Ministry of Education, Ministry of Economy, Ministry of Statistics, Ministry of Defense, State Special Communications) and agencies in the field of innovation, which creates the basis for new programs for 2024-2025.

3.3. The concept of Islamic banking as an innovative direction of development of the modern banking sphere in Ukraine

In today's world, the banking industry is constantly evolving, looking for new ways to ensure financial stability and efficiency. One of these innovative concepts is Islamic banking, which is gaining more and more attention in Ukraine.

Thus, according to the new strategy, which was adopted on July 19, 2023, the main priorities for the development of the financial sector are to strengthen resistance to

the aggression of the Russian Federation and to restore the country by ensuring macroeconomic stability; strengthening of financial stability; encouraging the functioning of the financial system in the direction of restoring the country; development of innovative financial services (including Islamic banking); increasing the institutional effectiveness of regulators and the Deposit Guarantee Fund of individuals [34].

In the situation of military conflict with the Russian Federation and increased risk, which leads to the complication of access to credit in the banking system of Ukraine, it is advisable to consider the possibility of using Islamic banking as an alternative source of financing. Islamic countries are characterized by a higher level of stability in their banking systems, especially in conditions of macroeconomic instability. The use of Islamic banking principles can help reduce risks and provide more affordable financing conditions for Ukrainian enterprises and the population.

Islamic banking is based on the concept of conducting all transactions in accordance with the principles of Shariah, where responsibility is equally distributed among all parties to the transaction, and profit is considered legitimate only if it is obtained through personal contribution in the form of capital, labor and experience. According to the Koran and the Sharia, the practice of charging loan interest, or "riba", is considered the most serious sin [57]. Islam supports the making of profit, but condemns the use of the interest system because it does not lead to the creation of new goods or services and therefore does not contribute to the improvement of the quality of life of society.

The Islamic model differs in a number of features from the traditional banking system (Table 3.4) [57-59].

Table 3.4

A comparative overview of the Islamic and traditional model of the banking system

Islamic banking system	Traditional banking system
The activity is based on the principle of investing	The main field of activity is the provision of loans
Denial of interest and distribution of profits and losses between the client and the bank	Using interest rates as loan fees
Prohibition on speculative operations	Use of speculative operations, such as the sale of debt obligations
Evaluation of the essence and prospects of the financed project	When choosing projects, preference is given to factors such as the availability of property security
No problem of fiduciary funds	There is a phenomenon of "non-existent money"
Activities are supervised by representatives of the clergy	The activity of banks is subject to state control
Creation of favorable conditions for small and medium-sized businesses	Preference is given to large enterprises (the smaller the size of the enterprise, the higher the interest rates for the loan can be)
Risks are shared between depositors, the bank and borrowers	Risks are mostly borne by borrowers
Financing of real objects and production	Preference in the provision of financing is often given to highly profitable, but risky objects

Therefore, traditional banking is based on extensive use of credit and risk transfer, while Islamic banks provide financial services based on joint investment activities and risk sharing. In the Islamic model, money is not seen as a commodity and has no intrinsic value, it is only used for an economic function through trade or investment. According to Shariah principles, banks cannot invest in any product that is incompatible with these principles. Unlike the traditional model, there are no speculative operations in the Islamic system, which avoids the formation of bubbles in the markets of goods, services and assets. Islamic banks refrain from selling debt and investing in distressed assets and mortgage-backed securities.

Our position coincides with the opinion of scientists Ryabinina L. and King M. [57], who believe that the main difference in the functioning of Islamic banks lies in

their financial intermediation, not in lending, which is characteristic of traditional banks, as well as in the possibility of using initially free liabilities and full control over the intended use of the funds provided by the bank.

Islamic banks play a key role in the Islamic financial system, performing similar functions to traditional banks: ensuring the functioning of the national payment system and acting as financial intermediaries. An Islamic bank, on the one hand, acts as a defender of depositors, and on the other - as a partner of potential investors.

It is necessary to consider Islamic banking institutions not only from the point of view of the geographical origin of their capital, but also according to their principles of activity (observance of the principles of Islam). Islam does not forbid making a profit, but it rejects a fixed profit that does not depend on the result.

To all the mentioned economic advantages, we can add that according to the principles of Sharia, Islamic banks cannot provide financing for the production of alcohol, tobacco, pork, gambling and pornography, which contributes to the preservation of morality in society.

The first Islamic bank, now known as Islamic Finance House, in Europe was founded in 1978 in Luxembourg. Also in 1981, a similar banking institution, Daral-Malal-Islam, was founded in Switzerland. Lariba Financial Institute appeared in the USA in 1987, which became known as an advanced financial institution and operates in 35 states. In 1989, the Muslim Community Cooperative of Australia appeared in Australia [57].

Great Britain is the main center of Islamic banking, where there are five full-fledged Islamic banks (Bank of London and Middle East, QIBUK, European Islamic Investment Bank, Gatehouse Bank, Islamic Bank of Britain) and seventeen traditional banks have created "Islamic windows" in their branches .

Therefore, Europe is interested in the activities of Islamic banks due to the growing number of Muslims (more than 50 million people) and the need to diversify financial instruments.

After the global financial crisis of 2008–2009 and the European debt crisis of 2011–2012, the geographic expansion of Islamic banks increased significantly. This led

to close cooperation of Islamic banking institutions with international partners such as Citibank, BNP Paribas, HSBC and others. These partners open their own "Islamic windows" or special divisions that operate on the basis of Islamic banking principles.

Yes, for example in 2023. according to the rating Strongest Islamic Banks By Balance Sheet Al Rajhi Bank (Saudi Arabia) maintained its leading position as the strongest Islamic bank in the world. The evaluation is based on a comprehensive and transparent system of indicators, which evaluates banks according to six areas of financial activity of the balance sheet, including the ability to scale, growth of the balance sheet, risk profile, profitability, asset quality and liquidity, which takes into account 14 factors [60].

Islamic banks in the Middle East showed greater scale and profitability compared to their Asian counterparts, while Asian Islamic banks were characterized by better asset quality. The highest overall strength was demonstrated by Islamic banks in Saudi Arabia and Kuwait, characterized by impressive capitalization, liquidity and profitability. For example, the average Tier 1 capital ratio in Saudi banks is 19%, and the capital adequacy ratio is 21%. In Kuwait, banks are marked by high liquidity indicators, with a weighted liquidity coverage ratio of 181% compared to 134% for Saudi banks. As for Asia, Islamic banks in Pakistan stand out as having the highest financial strength due to exceptional balance sheet growth, profitability and liquidity.

Al Rajhi Bank, founded in Saudi Arabia, remains the largest Islamic bank in the world according to the 2023 ranking of the world's 100 largest Islamic banks and financial holding companies. The rating included 45 Asian, 42 Middle Eastern, 9 European and 4 African Islamic banks (Table 3.5) [61].

Table 3.5

The largest Islamic banks in the world 2023

Rating	Bank	Country	Assets (\$, million)	Net profit (\$, million)	ROE (%)	ROA (%)
1	Al Rajhi Bank	Saudi Arabia	202,674	4,568	20.8	2.4
2	Bank Tejarat	Iran	130,084	915	13.1	0.8
3	Kuwait Financial House	Kuwait	120,481	1,418	15.3	1.8
4	Bank Pasargad	Iran	94,767	3,514	46.9	4.4
5	Dubai Islamic Bank	UAE	78,475	1,511	13.2	2.0
6	Maybank Islamic	Malaysia	66,109	690	22.6	1.1

Kuwait Finance House ranked third among the largest Islamic banks, beating Bank Pasargad and Dubai Islamic Bank among the 100 largest Islamic banks and financial holding companies from 26 countries.

The top 100 Islamic banks had assets of \$1.57 trillion, net funding of \$1 trillion, deposits of \$1.15 trillion, and net income of \$24.4 billion. An analysis of the world's 6 largest Islamic banks shows their diverse geographic representation: key players are located in Saudi Arabia, Iran, United Arab Emirates, Kuwait and Malaysia. Middle Eastern banks hold a dominant share of 71.6% of the assets of the top 100 Islamic banks, well above the 24.3% held by their Asian counterparts.

Islamic banking products and services are divided according to the principle of formation into three types: based on partnership; on participation in agreements; principle of "commission" products (Fig. 3.1) [62].

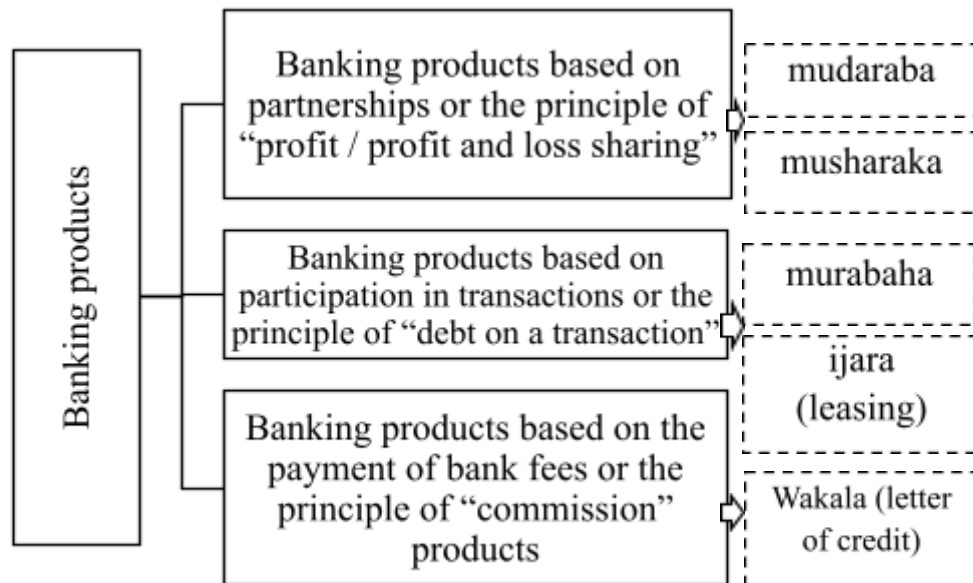


Fig. 3.1. Classification of Islamic banking products and services.

We describe the key financial instruments that are special in the Islamic banking system [62-63]:

1. Mudaraba is an agreement under which the client transfers funds to the bank for further investment in trade, industry or agriculture. This agreement is similar to a traditional bank deposit, but it differs in that the direction of use of these funds is determined in advance. In addition, in case of losses, the client bears all responsibility, and in case of profit, it is distributed proportionally between the participants of the agreement.

2. Musharaka, as a type of investment activity in the Islamic banking system, represents a joint venture where one of the participants is the bank itself. This agreement provides for the sharing of risk and profit between all parties according to the terms of the agreement. It is important to note that a bank participating in musharak has more responsibilities, risks and powers compared to other partners. This mechanism, similar to a limited partnership, allows the bank to participate in the financing of projects without charging interest, but providing participation in the distribution of profits according to the terms of the contract, which details all aspects of the project.

Mudarabah and musharakah are considered the main components of the Islamic banking system.

3. Murabaha is a method of financing by which a bank or other financial intermediary purchases the necessary asset on the market (while the product must be the property of the bank or intermediary) and resells it to the client with deferred payment. The contract clearly defines the amount of acquisition costs and additional increased payment for services. This type of agreement is analogous to consumer lending.

4. Ijara is a type of investment activity in which the lessor acquires ownership of specific property and transfers it to the lessee for temporary possession and use for a specified period under the terms of paid rent.

5. Wakala, also known as a letter of credit, is an Islamic financial instrument that allows a client (beneficiary) to make payments or enter into agreements through a bank or other trustee (wakil) on his behalf and for his benefit.

6. Sukuk are Islamic financial instruments, which are financial certificates issued in accordance with the principles of Sharia (Islamic law). They are an alternative to traditional bonds and are based on shared ownership or rights to income from specific assets or projects. Sukuk allow investors to make investments in accordance with the principles of Islamic finance, which exclude speculative transactions or investment in prohibited areas such as alcohol, pork and interest-related financial services.

The concept of Islamic banking in Ukraine arouses interest both among experts in the economic sphere and among representatives of the banking sector, including the National Bank of Ukraine, which is reflected in the new "Strategy for the Development of the Financial Market of Ukraine" (2023), which provides for the introduction of "Islamic" financial instruments [34].

However, the introduction of Islamic banking in Ukraine requires a comprehensive approach and consideration of various aspects to ensure its successful implementation and positive impact on the country's financial system and economy.

Ukraine is characterized by a small number of Muslims, estimated at between 600,000 and 2 million people, depending on the source. The Muslim community in Ukraine is diverse: it includes Crimean Tatars, Volga Tatars, Turks, people from Central

Asia, the North Caucasus, Azerbaijan, as well as from Arab countries, and there are also new converts among Ukrainians [64].

Ukraine needs investments, not short-term loans. Arab countries can help in this, as they are ready to invest if a favorable investment atmosphere is created in Ukraine. However, this does not mean that a radical Islamic bank should be created. It can be an ordinary bank, which is primarily regulated by domestic law, but works according to the principles of Sharia.

The absence of Islamic banking in Ukraine can be explained by the following reasons:

1. Inconsistency of Ukrainian legislation with the principles of Islamic banking, in particular, Sharia norms.

2. The absence of direct bank settlements between the countries of the Islamic world and Ukraine, which complicates the interaction of Islamic banking institutions with Ukrainian banks.

3. Weak awareness of the parties regarding Islamic banking, which may be a consequence of the lack of mass information and education about this branch of finance.

4. Insufficient level of qualified specialists who have experience in the field of using Islamic banking tools.

5. Economic and political instability, including the factor of war.

6. Most Ukrainians have limited awareness of Islamic banking, its advantages and principles. This may reduce the demand for such services.

Thus, the concept of Islamic banking differs from traditional banking in two key aspects. First, a higher ethical standard guarantees the rejection of irresponsible risks and rewards for high officials. Second, profits are based on specific assets, not on speculative transactions. Financial transactions are based on the joint participation and responsibility of all parties, where banking institutions actively monitor the performance of borrowers and set strict requirements for them, and the bank does not require collateral from the client. This business model has become not only a theoretical concept, but also an effective practice, especially in the conditions of financial crises. The growth of the Islamic banking sector outside the borders of Islamic countries

indicates its importance in the global financial system. Islamic financial instruments can become an important source of financing for small and medium-sized enterprises in Ukraine, providing them with access to alternative sources of capital and contributing to their development and growth. In addition, Islamic financial instruments can contribute to the development of entrepreneurship and the creation of new jobs, which will positively affect the economic recovery and development of the country. However, their successful implementation requires appropriate infrastructure and a favorable regulatory environment.

CONCLUSIONS

As a result of the research, the following conclusions were made:

1. As a result of studying the scientific views of scientists and practitioners, the main approaches to defining the concept of "innovation" were summarized: as a new technology, product or service; as a result or achievement; as an idea; as a process; as an element of development (change). The concept of "innovation", "innovation" and "innovation" was considered, taking into account the concept of the life cycle of innovations, which made it possible to distinguish these terms and clarify their relationship. So, innovation is the result of research or development aimed at increasing efficiency in any field; innovation is the introduction of innovation into the economic production cycle, when an invention or idea acquires economic value, and innovation is the final result of the introduction of innovation, which is expressed in the form of a new or improved product or technological process used in practice. The typology of innovations is systematized according to classification features, which allows to choose appropriate management methods according to the type of introduced innovations, to assess the risks associated with them, and to make sound economic decisions regarding investment in innovative activities.

2. In a situation of instability and rapid changes in the external environment, the requirements for the development of innovative activities of enterprises are revised. Accordingly, the categorical-conceptual essence and peculiarities of the management of innovative activity of banking institutions have been clarified through a deep study of the essence and modern classification of banking innovations, various factors that can contribute to or hinder the development of innovations, the model of the process of managing the innovative activity of the bank and key tools, such as innovation marketing, benchmarking and innovative engineering.

3. The basic regulatory and legal support aimed at supporting the development of innovative activity in Ukraine, covering different levels of management, was studied. In particular, laws on scientific and technical activity, on innovative activity, on priority areas of innovative activity in Ukraine, on stimulating the development of the digital

economy in Ukraine, as well as national strategies and programs that should contribute to the creation of an environment for innovation and support of innovative projects, the development of entrepreneurship in in the context of digital transformations, etc. Among them is also the country's recovery plan, which includes a wide range of measures to increase competitiveness and sustainable development, including modernization of economic sectors, infrastructure development, and strengthening of the defense-industrial complex. A new strategy for the development of the financial sector of Ukraine was considered, aimed at achieving five main strategic goals: ensuring macroeconomic stability, increasing financial stability, supporting the functioning of the financial system for the recovery of the country, promoting the development of innovative financial services, and increasing the institutional efficiency of regulators and the Deposit Guarantee Fund natural persons. The components and problems of the innovation infrastructure, the effectiveness of which depends on the proper system of innovation intermediaries and available financing and state support, are considered in detail.

4. An analysis of the current level of innovative activity of enterprises in Ukraine was carried out. It was found that even during the period of hostilities, the country holds the 55th place in the Global Innovation Index (compared to the 57th place in 2022). With the help of SWOT analysis, both weaknesses and strengths, potential threats and opportunities for the development of innovations were identified. Among the problems, insufficient financing of innovations, political instability and shortcomings in organizational, legal and economic mechanisms for promoting innovations are highlighted. However, the development of scientific and technological progress, the implementation of innovative development strategies, the expansion of support programs and fiscal incentives for innovative enterprises, as well as the attraction of foreign experience and investment can help in solving these problems. To ensure the sustainable development of Ukraine, it is important to create attractive conditions for companies actively implementing innovations and attract investors, which will contribute to economic growth both during and after the war.

5. The technical and economic characteristics of JSC CB "PrivatBank", which focuses on servicing the retail market and expanding its range of services for small and medium-sized businesses, are presented. The analysis of financial and economic activity speaks about the financial stability and development of the bank in the conditions of war. JSC CB "PrivatBank" occupies leading positions in various ratings, increases profitability and income, volumes of deposit and credit operations, and has a sufficient level of customer loyalty. Also, the bank is provided with regulatory capital at a sufficient level and complies with the economic standards of the NBU.

6. The integrated indicator of the innovative potential of the bank was calculated, which is 9.75 points, which indicates a high level of use of the innovative potential. Therefore, the evaluation showed that JSC CB "PrivatBank" has a high level of innovation capacity. It was found that the bank has sufficient financial support, is financially stable and profitable. From this we can conclude that the bank can use internal sources to finance its innovative activities. Material and technical, personnel and information capabilities show slightly less satisfactory results, but this does not have a significant impact on the overall level of innovation capacity of JSC CB "PrivatBank".

7. It has been established that clusters are a powerful tool and opportunity for structural changes in the economy, which is becoming a priority of smart specialization strategies. Recent studies confirm that new sectors and industries emerge faster in regions with developed clusters. The experience of countries such as Austria, Germany, Canada, China, the USA, France, Singapore, India and others shows the prospects for solving the tasks of automation and digitization of industry through the creation of digital regional and interregional clusters. Such clusters are formed by uniting enterprises of the sector of information and communication technologies with industrial production companies, research and educational institutions, financial and state organizations with the aim of strengthening cooperation, tracking the life cycle of the product and promoting it on domestic and foreign markets with the help of the latest digital solutions

8. The concept of Islamic banking is substantiated, which differs from traditional banking business in two key aspects: a higher ethical standard that excludes irresponsible risks and provides rewards for high positions, and profits based on specific assets and not on speculative operations. Financial transactions are based on the joint participation and responsibility of all parties, where banking institutions actively monitor the performance of borrowers and set strict requirements without requiring collateral. This business model has already become not only a theoretical concept, but also an effective practice, in particular in the conditions of financial crises. The growth of the Islamic banking sector outside the borders of Islamic countries indicates its importance in the global financial system. Islamic financial instruments can become an important source of financing for small and medium-sized enterprises in Ukraine, providing access to alternative sources of capital and contributing to their development and growth. In addition, they can contribute to the development of entrepreneurship and the creation of new jobs, which will positively affect the economic recovery and development of the country. However, successful implementation requires appropriate infrastructure and an enabling regulatory environment.

The obtained results are practically important, since the main conclusions and provisions of the study are expressed in the form of recommendations on the activation of the development of innovative activities of enterprises, which will contribute to the recovery of the economy of Ukraine.

REFERENCES

1. Law of Ukraine. (2002, July 4). On innovative activity (No. 40-IV, as of March 31, 2023). Retrieved January 27, 2024, from <https://zakon.rada.gov.ua/laws/show/40-15#Text>
2. Chikov, I. A. (2019). Theoretical approaches to defining the essence of the concept of "innovation." *Efficient Economy*, (11). Retrieved February 12, 2024, from <http://www.economy.nayka.com.ua/?op=1&z=7450>
3. Shushkova, Yu. V., & Shtunder, M. (2023). State and prospects of development of innovative activity in Ukraine. *Efficient Economy*, (12). Retrieved February 12, 2024, from <https://www.nayka.com.ua/index.php/ee/article/view/2694/2730>
4. Belyanska, Yu. I. (2020). The economic essence and significance of innovations in modern economic conditions. *Review of Transport Economics and Management*, (4), 55–65. Retrieved February 12, 2024, from <http://pte.diit.edu.ua/article/view/209406/228223>
5. Kopytko, M. I. (2019). *Innovation management: A study guide for independent study of the discipline in diagrams and tables*. Lviv: LvDUVS.
6. Yurinetz, Z. I. (2016). *Formation of innovative strategies: Theory, methodology, practice*. Lviv: SPOLOM.
7. Horyashchenko, Yu. G. (2021). *Theoretical and methodological support of innovative development of enterprises* (Doctoral dissertation). University of Customs and Finance, Dnipro.
8. Denisenko, M. P., & Breus, S. I. (2023). Innovations as a tool for adapting the strategic management of a business entity. *Efficient Economy*, (9). Retrieved February 12, 2024, from <https://www.nayka.com.ua/index.php/ee/article/view/2142/2169>
9. Law of Ukraine. (1991, September 18). On investment activity (No. 47, as of October 10, 2022). Retrieved January 27, 2024, from <https://zakon.rada.gov.ua/laws/show/1560-12#Text>
10. Law of Ukraine. (2003, January 16). Economic Code of Ukraine (No. 18). Retrieved January 27, 2024, from <https://zakon.rada.gov.ua/laws/show/436-15#Text>

11. Zakharkin, O. V. (2013). Innovative activity of the enterprise: Theoretical aspect. *Problems of the Economy*, (4), 274–280. Retrieved January 27, 2024, from https://www.problecon.com/export_pdf/problems-of-economy-2013-4_0-pages-274_280.pdf
12. Kuznetsova, A. Ya., Zinko, N. I., & Drugov, O. V. (2009). *Improvement of bank and non-bank financing of innovative activity in Ukraine*. Kyiv: UBSNBU.
13. Ilyashenko, S. M. (Ed.). (2010). *Marketing. Management. Innovations*. Sumy: Papyrus.
14. Polozova, T. V., & Kryvtsun, D. Yu. (2015). Innovative activity of the enterprise and the economic essence of the innovation process. *Scientific Bulletin of the International Humanitarian University*, (12). Retrieved February 22, 2024, from <http://www.vestnik-econom.mgu.od.ua/journal/2015/12-2015/26.pdf>
15. Khristenko, O. V., & Fediy, A. A. (2019). Management of innovative activities of domestic banks: Problems and prospects. *Market Infrastructure*, (37), 429–435. Retrieved February 22, 2024, from http://www.market-infr.od.ua/journals/2019/37_2019_ukr/64.pdf
16. Kirichenko, O. A., & Mishchenko, V. I. (2005). *Banking management*. Kyiv: Znannia.
17. *Strategic bank management: Training manual*. (2003). Sumy: VTD "University Book."
18. Silkina, Yu. O., & Mazur, I. M. (2019). Features of innovative development in the banking sector. *Efficient Economy*, (11). Retrieved February 23, 2024, from http://nbuv.gov.ua/UJRN/efek_2019_11_67
19. Krykhovetska, Z. M., & Levandivskyi, O. T. (2022). The essence and directions of development of banking innovations. *Economy and the State*, (8), 56–61. Retrieved February 23, 2024, from <http://lib.pnu.edu.ua:8080/handle/123456789/13191>
20. Snischenko, R. G., Datsenko, L. I., & Mizeva, L. I. (2023). Directions of implementation of banking innovations. *Transformational Economy*, 2(02), 53–56.
21. Suburbs, L. V. (Ed.). (2017). *Bank management: Innovative concepts and models*. Kyiv: KNEU.

22. Kryvych, Ya. V., & Dranitsyna, A. V. (2019). Banking innovations as a factor in increasing the level of trust and customer loyalty. *Bulletin of Sumy State University. Series: Economy*, (3), 33–39. Retrieved February 23, 2024, from http://nbuv.gov.ua/UJRN/VSU_ekon_2019_3_6

23. Klyusko, L. I. (2019). Innovations in the field of banking business. *Collection of Scientific Works of the State Fiscal Service University of Ukraine*, (2), 109–128. Retrieved February 23, 2024, from http://nbuv.gov.ua/UJRN/znpnudps_2019_2_10

24. Volohata, V. E. (2021). The current state and prospects for the development of banking innovations in the context of improving the quality of customer service. *Business Information*, (4), 204–209. Retrieved February 24, 2024, from https://www.business-inform.net/export_pdf/business-inform-2021-4_0-pages-204_209.pdf

25. Ministry of Economy of Ukraine. (n.d.). Institutions providing support for innovative activities. Retrieved February 24, 2024, from <https://www.me.gov.ua/Documents/Detail?lang=uk-UA&id=9e09cb5a-4c6e-4bc2-8445-4a4e1ebdbd76&title=Institutsii-SchoZabezpechuiutPidtrimkuInnovatsiinoiDiialnosti>

26. Levytskyi, V., & Radynskyi, S. (2023). Improvement of innovation and investment activity in the period of post-war reconstruction of Ukraine: Organizational and regulatory aspect. *Galician Economic Herald*, 84(5), 151–161. Retrieved February 24, 2024, from <https://galicianvisnyk.tntu.edu.ua/pdf/84/1223.pdf>

27. Law of Ukraine. (2024, January 13). On the priority areas of innovative activity in Ukraine. Retrieved February 25, 2024, from <https://zakon.rada.gov.ua/laws/show/3715-17#Text>

28. Cabinet of Ministers of Ukraine. (n.d.). National Economic Strategy 2030. Retrieved February 25, 2024, from <https://www.kmu.gov.ua/npas/pro-zatverdzhennya-nacionalnoyi-eko-a179>

29. National Institute of Strategic Studies. (n.d.). *Ukraine - 2030: Strategy for changing the future*. Retrieved February 25, 2024, from <https://niss.gov.ua/sites/default/files/2020-12/ukraine-2030-1.pdf>

30. National Institute of Strategic Studies. (n.d.). Priorities for the development of national entrepreneurship in the context of digital transformations. Retrieved February 25, 2024, from <https://niss.gov.ua/sites/default/files/2020-11/cyfrovi-transformatsii.pdf>

31. United Nations Development Programme. (n.d.). Goals of sustainable development of Ukraine for the period until 2030. Retrieved February 25, 2024, from <https://www.undp.org/uk/ukraine/tsili-staloho-rozvytku>

32. Cabinet of Ministers of Ukraine. (n.d.). Strategy for the development of the sphere of innovative activity for the period until 2030. Retrieved February 25, 2024, from <https://zakon.rada.gov.ua/laws/show/526-2019-%D1%80#Text>

33. Cabinet of Ministers of Ukraine. (n.d.). Strategy for the development of the defense-industrial complex of Ukraine. Retrieved February 25, 2024, from <https://zakon.rada.gov.ua/laws/show/372/2021#Text>

34. National Bank of Ukraine. (n.d.). Strategy for the development of the financial sector of Ukraine. Retrieved February 25, 2024, from https://bank.gov.ua/admin_uploads/article/Strategy_finsector_NBU.pdf?v=7

35. Ministry of Agrarian Policy and Food of Ukraine. (n.d.). Strategy for the development of exports of agricultural products, food, and processing industry of Ukraine for the period until 2026. Retrieved February 25, 2024, from <https://zakon.rada.gov.ua/laws/show/588-2019-%D1%80#Text>

36. Cabinet of Ministers of Ukraine. (n.d.). Industrial parks development strategy for 2023–2030. Retrieved February 25, 2024, from <https://zakon.rada.gov.ua/laws/show/176-2023-%D1%80#n9>

37. Ministry of Economic Development and Trade of Ukraine. (n.d.). Recovery plan of Ukraine. Retrieved February 25, 2024, from <https://www.kmu.gov.ua/storage/app/sites/1/recoveryrada/ua/economic-recovery-and-development.pdf>

38. Ministry of Finance of Ukraine. (n.d.). Ukraine approved a new strategy for the development of the financial sector. Retrieved February 26, 2024, from <https://finclub.net/ua/news/ukraina-zatverdyla-novu-stratehiu-rozvytku-finansovoho-sektoru.html>

39. Ministry of Economy of Ukraine. (n.d.). State of development of innovative infrastructure. Retrieved February 25, 2024, from <https://www.me.gov.ua/Documents/Detail?lang=uk-UA&id=022cfe7f-2c18-4545-ab69-1a3a39aea3f8&title=StanRozvitkuInnovatsiinoiInfrastrukturi>

40. Ministry of Economy of Ukraine. (n.d.). Industrial parks in Ukraine - 2022. Retrieved February 25, 2024, from <https://www.me.gov.ua/Documents/Detail?lang=uk-UA&id=47454ed4-b60a-4f37-bb77-b7f3127742f8&title=IndustrialniParkiVUkraini2022-Rik>

41. Ministry of Economy of Ukraine. (n.d.). Innovation parks: What they are and where they will be created in Ukraine. Retrieved February 25, 2024, from <https://www.slovoidilo.ua/2021/04/16/infografika/suspilstvo/innovacijni-parky-ce-vony-budut-stvoreni-ukrayini>

42. World Intellectual Property Organization. (2023). Global Innovation Index 2023: Ukraine is in 55th place. Retrieved February 26, 2024, from <https://mind.ua/news/20263287-global-innovation-index-2023-ukrayina-na-55-mu-misci>

43. Shushkova, Yu. V., Shtunder, I. M., & Lapinskyi, S. (2023). State and prospects of development of innovative activity in Ukraine. *Efficient Economy*, (12). Retrieved February 26, 2024, from <https://www.nayka.com.ua/index.php/ee/article/view/2694/2730>

44. State Statistics Service of Ukraine. (n.d.). Official website of the State Statistics Service of Ukraine. Retrieved February 26, 2024, from <http://www.ukrstat.gov.ua/>

45. Ministry of Education and Science of Ukraine. (2024). Road map of the use of science, technology, innovation to achieve the goals of sustainable development. Retrieved February 27, 2024, from <https://mon.gov.ua/storage/app/media/news/2024/01/03/Dorozhnya.karta.vykoryst.nauky.tekhnolohiy.ta.innovatsiy-03.01.2024-1.1.pdf>

46. Ukrainian Cluster Alliance. (n.d.). Innovation during the war - Is it in time? Research by the Institute of Economic Research and Political Consultation. Retrieved

February 26, 2024, from <https://www.clusters.org.ua/blog-single/innovatsiy-pid-chas-viyny/>

47. PrivatBank. (2022). Annual report of JSC CB "PrivatBank" (2022). Retrieved February 26, 2024, from https://static.privatbank.ua/files/dod1_01052023_2022.pdf

48. PrivatBank. (n.d.). Structure of corporate management JSC CB "PrivatBank." Retrieved February 26, 2024, from <https://privatbank.ua/about/management/corp>

49. Ministry of Finance of Ukraine. (2023). JSC CB "PrivatBank" as of October 1, 2023. Retrieved April 15, 2024, from https://mof.gov.ua/storage/files/%D0%9F%D1%80%D0%B8%D0%B2%D0%B0%D1%82_01_10_2023.pdf

50. PrivatBank. (n.d.). Economic norms and limits of the open currency position of JSC CB "PrivatBank." Retrieved April 11, 2024, from <https://static.privatbank.ua/files/>

51. Minfin. (2023). Bank stability rating based on the results of the 4th quarter of 2023. Retrieved April 14, 2024, from <https://minfin.com.ua/ua/banks/rating/>

52. FinAwards. (2023). Awarding of FinAwards 2023 winners. Retrieved April 14, 2024, from <https://www.finawards.com.ua/>

53. Shaposhnikov, K. S., Andrusiv, S. V., & Zelinska, G. O. (2023). Clusters as a model of innovative activity in the construction industry. *Black Sea Economic Studies*, (79), 48–51. Retrieved March 1, 2024, from http://bses.in.ua/journals/2023/79_2023/8.pdf

54. World Intellectual Property Organization. (2023). Science and technology cluster 2023. Retrieved March 1, 2024, from https://www.wipo.int/global_innovation_index/en/2023/science-technology-clusters.html

55. Ministry of Economy of Ukraine. (2027). *National program of cluster development until 2027*. Retrieved March 1, 2024, from file:///C:/Users/User/Downloads/cluster_development_program%20v1.pdf

56. Ukrainian Cluster Alliance. (2023). *Annual report of the Ukrainian Cluster Alliance 2023*. Retrieved March 1, 2024, from <https://www.clusters.org.ua/report-2023/>

57. King, M. M. (2020). Features of the functioning of the Islamic banking system. *Norwegian Journal of Development of the International Science*, (45), 45–51. Retrieved March 1, 2024, from <https://dspace.uzhnu.edu.ua/jspui/handle/lib/35071>
58. Batorshina, A. F., & Kuznetsova, I. A. (2019). Islamic banking: Global trends and competitive advantages. *Scientific Bulletin of the Uzhhorod National University*, (23), 10–15. Retrieved March 1, 2024, from http://www.visnyk-econom.uzhnu.uz.ua/archive/23_1_2019ua/4.pdf
59. Pavlenko, L. D., & Semenets, M. V. (2017). Stabilization of the banking system of Ukraine by adapting the Islamic banking model. *Efficient Economy*, (11). Retrieved March 2, 2024, from <http://www.economy.nayka.com.ua/?op=1&z=5869>
60. The Asian Banker. (2023). Strongest Islamic Banks 2023. Retrieved March 2, 2024, from <https://tabinsights.com/ab100/strongest-islamic-banks>
61. The Asian Banker. (2023). Largest Islamic Banks 2023. Retrieved March 2, 2024, from <https://tabinsights.com/ab100/largest-islamic-banks>
62. Kelembet, I. S. (2020). Peculiarities of the Islamic financial system. In *Statistics: A Tool of Socio-Economic Research* (pp. 114–119). Odessa: ONEU.
63. Brainy, O. M., Subochev, O. V., & Yurkevich, O. M. (2017). The main models of functioning of Islamic finance: A critical view. *Economics*, (6), 20–25. Retrieved March 2, 2024, from http://www.investplan.com.ua/pdf/6_2017/6.pdf
64. State Service of Ukraine for Ethnic Policy and Freedom of Conscience. (n.d.). March 15: World Day of Muslim Culture, Peace, Dialogue and Cinema, and International Day Against Islamophobia. Retrieved March 2, 2024, from <https://dess.gov.ua/15-bereznia-vsesvitniy-den-musulmanskoi-kultury-myru-dialohu-i-ki-no-ta-mizhnarodnyy-den-borotby-z-islamofobiieiu/>